



**Department of
Design and
Construction**

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

TO BE FILLED IN BY THE BIDDER:

BIDDER'S NAME:

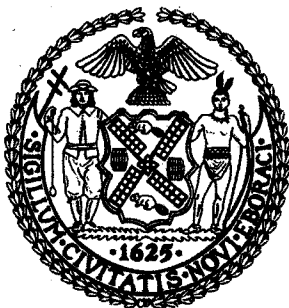
BID SECURITY (CIRCLE ONE):
BID BOND / CERTIFIED CHECK

NUMBER OF ADDENDUMS RECEIVED
AND ATTACHED TO BID:
_____ ADDENDUMS

DDC CLIENT AGENCY:
**DEPARTMENT OF
ENVIRONMENTAL PROTECTION**

PREPARED BY:
IN HOUSE

DATE PREPARED:
November 8, 2019



VOLUME 1 OF 3 BID BOOKLET

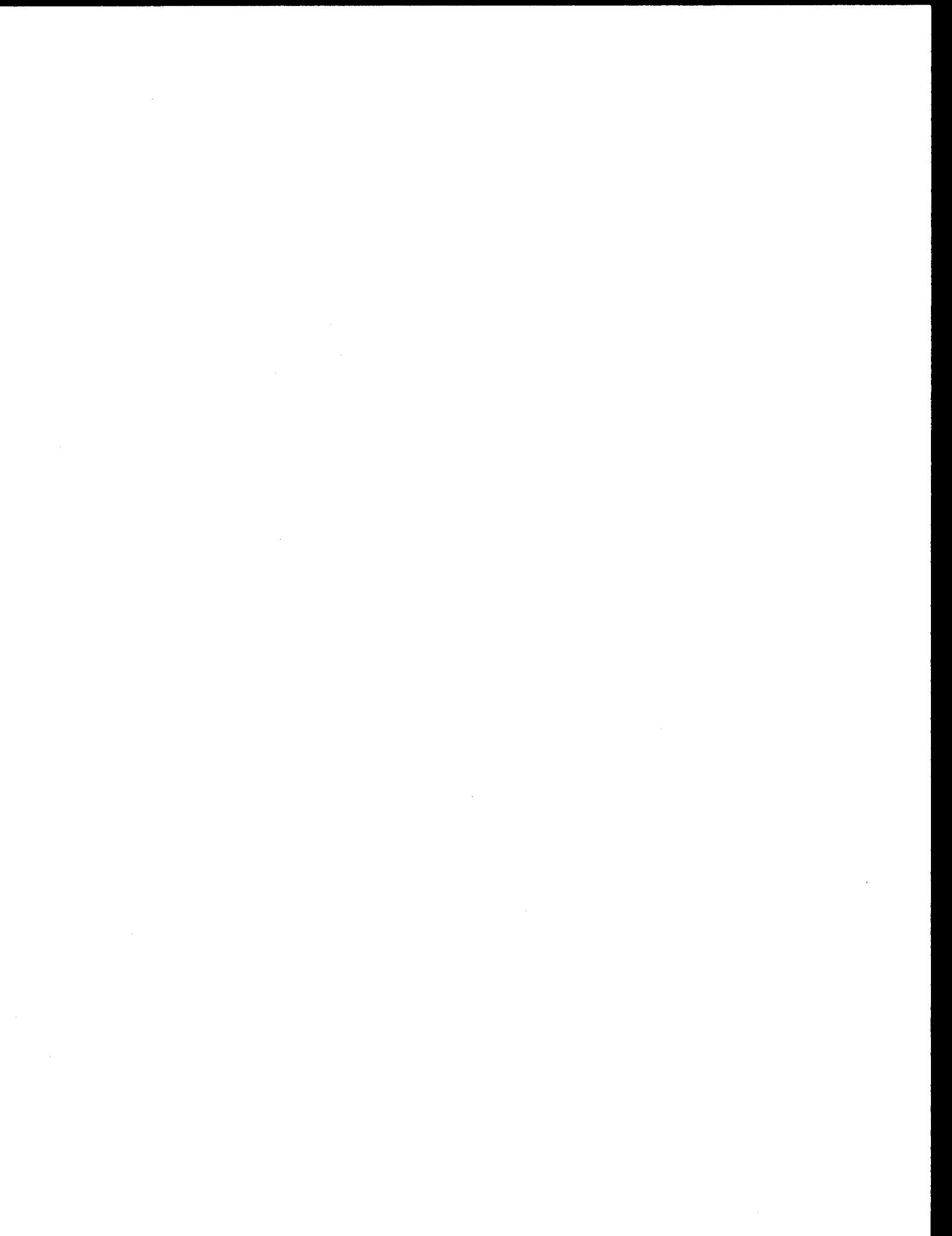
FOR FURNISHING ALL LABOR AND MATERIALS
NECESSARY AND REQUIRED FOR:

PROJECT ID: BED776

**48" TRUNK WATER MAIN AND 20", 12", 8"
DISTRIBUTION WATER MAIN REPLACEMENT IN EAST
NEW YORK AVENUE AND JAMAICA AVENUE BETWEEN
TAPSCOTT STREET TO VERMONT STREET, IN
ATLANTIC AVENUE BETWEEN VAN SINDEREN
AVENUE AND PENNSYLVANIA AVENUE, ETC.**

**INCLUDING SEWER, STREET LIGHTING, AND TRAFFIC
SIGNAL WORK**

TOGETHER WITH ALL WORK INCIDENTAL THERETO
**BOROUGH OF BROOKLYN
CITY OF NEW YORK**





Lorraine Grillo
Commissioner

Jamie Torres-Springer
First Deputy Commissioner

Justin Walter
Chief Administrative Officer
Administration

Nicholas Mendoza
Agency Chief Contracting Officer

Lorraine Holley
Deputy ACCO

March 13, 2020

CERTIFIED MAIL - RETURN RECEIPT REQUEST

C.A.C. INDUSTRIES, INC.
54-08 VERNON BOULEVARD
LONG ISLAND CITY, NY 11101

RE: FMS ID: BED-776
E-PIN: 85020B0017001
DDC PIN: 8502019WM0001C
48" TRUNK WATER MAIN AND 20", 12", 8"
DISTRIBUTION WATER MAIN
REPLACEMENT IN EAST NEW YORK
AVENUE AND JAMAICA AVENUE, ETC.-
BOROUGH OF BROOKLYN
NOTICE OF AWARD

Dear Contractor:

You are hereby awarded the above referenced contract based upon your bid in the amount of \$77,221,635.12 submitted at the bid opening on February 12, 2020. Within ten (10) days of your receipt of this notice of award, you are required to take the actions set forth in Paragraphs (1) through (3) below. For your convenience, attached please find a copy of Schedule A of the General Conditions to the Contract, which sets forth the types and amounts of insurance coverage required for this contract.

- (1) Execute two copies of the Agreement in the Contracts Unit, 30-30 Thomson Avenue, 1st Floor, Long Island City, New York (IDCNY Building). A Commissioner of Deeds will be available to witness and notarize your signature. The Agreement must be signed by an officer of the corporation or a partner of the firm.
- (2) Submit to the Contracts Unit two properly executed performance and payment bonds. If required for this contract, copies of performance and payment bonds are attached.
- (3) Submit to the Contracts Unit the following insurance documentation: (a) original certificate of insurance for general liability in the amount required by Schedule A, and (b) original certificates of insurance or other proof of coverage for workers' compensation and disability benefits, as required by New York State Law. The insurance

documentation specified in this paragraph is required for registration of the contract with the Comptroller's Office.

On or before the contract commencement date, you are required to submit all other certificates of insurance and/or policies in the types and amounts required by Schedule A. Such certificates of Insurance and/or policies must be submitted to the Agency Chief Contracting Office, Attention: Risk Manager, Fourth Floor at the above indicated department address.

Your attention is directed to the section of the Information for Bidders entitled "Failure to Execute Contract". As indicated in this section, in the event you fail to execute the contract and furnish the required bonds within the (10) days of your receipt of this notice of award, your bid security will be retained by the City and you will be liable for the difference between your bid price and the price for which the contract is subsequently awarded, less the amount of the bid security retained.

As of August 16, 2019, please be advised that Contract Site Safety Plans for DDC projects must be submitted through DDC's online Site Safety Plan (SSP) application (available via our Agency Portal – DDC Anywhere).

To create an account and begin your Site Safety Pan submission using SSP, click on the link below:

DDC Portal <https://ddcanywhere.nyc/Registration/Registration>

For questions regarding this web-based application, please contact DDC via email at: appsupport@ddc.nyc.gov.

Sincerely,



for Lorraine Holley
Deputy ACCO

NOTICE TO BIDDERS

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 BID INFORMATION, page A-5 and SCHEDULE B, page A-37, VOLUME 1 OF 3 of this BID BOOKLET.

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.

NYC Contract Financing Loan Fund

Loans at a 3% annual interest rate to perform on New York City contracts

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.

Loans of up to \$500,000 at an annual interest rate of 3% are available to eligible* businesses to perform on New York City contracts. Closing fees apply.

*To be eligible for a loan, you must:

- ✓ Have an operating business, AND
- ✓ Be applying for financing as a prime or sub-contractor to use toward a contract with a City agency or City-funded entity.
- ✓ Additional Eligibility requirements may also apply.

How it works:

Step 1: Fill out the Contract Financing inquiry form at nyc.gov/contractfinancing

Step 2: If Eligible, a participating lender will contact you within two business days.

Step 3: Begin the loan application process

For more information: **Call 311** or visit nyc.gov/contractfinancing

(NO FURTHER TEXT ON THIS PAGE)

NYC Bond Collateral Assistance Fund

If your business is bidding or planning to bid on a project as a prime or subcontractor with a City agency or the NYC Economic Development Corporation (NYCEDC) and the project requires surety bonding, you may be eligible* to receive **up to \$500,000 in Collateral Assistance to enhance your surety bond application** from a participating bond service provider coordinated with the NYC Department of Small Business Services (SBS).

*To be eligible, you must:

- ✓ Have an operating construction business, AND
- ✓ Be bidding or planning to bid **as a prime or subcontractor** on a contract with a City agency or NYCEDC that requires bonding
- ✓ Additional Eligibility requirements may apply.

How it works:

Step 1: Fill out the Bond Collateral Assistance Fund inquiry form at nyc.gov/bondfund

Step 2: If Eligible, the bond service provider will contact you within two business days

Step 3: Begin the bond application process

For more information: **Call 311** or visit nyc.gov/bondfund

(NO FURTHER TEXT ON THIS PAGE)

CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF INFRASTRUCTURE

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CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF INFRASTRUCTURE

A. BID BOOKLET

BID INFORMATION

(NO TEXT ON THIS PAGE)

SPECIAL NOTICE TO BIDDERS

BID SUBMISSION REQUIREMENTS

THE FOLLOWING DOCUMENTS ARE TO BE COMPLETED AND SUBMITTED WITH THE BID:

- (1) Bid Schedule (Page B-3)
- (2) Bid Form, including Affirmation (Page A-23)
- (3) Bid Security (if required, see Bid Information on Page A-5)
- (4) Schedule B: M/WBE Utilization Plan (Page A-37, if participation goals have been established)

FAILURE TO SUBMIT THE ITEMS LISTED ABOVE WILL RESULT IN THE DISQUALIFICATION OF THE BID.

- (5) Bidder's Certification of Compliance with Iran Divestment Act (Page A-55)
- (6) Special Experience Requirements (Page A-7 & A-8, if applicable)
- (7) Apprenticeship Program Requirements (Page A-44, if applicable)
- (8) Safety Questionnaire (Page A-51)
- (9) Construction Employment Report (Page A-20 if bid is \$1,000,000 or more)
- (10) Any addenda issued prior to the receipt of bids

FAILURE TO SUBMIT THE ITEMS LISTED ABOVE MAY RESULT IN THE DISQUALIFICATION OF THE BID.

NOTES:

- (1) All of the above referred to blank forms to be completed and submitted with the bid are included in the BID BOOKLET, page numbers as noted above.
- (2) If the bidder has any questions or requires additional information, please contact the Agency Contact Person noted on Attachment 1 (Page A-5 of this Bid Booklet).
- (3) **PASSPort Compliance:** The Bidder is advised that Vendex Questionnaires and procedures have been replaced by the PASSPort system. Compliance with PASSPort is mandatory for contract Award. PASSPort details are set forth on Page A-20 of this Bid Booklet.
- (4) **SPECIAL EXPERIENCE REQUIREMENTS:** The Bidder is advised that Special Experience Requirements may apply to this contract. Such requirements are set forth beginning on Page A-7 of this Bid Booklet.

(NO TEXT ON THIS PAGE)



**Department of
Design and
Construction**

BID INFORMATION (ATTACHMENT 1)

**PROJECT ID: BED776
PIN: 8502019WM0001C**

Description and Location of Work:

**48" TRUNK WATER MAIN AND 20", 12", 8" DISTRIBUTION WATER MAIN REPLACEMENT IN EAST NEW YORK AVENUE AND JAMAICA AVENUE BETWEEN TAPSCOTT STREET TO VERMONT STREET, IN ATLANTIC AVENUE BETWEEN VAN SINDEREN AVENUE AND PENNSYLVANIA AVENUE, ETC.
BOROUGH OF BROOKLYN**

Documents Available at: **30-30 Thomson Avenue
First Floor Bid Procurement Room
Long Island City, New York 11101
8:30 A.M. to 4:00 P.M. – Monday through Friday**

Submission of Bids to: **30-30 Thomson Avenue
First Floor Bid Procurement Room
Long Island City, New York 11101
Before 11:00 A.M. on February 6, 2020**

Bid Opening: **30-30 Thomson Avenue
First Floor Bid Procurement Room
Long Island City, New York 11101
Time and Date: 11:00 A.M. on February 6, 2020**

Pre-Bid Conference: **Yes: _____ No: X
If Yes, Mandatory: Optional: _____
Time and Date: _____
Location: _____**

Bid Security: **Bid Security is required in the amount set forth below; provided, however, bid security is not required if the TOTAL BID PRICE set forth on the Bid Form is less than \$ 1,000,000.00:
(1) Bond in an amount not less than 10% of the TOTAL BID PRICE set forth on the Bid Form, OR
(2) Certified Check in an amount not less than 2% of the TOTAL BID PRICE set forth on the Bid Form.**

Performance and Payment Security: **Required for contracts in the amount of \$1,000,000 or more. Performance Security and Payment Security shall each be in an amount equal to 100% of the Contract Price.**

Agency Contact Person: **Lorraine Holley Phone: 718-391-2601 , Fax 718-391-2627
Email: CSB_projectinquiries@ddc.nyc.gov**



For questions about site accessibility, please contact our disability services facilitator at (718) 391-2815 or via email at accessibility@ddc.nyc.gov.

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SECTION 2 - SPECIFICATIONS
SECTION 3 - DRAWINGS

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SPECIAL EXPERIENCE REQUIREMENTS

(A) SPECIAL EXPERIENCE REQUIREMENTS FOR THE BIDDER:

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

The requirements in this Section (A) apply to this contract where indicated by a blackened box (■).

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

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

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

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

For professional services in connection with BMP Work (i.e., monitoring and reporting services), the individual who will perform the required services must, within the last five (5) consecutive years prior to the bid opening, have successfully completed in a timely fashion at least three (3) projects similar in scope and type to the required work. Additional requirements are set forth below.

- The individual serving as the Restoration Specialist (Construction Monitor) must be a Registered Landscape Architect licensed by the state of New York, or must have equivalent professional experience.
- The individual serving as the Erosion and Sediment Control Licensed/Certified Professional must be a Certified Professional in Erosion and Sediment Control (CPESC), certified by CPESC, Inc.
- Micro-Tunneling/Pipe Jacking Work:** The Entity that will perform the micro-tunneling/pipe jacking work must, within the last five (5) consecutive years prior to the bid opening, have successfully completed in a timely fashion at least two (2) projects similar in scope and type to the required work.
- OTHER:** _____

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

The requirements in this Section (B) apply to this contract where indicated by a blackened box (■).

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

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

- **Hazmat Work:** Hazmat Work is any item of work in the Bid Schedule that begins with the prefix 8.01. The Entity that will perform any Hazmat Work must, within the last three (3) consecutive years prior to the bid opening, have successfully completed in a timely fashion at least five (5) projects similar in scope and type to the required work.
- **Pile, CFA Pile, and/or Mini-Pile Work:** The Entity that will perform the Pile, CFA Pile and/or Mini-Pile Work must, within the last three (3) consecutive years prior to the bid opening, have successfully completed in a timely fashion at least two (2) projects similar in scope and type to the required work.

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

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

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

- **OTHER: For Carbon Fiber System (CFS) special experience requirements, please refer to section 60.61 - submittals & qualifications (60.61CFS.3) on SW pages, Book 3 of 3.**

(C) **SPECIFICATIONS**: In the event of any conflict, omission or inconsistency between (1) the Specifications and/or Contract Drawings, and (2) the Special Experience Requirements in Section (B) of the Special Notice to Bidders, the special experience listed in the Specifications and/or Contract Drawings shall be controlling. The Special Experience Requirements in Section (B) of this Special Notice to Bidders are only for the convenience of the bidders.

(D) **SUBMISSION REQUIREMENTS**: For each project submitted to demonstrate compliance with the Special Experience Requirements, the bidder must complete and submit the Qualification Form included in the Bid Booklet. The City will only evaluate a project if the following criteria are met: (1) the project is described on the Qualification Form, and (2) all information on the Qualification Form is provided. The City will not evaluate any project which does not comply with the criteria set forth herein, including any project which is referred to only on the resume of an individual.

If Special Experience Requirements are indicated for any specific area of work, the submission requirement set forth above shall apply to the entity that will perform the specific area of work.

(E) **CONDITIONS**: In determining compliance with the Special Experience Requirements for the bidder set forth above, the City may consider prior projects completed by principal(s) or other employees of the bidder while affiliated with another entity, subject to the conditions set forth below.

- Any principal or other employee on whose prior experience the bidder is relying to demonstrate compliance with this special experience requirement must have held the following: (a) a significant management role in the prior entity with which the principal or other employee was affiliated, and (b) a significant management role in the entity submitting the bid for a period of at least six (6) months, or from the inception of the bidding entity.
- The bidder may not rely on the experience of its principals or other employees to demonstrate compliance with any other requirements, including without limitation, financial requirements or requirements for a specified minimum amount of annual gross revenues.

(F) **JOINT VENTURES**: In the event the bidder is a joint venture, at least one firm in the joint venture must meet the above described experience requirements.

M/WBE PROGRAM: M/WBE UTILIZATION PLAN

M/WBE Program Requirements: The requirements for the M/WBE Program are set forth on the following pages of this Bid Booklet, in the section entitled "Notice to All Prospective Contractors."

Schedule B: M/WBE Utilization Plan: The M/WBE Utilization Plan for this Contract is set forth in this Bid Booklet starting on page A-37. The M/WBE Utilization Plan (Part I) indicates whether Participation Goals have been established for this Contract. If Participation Goals have been established for this Contract, the bidder must submit an M/WBE Utilization Plan (Part II) with its bid.

Waiver: The bidder may seek a full or partial pre-award waiver of the Participation Goals in accordance with the "Notice to All Prospective Contractors" (See Part A, Section 10). The bidder's request for a waiver must be submitted at least seven (7) calendar days prior to the bid date. Waiver requests submitted after the deadline will not be considered. The form for requesting a waiver of the Participation Goals is set forth in the M/WBE Utilization Plan (Part III).

Rejection of the Bid: The bidder must complete Schedule B: M/WBE Utilization Plan (Part II) set forth in this Bid Booklet starting on page A-39.

The bidder's submission of Schedule B must include both the Vendor Certification and Required Affirmations (see Section V of Part II). If the bidder does not provide a complete Schedule B submission at the time of bid, the Agency will deem the bid to be non-responsive, unless a full waiver of the Participation Goals is granted (Schedule B, Part III). In the event that the City determines that the bidder 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 Required Affirmations, the bidder 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 is non-responsive. Receipt of notification is defined as the date notice is emailed or faxed (if the bidder has provided an email address or fax number), or no later than five (5) calendar days from the date of mailing or upon delivery, if delivered.

Impact on LBE Requirements: If Participation Goals have been established for the participation of M/WBEs, the contractor is not required to comply with the Locally Based Enterprise Program ("LBE"). The LBE Program's requirements are set forth in Article 67 of the Contract.

NOTICE TO ALL PROSPECTIVE CONTRACTORS

PARTICIPATION BY MINORITY-OWNED AND WOMEN-OWNED BUSINESS ENTERPRISES IN CITY PROCUREMENT

ARTICLE I. M/WBE PROGRAM

Local Law No. 129 of 2005 added and Local Law 1 of 2013 amended Section 6-129 of the Administrative Code of the City of New York (hereinafter "Section 6-129"). 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. 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 I to this Contract (see Page 1, line 1 Total Participation Goals) or will be set forth on Schedule B, Part I 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 New York City Department of Small Business Services 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 II (see Pages 2-4) 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; and (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. 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 II (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 nonresponsive.

(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 II (see Pages 2-4) 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; and (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. 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 II). A SCHEDULE B SUBMITTED BY THE BIDDER/PROPOSER WHICH DOES NOT INCLUDE THE VENDOR CERTIFICATION AND REQUIRED AFFIRMATIONS (SEE SECTION V OF PART II) WILL BE DEEMED TO BE NON-**

RESPONSIVE, UNLESS A FULL WAIVER OF THE PARTICIPATION GOALS IS GRANTED (SCHEDULE B, PART III). 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 multiyear 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 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) 513-6356, or by visiting or writing DSBS at 110 William St., New York, New York, 10038, 7th 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 III (Page 5) 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 zhangji@ddc.nyc.gov or via facsimile at (718) 391-1886. Bidders, proposers, or contractors, as applicable, who have submitted 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 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.

13. 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.

14. 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 an **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 an **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.

PRE-AWARD PROCESS

The bidder is advised that as part of the pre-award review of its bid, the Agency will require the three lowest apparent responsive and responsible bidders to submit the information described in Sections (A) through (D) below. These bidders will be notified by DDC (by email, facsimile, or in writing), and the Agency's notice will specify the types of information that the bidder must submit to the Agency. The types of information the bidder may be required to submit are described below. Once notified, the bidder must submit such information to the Agency within five (5) business days following receipt of notification from DDC that it is among the low bidders. In the event the bidder fails to submit the required information within the specified time frame, the Agency may reject the bid as being non-responsive.

In the event the bidder fails to submit the required information within the specified time frame, the Agency may reject the bid as being nonresponsive.

- (A) **Project Reference Form:** The bidder must complete and submit the Project Reference Form set forth starting on page A-47 of this Bid Booklet. The Project Reference Form consists of three (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:** 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:** 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 (3) 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, the bidder 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 (3) 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:** 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) The bidder's expected means of financing the project. This submission should be based on the assumption that the contractor is required to finance two times (2X) the average monthly billings for the project throughout the contract period.
- (8) Any other issues the bidder sees as impacting the contractor's ability to complete the project according to the contract.

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

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

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.

CONSTRUCTION EMPLOYMENT REPORT

All bidders will be required to submit either a Construction Employment Report (CER) if the bid amount is \$1,000,000 or greater.

The CER template form is available online at:

https://www1.nyc.gov/assets/sbs/downloads/pdf/businesses/DLS_Constru_Employ_Rpt.pdf

Instructions for completing the Construction Employment Report are available online at:

https://www1.nyc.gov/assets/sbs/downloads/pdf/businesses/DLS_Cons_Employ_Rpt_Inst.pdf

CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF INFRASTRUCTURE

REQUIRED FORMS

(NO TEXT ON THIS PAGE)

BID FORM

THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF INFRASTRUCTURE

BID FOR FURNISHING ALL LABOR AND
MATERIAL NECESSARY AND REQUIRED FOR:

PROJECT ID: BED776

48" TRUNK WATER MAIN AND 20", 12", 8" DISTRIBUTION WATER MAIN REPLACEMENT
IN EAST NEW YORK AVENUE AND JAMAICA AVENUE BETWEEN TAPSCOTT STREET
TO VERMONT STREET, IN ATLANTIC AVENUE BETWEEN VAN SINDEREN AVENUE AND
PENNSYLVANIA AVENUE, ETC.

Together With All Work Incidental Thereto
BOROUGH OF BROOKLYN
CITY OF NEW YORK

Name of Bidder: CAC INDUSTRIES INC

Date of Bid Opening: 2-6-2020

Bidder is: (Check one, whichever applies) Individual () Partnership () Corporation ()

Place of Business of Bidder: 54-08 VERMON BLVD LICENY 11101

Bidder's Telephone Number: 718 729-3600 Fax Number: 718 729-0400

Bidder's E-Mail Address: JLABOURA@CACINDUC.COM / JLABOURA@CACINDUC.COM

Residence of Bidder (If Individual): _____

If Bidder is a Partnership, fill in the following blanks:

Names of Partners

Residence of Partners

If Bidder is a Corporation, fill in the following blanks:

Organized under the laws of the State of NEW YORK

Name and Home Address of President: MICHAEL A CAPASSO
45 E 72ND ST NYC NY 10022

Name and Home Address of Secretary: SAME AS ABOVE

Name and Home Address of Treasurer: RICHARD E GAYN

BID FORM

The above-named Bidder affirms and declares:

1. The said bidder is of lawful age and the only one interested in this bid; and no person, firm or corporation other than hereinbefore named has any interest in this bid, or in the Contract proposed to be taken.
2. By submission of this bid, each bidder and each person signing on behalf of any bidder certifies, and in the case of a joint bid each party thereto certifies as to its own organization, under penalty of perjury, that to the best of its knowledge and belief: (1) the prices in this bid have been arrived at independently without collusion, consultation, communication or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other bidder or with any competitor; (2) unless otherwise required by law, the prices quoted in this bid have not been knowingly disclosed by the bidder and will not knowingly be disclosed by the bidder prior to opening, directly or indirectly, to any other bidder or to any competitor; and (3) No attempt has been made or will be made by the bidder to induce any other person, partnership or corporation to submit or not to submit a bid for the purpose of restricting competition.
3. No councilman or other officer or employee or person whose salary is payable in whole or in part from the City Treasury is directly or indirectly interested in this bid, or in the supplies, materials, equipment, work or labor to which it relates, or in any of the profits thereof.
4. The bidder is not in arrears to the City of New York upon debt or contract or taxes, and is not a defaulter, as surety or otherwise, upon any obligation of the City of New York, and has not been declared not responsible, or disqualified, by any agency of the City of New York or State of New York, nor is there any proceeding pending relating to the responsibility or qualification of the bidder to receive public contracts except as set forth on the Affirmation included as page C-6 of this Bid Booklet.

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

5. 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 the bidder, the bidder and the bidder's 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" where used herein shall mean the individual bidder, firm, partnership or corporation executing this bid).
6. 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 the bidder's 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 the bidder will comply with the provisions of Executive Order No. 50. The Employment Report must be submitted as part of the bid.

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 the bidder will comply with: (1) the provision of the contract on providing records, Chapter 8.

7. 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.

8. 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.

9. 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.

10. **M/WBE UTILIZATION PLAN:** By signing its bid, the bidder agrees to the Vendor Certification and Required Affirmations set forth below, unless a full waiver of the Participation Goals is granted. The Vendor Certification and Required Affirmations will be deemed to satisfy the requirement to complete Section V of Part II of Schedule B: M/WBE Utilization Plan.

Section V - Vendor Certification and Required Affirmations:

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
- 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 and obtaining the participation of certified MBE and/or WBE firms.

BID FORM

PROJECT ID. BED776

TOTAL BID PRICE: In the space provided below, the Bidder shall indicate its Total Bid Price in figures. Such Total Bid Price is set forth on the final page of the Bid Schedule.

TOTAL BID PRICE:
(a/k/a BID PROPOSAL)

\$ 77,221,635.12
BR 2/12/20

BIDDER'S SIGNATURE AND AFFIDAVIT

Bidder: CAC Industries Inc

By: [Signature]
(Signature of Partner or corporate officer)

Attest: [Signature] Secretary of Corporate Bidder
(Corporate Seal)

Affidavit on the following page should be subscribed and sworn to before a Notary Public

BID FORM (TO BE NOTARIZED)

AFFIDAVIT WHERE BIDDER IS AN INDIVIDUAL

STATE OF NEW YORK, COUNTY OF _____ ss:
_____ being duly sworn says:
I am the person described in and who executed the foregoing bid, and the several matters therein stated are in all respects true.

(Signature of the person who signed the Bid)

Subscribed and sworn to before me this _____ day of _____, _____

Notary Public

AFFIDAVIT WHERE BIDDER IS A PARTNERSHIP

STATE OF NEW YORK, COUNTY OF _____ ss:
_____ being duly sworn says:
I am a member of _____ the firm described in and which executed the foregoing bid. I subscribed the name of the firm thereto on behalf of the firm, and the several matters therein stated are in all respects true.

(Signature of Partner who signed the Bid)

Subscribed and sworn to before me this _____ day of _____, _____

Notary Public

AFFIDAVIT WHERE BIDDER IS A CORPORATION

STATE OF NEW YORK, COUNTY OF QUEENS ss:
RICHARD E. GAVIN being duly sworn says:
I am the CO TREASURER of the above named corporation whose name is subscribed to and which executed the foregoing bid. I reside at ST JAMES NY
I have knowledge of the several matters therein stated, and they are in all respects true.

[Signature]
(Signature of Corporate Officer who signed the Bid)

Subscribed and sworn to before me this 10th day of FEB, 2020

[Signature]
Notary Public

DIANE C. DEBIN
Notary Public, State of New York
No. 01DES04915
Qualified in Queens County
Commission Expires August 14, 2021

AFFIRMATION

PROJECT ID. BED776

The undersigned bidder affirms and declares that said bidder is not in arrears to the City of New York upon debt, contract or taxes and is not a defaulter, as surety or otherwise, upon obligation to the City of New York, and has not been declared not responsible, or disqualified, by any agency of the City of New York, nor is there any proceeding pending relating to the responsibility or qualification of the bidder to receive public contracts except:

NONE

(If none, the bidder shall insert the word "None" in the space provided above.)

Full Name of Bidder: CAC INDUSTRIES INC
Address: 54-08 VERNOY BLVD
City LIE State NY Zip Code 1101

CHECK ONE BOX AND INCLUDE APPROPRIATE NUMBER:

A - Individual or Sole Proprietorship*
SOCIAL SECURITY NUMBER

B - Partnership, Joint Venture or other unincorporated organization
EMPLOYER IDENTIFICATION NUMBER

C - Corporation
EMPLOYER IDENTIFICATION NUMBER

11-3082726

By: [Signature]
Signature

Title: CEO/TREASURER

If a corporation, place seal here

This affirmation must be signed by an officer or duly authorized representative.

*Under the Federal Privacy Act the furnishing of Social Security Numbers by bidders on City contracts is voluntary. Failure to provide a Social Security Number will not result in a bidder's disqualification. Social Security Numbers will be used to identify bidders, proposers or vendors to ensure their compliance with laws, to assist the City in enforcement of laws, as well as to provide the City a means of identifying of businesses which seek City contracts.

**BID BOND 1
FORM OF BID BOND**

KNOW ALL MEN BY THESE PRESENTS. That we, _____

C.A.C. Industries, Inc. _____

54-08 Vernon Blvd., Long Island City, NY 11101 _____

hereinafter referred to as the "Principal", and _____

Federal Insurance Company _____

202B Halls Mill Road, P.O. Box 1650, Whitehouse Station, NJ 08889-1650 _____

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

Ten Percent of Amount Bid _____

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

Whereas, the Principal is about to submit (or has submitted) to the City the accompanying proposal, hereby made a part hereof, to enter into a contract in writing for Project ID: BED776 48" Trunk Water Main and 20", 12", 8" Distribution Water Main Replacement in East New York Avenue, Borough of Brooklyn, City of New York.

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

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

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

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

BID BOND 2

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

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

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

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

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers the 22nd day of January, 2020.

(Seal)

C.A.C. Industries, Inc. _____ (L.S.)

Principal

By: _____

(Seal)

Federal Insurance Company _____

Surety

By: _____

Susan Lupski

Attorney-in-Fact

BID BOND 3

ACKNOWLEDGEMENT OF PRINCIPAL, IF A CORPORATION

State of New York County of Queens ss:
On this 10th day of FEB, 2010, before me personally came RICHARD E. GAYN to me known, who, being by me duly sworn, did depose and say that he resides at ST. JAMES NY that he is the CO. TREASURER of CAA INDUSTRIES INC the corporation described in and which executed the foregoing instrument; that he knows the seal of said corporation; that one of the seals affixed to said instrument is such seal; that it was so affixed by order of the directors of said corporation, and that he signed his name thereto by like order.

DIANE C. DERIN
Notary Public, State of New York
No. 01DE5048152
Qualified in Queens County
Commission Expires August 14, 2011

[Signature]
Notary Public

ACKNOWLEDGEMENT OF PRINCIPAL, IF A PARTNERSHIP

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

Notary Public

ACKNOWLEDGEMENT OF PRINCIPAL, IF AN INDIVIDUAL

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

Notary Public

AFFIX ACKNOWLEDGEMENTS AND JUSTIFICATION OF SURETIES

Power of Attorney

Federal Insurance Company | Vigilant Insurance Company | Pacific Indemnity Company

Know All by These Presents, That FEDERAL INSURANCE COMPANY, an Indiana corporation, VIGILANT INSURANCE COMPANY, a New York corporation, and PACIFIC INDEMNITY COMPANY, a Wisconsin corporation, do each hereby constitute and appoint Katherine Acosta, Thomas Bean, George O. Brewster, Desiree Cardlin, Colette R. Chisholm, Dana Granice, Susan Lupski, Gerard S. Macholz, Camille Maitland, Robert T. Pearson, Nelly Renchiwicz, Rita Losquadro, Vincent A. Walsh and Michelle Wannamaker of Uniondale, New York

each as their true and lawful Attorney-in-Fact to execute under such designation in their names and to affix their corporate seals to and deliver for and on their behalf as surety thereon or otherwise, bonds and undertakings and other writings obligatory in the nature thereof (other than bail bonds) given or executed in the course of business, and any instruments amending or altering the same, and consents to the modification or alteration of any instrument referred to in said bonds or obligations.

In Witness Whereof, said FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, and PACIFIC INDEMNITY COMPANY have each executed and attested these presents and affixed their corporate seals on this 25th day of March, 2019.

Dawn M. Chloros

Dawn M. Chloros, Assistant Secretary

Stephen M. Haney

Stephen M. Haney, Vice President



STATE OF NEW JERSEY

County of Hunterdon

ss.

On this 25th day of March, 2019, before me, a Notary Public of New Jersey, personally came Dawn M. Chloros, to me known to be Assistant Secretary of FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, and PACIFIC INDEMNITY COMPANY, the companies which executed the foregoing Power of Attorney, and the said Dawn M. Chloros, being by me duly sworn, did depose and say that she is Assistant Secretary of FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, and PACIFIC INDEMNITY COMPANY and knows the corporate seals thereof, that the seals affixed to the foregoing Power of Attorney are such corporate seals and were thereto affixed by authority of said Companies; and that she signed said Power of Attorney as Assistant Secretary of said Companies by like authority; and that she is acquainted with Stephen M. Haney, and knows him to be Vice President of said Companies; and that the signature of Stephen M. Haney, subscribed to said Power of Attorney is in the genuine handwriting of Stephen M. Haney, and was thereto subscribed by authority of said Companies and in deponent's presence.

Notarial Seal



ROSE CURTIS
NOTARY PUBLIC OF NEW JERSEY
No. 50072400
Commission Expires November 22, 2022

Rose Curtis
Notary Public

CERTIFICATION

Resolutions adopted by the Boards of Directors of FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, and PACIFIC INDEMNITY COMPANY on August 30, 2016:

"RESOLVED, that the following authorizations relate to the execution, for and on behalf of the Company, of bonds, undertakings, recognizances, contracts and other written commitments of the Company entered into in the ordinary course of business (each a "Written Commitment"):

- (1) Each of the Chairman, the President and the Vice Presidents of the Company is hereby authorized to execute any Written Commitment for and on behalf of the Company, under the seal of the Company or otherwise.
(2) Each duly appointed attorney-in-fact of the Company is hereby authorized to execute any Written Commitment for and on behalf of the Company, under the seal of the Company or otherwise, to the extent that such action is authorized by the grant of powers provided for in such person's written appointment as such attorney-in-fact.
(3) Each of the Chairman, the President and the Vice Presidents of the Company is hereby authorized, for and on behalf of the Company, to appoint in writing any person the attorney-in-fact of the Company with full power and authority to execute, for and on behalf of the Company, under the seal of the Company or otherwise, such Written Commitments of the Company as may be specified in such written appointment, which specification may be by general type or class of Written Commitments or by specification of one or more particular Written Commitments.
(4) Each of the Chairman, the President and the Vice Presidents of the Company is hereby authorized, for and on behalf of the Company, to delegate in writing to any other officer of the Company the authority to execute, for and on behalf of the Company, under the Company's seal or otherwise, such Written Commitments of the Company as are specified in such written delegation, which specification may be by general type or class of Written Commitments or by specification of one or more particular Written Commitments.
(5) The signature of any officer or other person executing any Written Commitment or appointment or delegation pursuant to this Resolution, and the seal of the Company, may be affixed by facsimile on such Written Commitment or written appointment or delegation.

FURTHER RESOLVED, that the foregoing Resolution shall not be deemed to be an exclusive statement of the powers and authority of officers, employees and other persons to act for and on behalf of the Company, and such Resolution shall not limit or otherwise affect the exercise of any such power or authority otherwise validly granted or vested."

I, Dawn M. Chloros, Assistant Secretary of FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, and PACIFIC INDEMNITY COMPANY (the "Companies") do hereby certify that

- (i) the foregoing Resolutions adopted by the Board of Directors of the Companies are true, correct and in full force and effect,
(ii) the foregoing Power of Attorney is true, correct and in full force and effect.

Given under my hand and seals of said Companies at Whitehouse Station, NJ, this January 22, 2020



Dawn M. Chloros

Dawn M. Chloros, Assistant Secretary

IN THE EVENT YOU WISH TO VERIFY THE AUTHENTICITY OF THIS BOND OR NOTIFY US OF ANY OTHER MATTER, PLEASE CONTACT US AT:
Telephone (908) 903-3493 Fax (908) 903-3656 e-mail: surety@chubb.com

ACKNOWLEDGEMENT OF SURETY COMPANY

STATE OF NEW YORK

COUNTY OF NASSAU

On this January 22, 2020 before me personally came Susan Lupski to me known, who, being by me duly sworn, did depose and say; that he/she resides in Nassau County, State of New York, that he/she is the Attorney-In-Fact of the Federal Insurance Company the corporation described in which executed the above instrument; that he/she knows the seal of said corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by the Board of Directors of said corporation; and that he/she signed his/her name thereto by like order; and the affiant did further depose and say that the Superintendent of Insurance of the State of New York, has, pursuant to Section 1111 of the Insurance Law of the State of New York, issued to Federal Insurance Company (Surety) his/her certificate of qualification evidencing the qualification of said Company and its sufficiency under any law of the State of New York as surety and guarantor, and the propriety of accepting and approving it as such; and that such Certificate has not been revoked.

GRACE ACKERSON
Notary Public-State of New York
No. 01AC6111590
Qualified in Nassau County
Commission Expires 6/14/2020



Notary Public

FEDERAL INSURANCE COMPANY
STATEMENT OF ASSETS, LIABILITIES AND SURPLUS TO POLICYHOLDERS

Statutory Basis

DECEMBER 31, 2018

(in thousands)

ASSETS		LIABILITIES AND SURPLUS TO POLICYHOLDERS	
Cash and Short Term Investments	\$ (360,335)	Outstanding Losses and Loss Expenses	\$ 6,523,482
United States Government, State and Municipal Bonds	5,738,426	Reinsurance Payable on Losses and Expenses	1,490,981
Other Bonds	3,916,616	Unearned Premiums	1,914,190
Stocks	100,774	Ceded Reinsurance Premiums Payable	405,271
Other Invested Assets	<u>959,127</u>	Other Liabilities	<u>565,865</u>
TOTAL INVESTMENTS	<u>10,354,608</u>	TOTAL LIABILITIES	<u>10,899,789</u>
Investments in Affiliates:		Capital Stock	20,980
Great Northern Ins. Co.	384,987	Paid-in Surplus	2,711,474
Vigilant Ins. Co.	333,743	Unassigned Funds	<u>2,057,388</u>
Chubb Indemnity Ins. Co.	176,202	SURPLUS TO POLICYHOLDERS	<u>4,789,842</u>
Chubb National Ins. Co.	176,647		
Chubb European Inv. Holdings, SLP	120,469		
Other Affiliates	99,299		
Premiums Receivable	1,281,368		
Other Assets	<u>2,762,308</u>		
TOTAL ADMITTED ASSETS	<u>\$ 15,689,631</u>	TOTAL LIABILITIES AND SURPLUS	<u>\$ 15,689,631</u>

Investments are valued in accordance with requirements of the National Association of Insurance Commissioners, At December 31, 2018, investments with a carrying value of \$566,806,856 were deposited with government authorities as required by law.

STATE OF PENNSYLVANIA
 COUNTY OF PHILADELPHIA

John Taylor, being duly sworn, says that he is Senior Vice President of Federal Insurance Company and that to the best of his knowledge and belief the foregoing is a true and correct statement of the said Company's financial condition as of the 31 st day of December, 2018.

Sworn before me this March 19, 2019

[Signature]
 Senior Vice President

[Signature]
 Notary Public

August 8, 2019
 My commission expires

COMMONWEALTH OF PENNSYLVANIA
 NOTARIAL SEAL
 Diane Wright, Notary Public
 City of Philadelphia, Philadelphia County
 My Commission Expires Aug. 8, 2019
 MEMBER, PENNSYLVANIA ASSOCIATION OF NOTARIES

(NO TEXT ON THIS PAGE)

QUALIFICATION FORM

List previous projects completed to meet the special experience requirements for this contract. Please photocopy this form for submission of all required projects.

Name of Contractor: CAC INDUSTRIES INC

Name of Project: CON 15PH01 - CONEY ISLAND

Location of Project: BKLYN NY

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

Name: WESSAM FATMY, PE

Title: R/E Phone Number: 917-684-4177

Brief description of the Project completed or the Project in progress: CONST OF STORM & SANITARY SEWERS TRUNK WATER MAIN & APPURT AT SEWER EASEMENT BTW 114TH PL & CONEY ISLAND AVE

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

Amount of Contract, Subcontract or Sub-subcontract: \$27,721,963.89

Start Date and Completion Date: 1/13-9/17

Name of Contractor: CAC INDUSTRIES INC

Name of Project: Q ED 983 B 94TH ST

Location of Project: FAR ROCKAWAY NY

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

Name: DONALD GRANGER, PE

Title: ETC Phone Number: 718 391-1968

Brief description of the Project completed or the Project in progress: INSTALLATION OF TRUNK WATER MAINS AT B 94TH ST - BORO OF QUEENS

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

Amount of Contract, Subcontract or Sub-subcontract: \$24,372,688.50

Start Date and Completion Date: 9/11-9/14

QUALIFICATION FORM

Name of Contractor: _____

Name of Project: _____

Location of Project: _____

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

Name: _____

Title: _____ Phone Number: _____

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

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

Amount of Contract, Subcontract or Sub-subcontract: _____

Start Date and Completion Date: _____

Name of Contractor: _____

Name of Project: _____

Location of Project: _____

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

Name: _____

Title: _____ Phone Number: _____

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

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

Amount of Contract, Subcontract or Sub-subcontract: _____

Start Date and Completion Date: _____

QUALIFICATION FORM

Name of Contractor: _____

Name of Project: _____

Location of Project: _____

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

Name: _____

Title: _____ Phone Number: _____

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

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

Amount of Contract, Subcontract or Sub-subcontract: _____

Start Date and Completion Date: _____

Name of Contractor: _____

Name of Project: _____

Location of Project: _____

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

Name: _____

Title: _____ Phone Number: _____

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

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

Amount of Contract, Subcontract or Sub-subcontract: _____

Start Date and Completion Date: _____

QUALIFICATION FORM

Name of Contractor: _____

Name of Project: _____

Location of Project: _____

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

Name: _____

Title: _____ Phone Number: _____

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

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

Amount of Contract, Subcontract or Sub-subcontract: _____

Start Date and Completion Date: _____

Name of Contractor: _____

Name of Project: _____

Location of Project: _____

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

Name: _____

Title: _____ Phone Number: _____

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

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

Amount of Contract, Subcontract or Sub-subcontract: _____

Start Date and Completion Date: _____

SCHEDULE B: M/WBE UTILIZATION PLAN

Tax ID #: 11-3082726

APT E-PIN #: 85020B0017

SCHEDULE B – M/WBE Utilization Plan

Part I: M/WBE Participation Goals

Part I to be completed by contracting agency

Contract Overview

APT E- Pin #	85020B0017	FMS Project ID#:	BED-776
Project Title/ Agency PIN #	48" TRUNK WATER MAIN AND 20", 12", 8" DISTRIBUTION WATER MAIN REPLACEMENT IN EAST NEW YORK AVENUE AND JAMAICA AVENUE BETWEEN TAPSCOTT STREET TO VERMONT STREET, IN ATLANTIC AVENUE BETWEEN VAN SINDEREN AVENUE AND PENNSYLVANIA AVENUE, ETC./ 8502019WM0001C		
Bid/Proposal Response Date	February 6, 2020		
Contracting Agency	Department of Design and Construction		
Agency Address	30-30 Thomson Ave.	City Long Island City	State NY Zip Code 11101
Contact Person	Tempestt B	Title	MWBE Liaison & Compliance Analyst
Telephone #	(718) 391-2604	Email	bellamyte@ddc.nyc.gov

Project Description *(attach additional pages if necessary)*

48" TRUNK WATER MAIN AND 20", 12", 8" DISTRIBUTION WATER MAIN REPLACEMENT IN EAST NEW YORK AVENUE AND JAMAICA AVENUE BETWEEN TAPSCOTT STREET TO VERMONT STREET, IN ATLANTIC AVENUE BETWEEN VAN SINDEREN AVENUE AND PENNSYLVANIA AVENUE, ETC.

Together With All Work Incidental Thereto
BOROUGH OF BROOKLYN
CITY OF NEW YORK

M/WBE Participation Goals for Services

Enter the percentage amount for each group or for an unspecified goal. Please note that there are no goals for Asian Americans in Professional Services.

Prime Contract Industry: Construction

Group	Percentage
Unspecified	14 %
or	
Black American	UNSPECIFIED*
Hispanic American	UNSPECIFIED*
Asian American	UNSPECIFIED*
Women	UNSPECIFIED*
Total Participation	14 %
	Line 1

**Note: For this procurement, individual ethnicity and gender goals are not specified. The Total Participation Goal for construction contracts may be met by using either Black-American, Hispanic-American, Asian American, or Women certified firms or any combination of such firms.*

(NO TEXT ON THIS PAGE)

Tax ID #: 11-3082726

APT E-PIN #: 85020B0017

SCHEDULE B - Part II: M/WBE Participation Plan

Part II to be completed by the bidder/proposer.

Please note: For Non-M/WBE Prime Contractors who will NOT subcontract any services and will self-perform the entire contract, you must obtain a FULL waiver by completing the Waiver Application on pages 5 and 6 and timely submitting it to the contracting agency pursuant to the Notice to Prospective Contractors. Once a FULL WAIVER is granted, it must be included with your bid or proposal and you do not have to complete or submit this form with your bid or proposal.

Section I: Prime Contractor Contact Information

Tax ID # 11-3082726 FMS Vendor ID # 576657
 Business Name CAC INDUSTRIES INC Contact Person JOHN M LABOZZA
 Address 54-08 VERNON BLVD LIC NY 11201
 Telephone # 718729-3600 Email JLABOZZA@CACINDUC.COM

Section II: M/WBE Utilization Goal Calculation: Check the applicable box and complete subsection.

PRIME CONTRACTOR ADOPTING AGENCY M/WBE PARTICIPATION GOALS

<input checked="" type="checkbox"/> For Prime Contractors (including Qualified Joint Ventures and M/WBE firms) adopting Agency M/WBE Participation Goals. Calculate the total dollar value of your total bid that you agree will be awarded to M/WBE subcontractors for services and/or credited to an M/WBE prime contractor or Qualified Joint Venture. Please review the Notice to Prospective Contractors for more information on how to obtain credit for M/WBE participation.	Total Bid/Proposal Value	Agency Total Participation Goals (Line 1, Page 1)	Calculated M/WBE Participation Amount
	\$ 77,221,635.12	X 14 %	= \$ 10,811,028.92 Line 2

PRIME CONTRACTOR OBTAINED PARTIAL WAIVER APPROVAL: ADOPTING MODIFIED M/WBE PARTICIPATION GOALS

<input type="checkbox"/> For Prime Contractors (including Qualified Joint Ventures and M/WBE firms) adopting Modified M/WBE Participation Goals. Calculate the total dollar value of your total bid that you agree will be awarded to M/WBE subcontractors for services and/or credited to an M/WBE prime contractor or Qualified Joint Venture. Please review the Notice to Prospective Contractors for more information on how to obtain credit for M/WBE participation.	Total Bid/Proposal Value	Adjusted Participation Goal (From Partial Waiver)	Calculated M/WBE Participation Amount
	\$	X	= \$ Line 3

Tax ID #: 11-3082726

APT E-PIN #: 85020B0017

Section III: M/WBE Utilization Plan: How Proposer/Bidder Will Fulfill M/WBE Participation Goals. 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 above, 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 above, 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 above, as applicable.

Section IV: 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? % 14.7

Enter brief description of the type(s) and dollar value of subcontracts for all/any services you plan on subcontracting if awarded this contract. For each item, indicate whether the work is designated for participation by MBEs and/or WBEs and the time frame in which such work is scheduled to begin and end. Use additional sheets if necessary.

1. See Attached
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____
15. _____
16. _____
17. _____

Scopes of Subcontract Work

C.A.C. Industries Inc.

BED776
East New York Ave,etc
14.00%

Contract No:
 Contract Name:
 MWBE %

Prime Contractor (Adopt MWBE Goals)

Bid Amount	\$77,221,635.12	x	Goal	14.00%
		=	Participation Amount	\$10,811,028.92

Total Sub %	14.7%
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Total MWBE %	14.6%
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Subcontracting Area	Total Subs		MWBE Subs	Name	Duration
	Amount	M/WBE			
Trucking	\$4,273,964.00	M/WBE	\$4,273,964.00		9/2020-12/2023
Photos	\$45,000.00	WBE	\$45,000.00		7/2020-12/2023
Tree Work	\$93,590.00	WBE	\$93,590.00		7/2020-12/2023
Tree Consultant	\$40,950.00	WBE	\$40,950.00		7/2020-12/2023
Crossing Guard	\$353,625.00	MBE	\$353,625.00		7/2020-12/2023
Striping	\$67,802.00	MBE	\$67,802.00		11/2022, 11/2023
Contaminated Material	\$762,500.00	MBE	\$762,500.00		9/2020-9/2023
Traffic Signs	\$55,065.00				10/2022 -11/2022, 10/2023-11/2023
Rodent Control	\$23,700.00	WBE	\$23,700.00		9/2020-9/2023
Carbon Fiber Lining	\$4,456,500.00	WBE	\$4,456,500.00		9/2021 - 12/2021
Electrical	\$996,095.00	MBE	\$996,095.00		6/2020-9/2023
Rebar Installation	\$128,880.00	MBE	\$128,880.00		1/2021-5/2023
TV Inspection	\$23,680.00	WBE	\$23,680.00		6/2021, 11/2022
Total Subcontracting	\$11,321,351.00		\$11,266,286.00		

Section V: 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 and obtaining the participation of certified MBE and/or WBE firms.

Signature	<u>[Handwritten Signature]</u>	Date	<u>2-6-2020</u>
Print Name	<u>RICHARD E. GAVIN</u>	Title	<u>CFO/TREASURER</u>

Contract Overview

Tax ID # _____ FMS Vendor ID # _____

Business Name _____

Contact Name _____ Telephone # _____ Email _____

Type of Procurement Competitive Sealed Bids Bid/Response Due Date _____
 Other

APT E-PIN # (for this procurement): _____ Contracting Agency: _____

M/WBE Participation Goals as described in bid/solicitation documents

_____ % Agency M/WBE Participation Goal

Proposed M/WBE Participation Goal as anticipated by vendor seeking waiver

_____ % of the total contract value anticipated in good faith by the bidder/proposer to be subcontracted for services and/or credited to an M/WBE Prime Contractor or Qualified Joint Venture.

Basis for Waiver Request: Check appropriate box & explain in detail below (attach additional pages if needed)

Vendor does not subcontract services, and has the capacity and good faith intention to perform all such work itself with its own employees.

Vendor subcontracts some of this type of work but at a lower % than bid/solicitation describes, and has the capacity and good faith intention to do so on this contract. (Attach subcontracting plan outlining services that the vendor will self-perform and subcontract to other vendors or consultants.)

Vendor has other legitimate business reasons for proposing the M/WBE Participation Goal above. Explain under separate cover.

References
 List 3 most recent contracts performed for NYC agencies (if any). Include information for each subcontract awarded in performance of such contracts. Add more pages if necessary.

CONTRACT NO.	AGENCY	DATE COMPLETED
Total Contract Amount \$ _____	Total Amount Subcontracted \$ _____	_____
Item of Work Subcontracted and Value of subcontract _____	Item of Work Subcontracted and Value of subcontract _____	Item of Work Subcontracted and Value of subcontract _____
CONTRACT NO. _____	AGENCY _____	DATE COMPLETED _____
Total Contract Amount \$ _____	Total Amount Subcontracted \$ _____	_____
Item of Work Subcontracted and Value of subcontract _____	Item of Work Subcontracted and Value of subcontract _____	Item of Work Subcontracted and Value of subcontract _____
CONTRACT NO. _____	AGENCY _____	DATE COMPLETED _____
Total Contract Amount \$ _____	Total Amount Subcontracted \$ _____	_____
Item of Work Subcontracted and Value of subcontract _____	Item of Work Subcontracted and Value of subcontract _____	Item of Work Subcontracted and Value of subcontract _____

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List 3 most recent contracts performed for other entities. Include information for each subcontract awarded in performance of such contracts. Add more pages if necessary.

(Complete ONLY if vendor has performed fewer than 3 New York City contracts.)

TYPE OF Contract	ENTITY	DATE COMPLETED
_____	_____	_____
Manager at entity that hired vendor (Name/Phone No./Email)		
Total Contract Amount \$	Total Amount Subcontracted \$	
_____	_____	
Type of Work Subcontracted		

TYPE OF Contract	AGENCY/ ENTITY	DATE COMPLETED
_____	_____	_____
Manager at agency/entity that hired vendor (Name/Phone No./Email)		
Total Contract Amount \$	Total Amount Subcontracted \$	
_____	_____	
Item of Work Subcontracted and Value of subcontract	Item of Work Subcontracted and Value of subcontract	Item of Work Subcontracted and Value of subcontract
_____	_____	_____

TYPE OF Contract	AGENCY/ ENTITY	DATE COMPLETED
_____	_____	_____
Manager at entity that hired vendor (Name/Phone No./Email)		
Total Contract Amount \$	Total Amount Subcontracted \$	
_____	_____	
Item of Work Subcontracted and Value of subcontract	Item of Work Subcontracted and Value of subcontract	Item of Work Subcontracted and Value of subcontract
_____	_____	_____

VENDOR CERTIFICATION: I hereby affirm that the information supplied in support of this waiver request is true and correct, and that this request is made in good faith.

Signature: _____ Date: _____
Print Name: _____ Title: _____

Shaded area below is for agency completion only

AGENCY CHIEF CONTRACTING OFFICER APPROVAL

Signature: _____ Date: _____

CITY CHIEF PROCUREMENT OFFICER APPROVAL

Signature: _____ Date: _____

Waiver Determination

Full Waiver Approved:
Waiver Denied:
Partial Waiver Approved:
Revised Participation Goal: _____ %

APPRENTICESHIP PROGRAM REQUIREMENTS

Bidders are advised that the Apprenticeship Program Requirements set forth below apply to each contract for which a "X" is indicated before the word "Yes". Compliance with these requirements will be determined solely by the City.

 X YES NO

(1) Apprenticeship Program Requirements

Notice to Bidders: Please be advised that, pursuant to the authority granted to the City under Labor Law Section 816-b, the Department of Design and Construction hereby requires that the contractor awarded a contract as a result of this Invitation for Bids, and any of its subcontractors with subcontracts worth two million dollars or over, have, prior to entering into such contract or subcontract, apprenticeship agreements appropriate for the type and scope of work to be performed that have been registered with, and approved by, the New York State Commissioner of Labor. In addition, the contractor and its subcontractors will be required to show that such apprenticeship program/s have successfully passed the two year Probation period following the initial registration date of such program/s with the New York State Department of Labor.

The failure to prove, upon request, that these requirements have been met shall result in the contract not being awarded to the contractor or the subcontract not being approved.

Please be further advised that, pursuant to Labor Law Section 220, the allowable ratio of apprentices to journeymen in any craft classification shall not be greater than the ratio permitted to the contractor as to its workforce on any job under the registered apprenticeship program.

(2) Apprenticeship Program Questionnaire

The bidder must submit a completed and signed Apprenticeship Program Questionnaire. The Questionnaire is set forth on the following pages of the Bid Booklet.

APPRENTICESHIP PROGRAM QUESTIONNAIRE ("APQ")

Bidder Name: CAC INDUSTRIES INC

Project ID Number: BED776

The Bidder MUST complete, sign and submit this Apprenticeship Program Questionnaire with its bid.

1. Does the bidder have any Apprenticeship Program agreement(s) appropriate for the type and scope of work to be performed? (Note: Participation may be by either direct sponsorship or through collective bargaining agreement(s).)

YES NO

2. Has/have the bidder's Apprenticeship Program agreement(s) been registered with, and approved by the New York State Commissioner of Labor ("NYSDOL Commissioner")?

YES NO

3. Has/have the bidder's Apprenticeship Program successfully passed the two-year Probation period following its initial registration with the New York State Department of Labor ("NYSDOL")?

YES NO

If the answers to Questions 1, 2, and 3 are "Yes". The bidder shall, in the space below (and/or attached herewith where applicable), provide the contact information for such Apprenticeship Program(s) as well as information demonstrating that such Apprenticeship Program(s) have passed the two-year Probation period following its initial registration with the NYSDOL. (The bidder may attach additional pages if necessary).

- **Where the bidder directly sponsors any such apprenticeship Program(s), the bidder shall provide the following:**
 - The trade classification(s) covered by such program(s), and the date(s) such program(s) was/were approved by the NYSDOL Commissioner; and/or
 - A copy of a letter(s) from the NYSDOL, on NYSDOL's letterhead, executed by an official thereof, which verifies/verify the trade classification(s) covered by such program(s), and the date(s) such program(s) was/were approved by the NYSDOL Commissioner and the Active status of such program(s).

- **Where the bidder participates in any such Apprenticeship Program(s) through its membership in an employer organization(s) that directly sponsors such program(s) or where the employer association(s) participates in such program(s) through collective bargaining, the bidder shall provide the following:**
 - The contact information for the employer organization(s), and the apprenticeable trade(s) covered pursuant to the bidder's affiliation therewith, and the date such program(s) was/were approved by the NYSDOL Commissioner; or
 - A letter(s) from such employer organization(s), on letterhead of such organization(s), executed by an officer, delegate or official thereof, which verifies/verify the trade classification(s) covered by such program(s) was/were approved by the NYSDOL Commissioner, and that the bidder is both a member in good standing of the identified employer organization and is subject to the provisions of the Apprenticeship Program agreement(s) sponsored thereby.

APPRENTICESHIP PROGRAM QUESTIONNAIRE ("APQ")

- Where the bidder participates in any such Apprenticeship Programs through collective bargaining agreements, the bidder shall provide the following:
 - The contact information for such collective bargaining entity(ies) and the apprenticeable trade(s) covered pursuant to the bidder's affiliation therewith;
 - A letter(s) from such collective bargaining entity(ies), on letterhead of such entity(ies), executed by an officer, delegate or official thereof, which verifies/verify the bidder's status as a signatory/participant in good standing to such collective bargaining entity(ies) Apprenticeship Program Agreements.

THW COLLECTIVE BARGAINING AGREEMENTS w/
THE LABOR UNIONS VIA GCA

Bidder: CAC INDUSTRIES INC

By: [Signature] Title: CFO/TREASURER
(Signature of Partner or Corporate Officer)

Date: 2-6-2020

(NO TEXT ON THIS PAGE)

PROJECT REFERENCE FORMS

A. PROJECT REFERENCES – CONTRACTS COMPLETED BY THE BIDDER

List all contracts substantially completed within the last four (4) years, up to a maximum of 10 projects, 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)

See attached

C.A.C. INDUSTRIALS, INC.
COMPLETED CONTRACTS

Project	Contract No.	Location	Contract	Contract Amt.	Award Date	Completed	Owner	Tel. No.	Arch/Eng	Tel. No.
Storm Sewers in Springfield Blvd.	SE-687-A	Queens	G.C.	\$ 1,575,000.00		Nov-98	D.D.C.	718-391-1903	John Pusz, P.E.	718-391-1903
Combined Sewers in 62nd Street	SEK-002258	Brooklyn	G.C.	\$ 533,413.75		Aug-98	D.D.C.	718-780-8115	Lambert Monah, P.E.	718-780-8115
Storm & Sanitary Sewers in 169th Street	SEQ-200292	Queens	G.C.	\$ 491,756.68		Dec-98	D.D.C.	718-391-1968	Donald Granger, P.E.	718-391-1968
Sanitary Sewers in 117th Rd	SEQ-002420	Queens	G.C.	\$ 391,456.71		Dec-98	D.D.C.	718-391-1968	Donald Granger, P.E.	718-391-1968
Storm & Sanitary Sewers, Watermains & Appurtenances in 229th Street	SEQ-200295	Queens	G.C.	\$ 2,722,332.51		Dec-99	D.D.C.	718-391-2273	Tom Wynne, P.E.	718-391-2273
Storm & Sanitary Sewers, Watermains & Appurtenances in Heberton Ave	SER-200065	Staten Island	Sub	\$ 550,000.00		Sep-97	D.D.C.	718-390-5327	Medhat Hanna, P.E.	718-390-5327
Baisley Blvd. Including Sewers, Watermains & Street Lighting	HWQ-994	Queens	Sub	\$ 1,000,000.00		Nov-97	D.D.C.	718-391-1954	Anna Pluta-Migovya, P.E.	718-391-1954
Storm Sewers in 58th Avenue	SEQ-200289	Queens	G.C.	\$ 243,742.00		Sep-98	D.D.C.	718-391-1966	Eric Sattler, P.E.	718-391-1966
Storm Sewers in 85th Avenue	SEQ-002482	Queens	G.C.	\$ 672,424.89		Apr-00	D.D.C.	718-391-2273	Tom Wynne, P.E.	718-391-2273
Storm & Sanitary Sewers in 220th Street & Jamaica Avenue	SEQ-002478	Queens	G.C.	\$ 3,104,402.31		Nov-00	D.D.C.	718-391-2273	Tom Wynne, P.E.	718-391-2273
Sewers in 125th Avenue	SEQ002474		G.C.	\$ 2,491,158.96		Dec-00	D.D.C.	718-391-2273	Tom Wynne, P.E.	718-391-2273
Suppin Blvd Area	HWQ-600C2	Queens	G.C.	\$ 9,352,053.99		Oct-01	D.D.C.	718-391-1968	Donald Granger, P.E.	718-391-1968
Collapsed Storm, Sanitary or Combined Sewers in various locations	SEQ-00201A	Queens	G.C.	\$ 3,571,618.77		Aug-01	D.D.C.	718-595-4201	Dan Lefkowitz	718-595-4201
Sanitary & Storm Sewers in 219th Street	SEQ-002510	Queens	G.C.	\$ 5,256,628.65		May-02	D.D.C.	718-391-2273	Tom Wynne, P.E.	718-391-2273
Storm Sewers in Baisley Blvd	SEQ-002514	Queens	G.C.	\$ 5,022,345.51		May-02	D.D.C.	718-391-1968	Donald Granger, P.E.	718-391-1968
Sanitary Sewers in Murdock Avenue	SEQ-002514	Queens	G.C.	\$ 1,409,727.96		Aug-02	D.D.C.	718-391-2273	Tom Wynne, P.E.	718-391-2273
Storm Sewers in Beach Channel Drive	SEQ-200358	Queens	G.C.	\$ 927,658.80		Aug-02	D.D.C.	718-391-2273	Tom Wynne, P.E.	718-391-2273
Combined Sewers in East 89th Street	SEQ-002320	Brooklyn	G.C.	\$ 177,903.00		Dec-02	D.D.C.	718-391-2273	Tom Wynne, P.E.	718-391-2273
Storm Sewers in Beach 139th Street	SE-426C	Queens	G.C.	\$ 6,545,625.39		Jun-03	D.D.C.	718-391-2273	Tom Wynne, P.E.	718-391-2273
Sanitary Sewers in Smith Street	SEQ-002532	Queens	G.C.	\$ 4,905,099.18		Jul-03	D.D.C.	718-391-2273	Tom Wynne, P.E.	718-391-2273
Greenwich Street	HWMTCA1A	Manhattan	G.C.	\$ 2,145,384.00		Dec-03	D.D.C.	718-391-2273	Tom Wynne, P.E.	718-391-2273
9th Road	HWQ-631A	Queens	G.C.	\$ 5,422,676.58	5/2/2002	Jan-04	D.D.C.	718-391-2273	Tom Wynne, P.E.	718-391-2273
Storm Sewers in Beach 53rd Street	SEQ-200381-R	Queens	G.C.	\$ 280,615.43		Mar-04	D.D.C.	718-391-2273	Tom Wynne, P.E.	718-391-2273
Water Main Installation for New Building Constr & Improvement to the City's Water Main Distribution System	QED-980	Queens, Bronx	G.C.	\$ 1,021,005.00		May-04	D.D.C.	718-391-2273	Tom Wynne, P.E.	718-391-2273
Sanitary Sewers in Daniels Street	SEQ-002488	Queens	G.C.	\$ 1,215,916.60		May-04	D.D.C.	718-391-2273	Tom Wynne, P.E.	718-391-2273
Sanitary & Storm Sewers in 43rd Avenue	SEQ-002569	Queens	G.C.	\$ 911,936.43		Jul-04	D.D.C.	718-391-2273	Tom Wynne, P.E.	718-391-2273
Storm Sewers in Tomerville Area	HWQ-631A	Queens	G.C.	\$ 15,245,464.68	5/2/2002	Mar-05	D.D.C.	718-391-2273	Tom Wynne, P.E.	718-391-2273
Sanitary and Storm Sewers in Collier Avenue	SEQ-002413-R	Queens	G.C.	\$ 1,850,940.00		Apr-05	D.D.C.	718-391-1968	Donald Granger, P.E.	718-391-1968
Sanitary Sewers in 122nd Avenue	SEQ-002567	Queens	G.C.	\$ 4,666,115.25		Sep-05	D.D.C.	718-391-1968	Donald Granger, P.E.	718-391-1968
Edgemere Urban Renewal Area Phase I	HD-153B	Queens	G.C.	\$ 6,436,325.09		Sep-05	D.D.C.	718-391-1968	Donald Granger, P.E.	718-391-1968
Reconstruction of Reads Lane	HWQ230G-R	Brooklyn	G.C.	\$ 6,537,998.25		Sep-05	D.D.C.	718-391-1968	Donald Granger, P.E.	718-391-1968
Collapsed or Defective Sanitary, Storm and Combined Vitrified Clay pipe Sewers	SEQ00201P	Bronx	G.C.	\$ 3,438,710.96		May-06	D.E.P.	718-595-4200	Dan Lefkowitz	718-595-4200
Collapsed or Defective Sanitary, Storm & Combined Vitrified Clay pipe Sewers	SEQ00201B2	Queens	G.C.	\$ 4,689,808.39		May-06	D.E.P.	718-595-4200	Dan Lefkowitz	718-595-4200
Sanitary & Storm Sewers & Installation of Water Mains in 167th Street	SEQ-002574	Queens	G.C.	\$ 4,965,952.50		Jun-07	D.D.C.	718-391-1968	Donald Granger, P.E.	718-391-1968
Collapsed or Otherwise Defective Sanitary, Storm & Vitrified Clay Pipe Sewers	SEQ00201B3	Queens	G.C.	\$ 4,143,865.40		Apr-07	D.E.P.	718-595-4200	Dan Lefkowitz	718-595-4200
Collapsed, Defective Sanitary, Storm and Combined Vitrified Clay Pipe Sewers	SEX00201Q	Bronx	G.C.	\$ 3,204,358.27		Apr-07	D.E.P.	718-595-4200	Dan Lefkowitz	718-595-4200
Combined Sewer in Seymour Ave	SEX002251	Bronx	G.C.	\$ 3,545,973.00	12/21/2015	Sep-07	D.D.C.	718-391-2273	Tom Wynne, P.E.	718-391-2273

C.A.C. INDU SIES, INC.
COMPLETED CONTRACTS

Project	Contract No.	Location	Contract	Contract Amnt	Award Date	Completed	Owner	Tel. No.	Arch/Eng	Tel. No.
Sanitary Sewers in Hoda Place	SER-002235-R	Staten Island	G.C.	\$ 1,639,099.89		Aug-07	D.D.C.	718-391-2273	Tom Wynne, P.E.	718-391-2273
Edgemere Urban Renewal Area Phase II	HO-153B1	Queens	G.C.	\$ 17,221,197.24		Sep-07	D.D.C.	718-391-1968	Donald Granger, P.E.	718-391-1968
Installation of Water Mains & Reconstruction of Combined Sewers in Richmond Road	RED-354	Staten Island	G.C.	\$ 20,315,957.76	2/28/2003	Dec-07	D.D.C.	718-391-2273	Tom Wynne, P.E.	718-391-2273
Gateway Estates Area Phase 1A	HD-161	Brooklyn	G.C.	\$ 17,445,456.27	5/12/2004	Mar-08	D.D.C.	718-391-2273	Tom Wynne, P.E.	718-391-2273
Gateway Estates Area Phase 1A	HD-161	Brooklyn	G.C.	\$ 11,378,826.00	5/12/2004	Nov-08	D.D.C.	718-391-2273	Tom Wynne, P.E.	718-391-2273
Collapsed or Defective Cement Pipe & Combined Sewers in Various Locations	SE-166-B4	Brooklyn	G.C.	\$ 4,178,068.70	1/29/2008	Mar-09	D.E.P.	718-595-4200	Dan Lefkowitz	718-595-4200
Collapsed or Defective Cement Pipe & Combined Sewers in Various Locations	SE-166-B5	Brooklyn	G.C.	\$ 4,174,464.15	2/23/2009	Mar-10	D.E.P.	718-595-4200	Dan Lefkowitz	718-595-4200
99th, 104th and 110th Avenues	HWXQ1161	Queens	G.C.	\$ 59,545,262.70		Dec-10	D.D.C.	718-391-1968	Donald Granger, P.E.	718-391-1968
Rehabilitation of Step Streets at West 176th and West 230th Streets	HWXS211V2	Bronx	G.C.	\$ 3,488,663.36	3/10/2008	Dec-10	D.D.C.	(718) 365-2106	Joe Cassidy, P.E.	718-365-2106
Harrison Street	HWMTWCA7A	Manhattan	G.C.	\$ 13,358,600.51	5/4/2009	Nov-10	D.D.C.	212-442-7990	Ashwinkumar Patel, P.E.	212-442-7990
Collapsed or Defective Cement Pipe & Combined Sewers in Various Locations	SE-166-B6	Brooklyn	G.C.	\$ 3,965,926.77	3/23/2010	May-11	D.E.P.	718-595-4200	Dan Lefkowitz	718-595-4200
Highline Reconstruction (Section 2)	16230008	Queens	G.C.	\$ 36,714,323.00		Jun-11	E.D.C.	212-3123743	Len Greco, P.E.	212-3123743
Sanitary & Storm and Appurtenances in 89th Ave	SEQ002658	Queens	G.C.	\$ 1,898,334.25	5/13/2010	Dec-11	D.D.C.	718-391-1968	Donald Granger, P.E.	718-391-1968
Storm and Combined Sewers in Fairfax Avenue between Waterbury Ave & Fairmount Avenue	SEX20039	Bronx	G.C.	\$ 2,245,311.00	4/27/2010	Dec-11	D.D.C.	718-365-2106	Joe Cassidy, P.E.	718-365-2106
Storm Sewer & Outfall in B, 42nd St b/w B, Channel Drive & the U.S. Bulkhead Line	SEQ200533	Queens	G.C.	\$ 5,277,781.60	6/9/2009	Jun-12	D.D.C.	718-391-1968	Donald Granger, P.E.	718-391-1968
Combined Sewers and Appurtenances in 26th Avenue between 154th Street & 157th Street	SEQ002587	Queens	G.C.	\$ 1,496,484.00	2/17/2011	Jun-12	D.D.C.	718-391-1968	Donald Granger, P.E.	718-391-1968
East Fordham Rd from Southern Blvd to the Ramps of the Bronx River Parkway	HWXP134	Bronx	G.C.	\$ 11,421,586.26	7/13/2010	Dec-13	D.D.C.	917-939-6966	Lambert Monah, P.E.	917-939-6966
Bronx & Pelham Pkwy East Bound & Pelham Pkwy South	HWX710	Bronx	G.C.	\$ 36,165,168.80	5/12/2010	Apr-14	D.D.C.	917-939-6966	Lambert Monah	917-939-6966
Collapsed or Otherwise Defective Sanitary, Storm Sewers	SEX00201W	Bronx	G.C.	\$ 4,554,306.44	6/28/2012	Apr-14	D.D.C.	917-939-6966	Lambert Monah	917-939-6966
McDonald's USA, LLC - 91-18 Beach Calmnel Drive New sidewalks, Parking lot pavement	PO 968093	Queens	G.C.	\$ 75,896.00	9/25/2014	Dec-9, 2014	McDonald's USA	732-623-8328	Julie Andrews	732-623-8328
West End Avenue Pipe Enhancement	PO 4277008	Manhattan	G.C.	\$ 925,390.00	1/22/2014	5/25/2014	Con Edison	212-460-2768	Jill Karschensteiner	212-460-2768
Con Edison 55 Palmer Avenue Vault Construction on Piles	PO 4443377	Bronxville	G.C.	\$ 365,364.00	12/12/2014	1/15/15	Con Edison	914-789-6098	Patrick McTague	914-789-6098
Regulator Station (GR-115)	PO 4516377	Manhattan	G.C.	\$ 840,000.00	4/21/2015	1/15/15	Con Edison	212-460-6265	David Blaut	212-460-6265
Gas Regulator GR-78 at 147th Street	PO GR-78	Bronx	G.C.	\$ 1,365,364.98	6/10/2015	1/15/15	Con Edison	212-460-6265	David Blaut	212-460-6265
28th Street Cable Yard Paving	PO 45527777	Manhattan	G.C.	\$ 234,000.00	5/8/2015	1/15/15	Con Edison	212-460-6265	David Blaut	212-460-6265

**C.A.C. INDUSTRIES, INC.
COMPLETED CONTRACTS**

(CLOSE OUT PHASE)

Contract Description	QED1003	Queens	G.C.	\$	\$	\$	Work Done	DDC	718-391-1958	Pat Larkin	718-391-1958
Watermain Replacement at Various Locations 108th to 129th Streets		Queens	G.C.	\$ 9,123,131.61	\$ 1,824,626.32	\$ -	Work Done	DDC	718-391-1958	Pat Larkin	718-391-1958
Thursby Avenue, Ph II	HWQ631B1	Queens	G.C.	\$ 41,544,348.39	\$ 35,000.00	\$ -	Work Done	DDC	718-391-1968	Donald Granger, P.E.	718-391-1968
World Trade Center - WTC Street, Utilities & Related Infrastructure - Phase I	WTC-342.287	Manhattan	G.C.	\$ 9,857,261.78	\$ 98,000.00	\$ -	Work Done	Port Authority	212-435-5151	Trevor Wright	212-435-5151
Rehabilitation of College Point Blvd & Reconstruction of 32nd Ave	HWQ1675	Queens	G.C.	\$ 12,454,452.00	\$ 218,000.00	\$ -	Work Done	DDC	718-391-1968	Donald Granger, P.E.	718-391-1968
Installation of Trunk Mains & Appurtenances in Hudson Street	MED-596	Manhattan	G.C.	\$ 59,494,197.13	\$ 462,000.00	\$ -	Work Done	DDC	212-442-7283	Srinil Kesava	212-442-7283
Installation of Trunk Water Main in Beach 94th Street	QED-983	Queens	G.C.	\$ 24,372,688.50	\$ 2,151,257.05	\$ -	Work Done	DDC	718-391-1968	Donald Granger, P.E.	718-391-1968
Combined and Storm Sewers in Connetquot Ave	SEX20043	Bronx	G.C.	\$ 4,190,156.46	\$ 194,000.00	\$ -	Work Done	DDC	917-939-6966	Lambert Monah	917-939-6966
Select Bus Service at Nostand Avenue & Rogers Avenue	HWK1130A	Brooklyn	G.C.	\$ 14,945,698.98	\$ 422,000.00	\$ -	Work Done	DDC	718-391-2273	Tom Wynne, P.E.	718-391-2273
Bailey Place (Retaining Wall, etc.)	RWX003	Bronx	G.C.	\$ 5,155,388.10	\$ 750,000.00	\$ -	Work Done	DDC	917-939-6966	Lambert Monah	917-939-6966
Safe Routes to Transit, Phase IV White Plains Rd at Alford Ave	HWST2009	Bronx	G.C.	\$ 1,831,140.09	\$ 366,228.02	\$ -	Work Done	DDC	917-939-6966	Lambert Monah	917-939-6966
Wadsworth Terrace from 190th St to Fairview Avenue	HWMT2017	Manhattan	G.C.	\$ 2,321,534.16	\$ 464,306.83	\$ -	Work Done	DDC	212-442-1890	Shahram Jeromi	212-442-1890
Queens Centers for Progress	XXXX	Queens	G.C.	\$ 1,620,000.00	\$ 162,000.00	\$ -	Work Done	UCP of Queens	516-378-2064	Neil Strandberg	516-378-2064
Rockaway Beach Blvd Watermain Work	10-094-02	Queens	Sub	\$ 720,000.00	\$ -	\$ -	Work Done	EDC		Steve Andrich	
Collapsed Sewers Various Locations - Bronx	SEX00201Z	Bronx	G.C.	\$ 3,782,309.58	\$ 310,000.00	\$ -	Work Done	DEP	718-595-5262	M. Sullivan -DEP	718-595-5262
Con Ed Bronx Turnkey Gas Pilot for Out and Cans	PO-4367127	Bronx	G.C.	\$ 7,182,000.00	\$ -	\$ -	Work Done	Con Edison	212-460-6265	David Blaust	212-460-6265
Sanitary & Storm Sewers and Appurtenances in Beach 29th Street	SE-817	Queens	G.C.	\$ 379,116,099.00	\$ 4,104,482.00	\$ -	Punch List	D.D.C.	718-391-1968	Donald Granger, P.E.	718-391-1968
Manhattan Dead Gas Main and Service Installation and Gas Trenching	4323066	Manhattan	G.C.	\$ 25,638,600.00	\$ 1,281,920.00	\$ -	Work Done	Con Edison	212-460-6265	David Blaust	212-460-6265
Con Ed Manhattan Turnkey Gas Pilot for Cuts and Caps	PO-4368386	Manhattan	G.C.	\$ 2,769,000.00	\$ 138,450.00	\$ -	Work Done	Con Edison	212-460-6265	David Blaust	212-460-6265
Steam Structures and Improvements	PO-4321350	Manhattan	G.C.	\$ 7,809,856.00	\$ 390,492.80	\$ -	Work Done	Con Edison	212-460-6265	David Blaust	212-460-6265
Sanitary & Storm Sewers and Appurtenances in Chandler Street	SE-795	Queens	G.C.	\$ 22,572,311.00	\$ 1,512,005.00	\$ 50,000.00	Punch List	DDC	718-391-1968	Donald Granger, P.E.	718-391-1968
Pipe Enhancement Harlem River Drive II	SEX002257	Manhattan	G.C.	\$ 8,287,168.00	\$ -	\$ -	Work Done	Con Edison	212-894-9397	Adama Ohtera	6456773985
Rehab Interceptor Sewer		Bronx	SUB	\$ 1,321,168.00	\$ 182,116.80	\$ -	Work Done	DDC	201-784-1034	EnTech	201-784-1034
Replacement of Existing Water Siphons between Brooklyn and Staten Island	GE-343	Brooklyn/SI	Sub	\$ 37,400,000.00	\$ 1,870,000.00	\$ 50,000.00	Punch List	NYCEDC	(347) 291-8460	Thomas Bowers	(347) 291-8460
Test Pits and Holes at Various Locations	C-39011	All Boroughs	G.C.	\$ 4,564,530.00	\$ 912,906.00	\$ -	Work Done	MTA	646-252-6259	Mohammed Hoque	646-252-4854
Services of Backhoe Loader with Operating Engineer Region 3	BHOE-14-3Q	Queens	G.C.	\$ 3,545,226.00	\$ -	\$ -	Work Done	DEP	718-595-5262	Rek Nelson	718-595-5262
Myrtle Avenue from Hall Street to Emerson Place	HWPL2001K	Brooklyn	G.C.	\$ 5,861,333.79	\$ 351,680.00	\$ 50,000.00	Punch List	DDC	718-391-1937	Robert Yueli, P.E.	718-391-1937
Distribution Water Main Extension and Replacement	GES36	All Boroughs	G.C.	\$ 5,871,591.90	\$ 1,174,318.38	\$ 50,000.00	Punch List	DDC	718-391-1958	Pat Larkin	718-391-1958
Storm & Sanitary Sewers & Trunk Mains, Hart Place & Coney Island Creek	CONISPH01	Brooklyn	G.C.	\$ 27,721,963.89	\$ 876,000.00	\$ 50,000.00	Punch List	DDC	718-391-2273	Tom Wynne, P.E.	718-391-2273

B. PROJECT REFERENCES – CONTRACTS CURRENTLY UNDER CONSTRUCTION BY THE BIDDER

List all contracts currently under construction similar to the contract being awarded.

Project & Location	Contract Type	Contract Amount (\$000)	Date Completed	Owner Reference & Tel. No.	Architect/Engineer Reference & Tel. No. (if different from owner)

See attached

C.A.C. INDUSTRIES, INC.
ACTIVE CONTRACTS

Print Date: 7. /2019

Contract No.	Location	Contract	Contract Amnt.	Subcontracted	Uncompleted	Complete	Owner	Tel. No.	Arch/Eng.	Tel. No.
D263820	Manhattan	G.C.	\$ 6,074,055	\$ 1,275,552	\$ 3,440,229	6/20/19	NYS DOT	718-482-4722	Pankaj Patel	718-482-4722
HWMWTC A7F	Manhattan	G.C.	\$ 23,366,399	\$ 3,754,633	\$ 9,885,189	7/7/19	DDC	212-442-1890	Shahram Jaromi	212-442-1890
HWP15XMTA	Manhattan	G.C.	\$ 7,431,926	\$ 872,683	\$ 5,689,191	6/17/19	DDC	212-442-1890	Shahram Jaromi	212-442-1890
HD161E	Brooklyn	G.C.	\$ 24,221,583	\$ 3,888,934	\$ 16,802,432	9/21/19	DDC	718-391-1937	Robert Yueh, P.E.	718-391-1937
Subcontract	Brooklyn	Sub	\$ 8,650,000	\$ 2,162,500	\$ 646,000	6/30/19	RBBC	romskig@gmail	Gerald Romski	romskig@gmail
BEDA002	Brooklyn	G.C.	\$ 18,821,967	\$ 1,882,197	\$ 469,361	6/30/19	DDC	718-391-1937	Robert Yueh, P.E.	718-391-1937
SEQ200524	Queens	G.C.	\$ 16,421,869	\$ 1,705,908	\$ 5,150,464	6/6/19	DDC	718-391-1958	Pat Larkin	718-391-1958
SEQ002693	Queens	G.C.	\$ 22,131,638	\$ 4,426,328	\$ 6,270,139	11/2/19	DDC	718-391-1958	Pat Larkin	718-391-1958
NYCDEP-JFK-12	Queens	G.C.	\$ 8,586,000	\$ 1,087,184	\$ 5,178,939	12/15/19	DEP	718-595-4217	Ovi Pena	646-413-2564
QED-991	Queens	G.C.	\$ 62,521,672	\$ 3,739,105	\$ 50,836,261	11/30/20	DDC	718-391-2469	Lambert Monah	718-391-2469
SE823	Queens	G.C.	\$ 72,721,954	\$ 132,730	\$ 71,371,172	7/28/21	DDC	718-391-2045	Adwait Das	718-391-2045
HWPLZ011K	Bronx	G.C.	\$ 115,271,100	\$ 23,054,220	\$ 78,591,102	7/31/21	DDC	718-391-2469	Lambert Monah	718-391-2469

C. PROJECT REFERENCES – 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 Completed	Owner Reference & Tel. No.	Architect/Engineer Reference & Tel. No. (if different from owner)

N/A

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: CAE INDUSTRIES INC

DDC Project Number: _____

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.

<u>TYPE OF WORK</u>	<u>LAST 3 YEARS</u>	<u>THIS PROJECT</u>
General Building Construction	<input type="checkbox"/>	<input type="checkbox"/>
Residential Building Construction	<input type="checkbox"/>	<input type="checkbox"/>
Nonresidential Building Construction	<input type="checkbox"/>	<input type="checkbox"/>
Heavy Construction, except building	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Highway and Street Construction	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Heavy Construction, except highways	<input type="checkbox"/>	<input type="checkbox"/>
Plumbing, Heating, HVAC	<input type="checkbox"/>	<input type="checkbox"/>
Painting and Paper Hanging	<input type="checkbox"/>	<input type="checkbox"/>
Electrical Work	<input type="checkbox"/>	<input type="checkbox"/>
Masonry, Stonework and Plastering	<input type="checkbox"/>	<input type="checkbox"/>
Carpentry and Floor Work	<input type="checkbox"/>	<input type="checkbox"/>
Roofing, Siding, and Sheet Metal	<input type="checkbox"/>	<input type="checkbox"/>
Concrete Work	<input type="checkbox"/>	<input 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
2019	.92	N/A
2018	.88	
2017	.82	
2016	.85	

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

4. OSHA Information:

- YES NO Contractor has received a willful violation issued by OSHA or a New York City Department of Buildings (NYCDOB) construction-related violation within the last three years.
- YES NO Contractor has had an incident requiring OSHA notification within 8 hours (all work-related fatalities) or an incident requiring OSHA notification within 24 hours (work-related in-patient hospitalization, amputation and all loss of an eye).

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

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

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

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

YEAR	TOTAL NUMBERS OF HOURS WORKED BY EMPLOYEES	INCIDENT RATE
2019	796,912	0.50
2018	793,504	1.51
2017	730,593	1.37

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

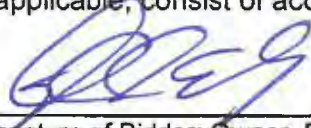
5. Safety Performance on Previous DDC Project(s)

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: 2-6-2020

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

Title: CFO / TREASURER

(NO TEXT ON THIS PAGE)

IRAN DIVESTMENT ACT COMPLIANCE RIDER

FOR NEW YORK CITY CONTRACTORS

The Iran Divestment Act of 2012, effective as of April 12, 2012, is codified at State Finance Law ("SFL") §165-a and General Municipal Law ("GML") §103-g. The Iran Divestment Act, with certain exceptions, prohibits municipalities, including the City, from entering into contracts with persons engaged in investment activities in the energy sector of Iran. Pursuant to the terms set forth in SFL §165-a and GML §103-g, a person engages in investment activities in the energy sector of Iran if:

- (a) The person provides goods or services of twenty million dollars or more in the energy sector of Iran, including a person that provides oil or liquefied natural gas tankers, or products used to construct or maintain pipelines used to transport oil or liquefied natural gas, for the energy sector of Iran; or
- (b) The person is a financial institution that extends twenty million dollars or more in credit to another person, for forty-five days or more, if that person will use the credit to provide goods or services in the energy sector in Iran and is identified on a list created pursuant to paragraph (b) of subdivision three of Section 165-a of the State Finance Law and maintained by the Commissioner of the Office of General Services.

A bid or proposal shall not be considered for award nor shall any award be made where the bidder or proposer fails to submit a signed and verified bidder's certification.

Each bidder or proposer must certify that it is not on the list of entities engaged in investment activities in Iran created pursuant to paragraph (b) of subdivision 3 of Section 165-a of the State Finance Law. In any case where the bidder or proposer cannot certify that they are not on such list, the bidder or proposer shall so state and shall furnish with the bid or proposal a signed statement which sets forth in detail the reasons why such statement cannot be made. The City of New York may award a bid to a bidder who cannot make the certification on a case by case basis if:

- (1) The investment activities in Iran were made before the effective date of this section (i.e., April 12, 2012), the investment activities in Iran have not been expanded or renewed after the effective date of this section and the person has adopted, publicized and is implementing a formal plan to cease the investment activities in Iran and to refrain from engaging in any new investments in Iran: or
- (2) The City makes a determination that the goods or services are necessary for the City to perform its functions and that, absent such an exemption, the City would be unable to obtain the goods or services for which the contract is offered. Such determination shall be made in writing and shall be a public document.


**BIDDER'S CERTIFICATION OF COMPLIANCE WITH
IRAN DIVESTMENT ACT**

Pursuant to General Municipal Law Section 103-g, which generally prohibits the City from entering into contracts with persons engaged in investment activities in the energy sector of Iran, the bidder/proposer submits the following certification:

[Please Check One]

BIDDER'S CERTIFICATION

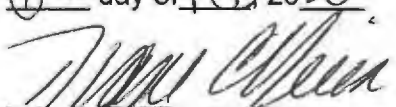
- By submission of this bid or proposal, each bidder/proposer and each person signing on behalf of any bidder/proposer certifies, and in the case of a joint bid each party thereto certifies as to its own organization, under penalty of perjury, that to the best of its knowledge and belief, that each bidder/proposer is not on the list created pursuant to paragraph (b) of subdivision 3 of Section 165-a of the State Finance Law.
- I am unable to certify that my name and the name of the bidder/proposer does not appear on the list created pursuant to paragraph (b) of subdivision 3 of Section 165-a of the State Finance Law. I have attached a signed statement setting forth in detail why I cannot so certify.



 SIGNATURE
 RICHARD E GAVIN

 PRINTED NAME
 CFO / TREASURER

 TITLE

Sworn to before me this
 6th day of Feb 2020


 Notary Public

DIANE C. BROWN
 Notary Public, State of New York
 ID# 01DE504915
 Qualified in Queens County
 Commission Expires August 24, 2021

Dated: 2-6-2020

B. BID SCHEDULE (B-PAGES)

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

NOTES:

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

Item Number Format	Applicable Specifications
4.XXX 6.XXX 7.XXX 8.XXX (Except 8.01 XXX; see below) 9.XXX HW-XXX	NYC Department of Transportation ("DOT") Standard Highway Specifications, as amended in the R-Pages, located in Volume 3 of 3 herein; <p style="text-align: center;">AND</p> NYC DOT Standard Details of Construction; <p style="text-align: center;">OR,</p> <i>if the item is not contained within the Standard Specifications</i> , then see the applicable New Sections in the I-Pages, located in Volume 3 of 3 herein.
1.XXX 50.XXX through 55.XXX 60.XXX through 66.XXX 70.XXX through 79.XXX (Except 79.11XXX; see below) DSS XXX DSW XXX	NYC Department of Environmental Protection ("DEP") Standard Sewer and Water Main Specifications, as amended in the R-Pages and SW-Pages, located in Volume 3 of 3 herein; <p style="text-align: center;">AND</p> NYC DEP Specifications for Trunk Main Work; <p style="text-align: center;">AND</p> NYC DEP Sewer Design Standards; <p style="text-align: center;">AND</p> NYC DEP Water Main Standard Drawings; <p style="text-align: center;">OR,</p> <i>if the item is not contained within the Standard Specifications</i> , then see the Amendments to the Standard Sewer and Water Main Specifications in the SW-Pages, located in Volume 3 of 3 herein.
GI-XXX PM-XXX ROW XXX	New Sections in the I-Pages, located in Volume 3 of 3 herein <p style="text-align: center;">AND</p> NYC DEP Standards for Green Infrastructure.
UTL-XXX	Gas Cost Sharing Standard Specifications in the EP7-Pages, located in Volume 3 of 3 herein.

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

(NO FURTHER TEXT ON THIS PAGE)



Department of
Design and
Construction

2/7/2020 9:25 AM

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

CONTRACT PIN: 8502019WWM0001C
PROJECT ID: BED776
REBID: N/A

BID SCHEDULE

- NOTE:** (1) The Agency may reject a bid if it contains unbalanced bid prices. An unbalanced bid is considered to be one containing lump sum or unit items which do not reflect reasonable actual costs plus a reasonable proportionate share of the Bidder's anticipated profit, overhead costs, and other indirect costs, anticipated for the performance of the items in question.
- (2) The following bid prices on Unit Price Contracts are to be paid for the actual quantities of the item numbers in the completed work or structure, and they cover the cost of all work, labor, material, tools, plant and appliances of every description necessary to complete the entire work, as specified, and the removal of all debris, temporary work and appliances.
- (3) PLEASE BE SURE A LEGIBLE BID IS ENTERED, IN INK, FOR EACH ITEM.
Alterations must be initialed in ink by the bidder.
- (4) The Extended Amount entered in Column 6 shall be the product of the Estimated Quantity in Column 3 times the Unit Price Bid in Column 5.
- (5) Prospective bidders must examine the Bid Schedule carefully and, before bidding, must advise the Commissioner, in writing, if any pages are missing, and must request that such missing pages be furnished them. The pages of this Bid Schedule are numbered consecutively, as follows:
B - 3 [REVISION # 3] Through B - 47 [REVISION # 3]

PLEASE BE SURE A LEGIBLE BID IS ENTERED FOR EACH ITEM.
THE BIDDER SHALL INSERT THE TOTAL BID PRICE IN
THE BID FORM IN THIS BID BOOKLET.

B - 3
[REVISION # 3]



Department of
Design and
Construction

NEW YORK CITY DEPARTMENT OF DESIGN AND CONSTRUCTION PROJECT ID: BED776
DIVISION OF INFRASTRUCTURE - BUREAU OF DESIGN CONTRACT PIN: 8502019WMM0001C

2/7/2020 9:25 AM

REBID: N/A

BID SCHEDULE FORM

COL 1 SEQ. NO	COL 2 ITEM NUMBER and DESCRIPTION	COL 3 ENGINEER'S ESTIMATE OF QUANTITY	COL 4 UNIT	COL 5 UNIT PRICE (IN FIGURES)		COL 6 EXTENDED AMOUNT (IN FIGURES)
				DOLLARS	CENTS	
001	4.02 AB-R ASPHALTIC CONCRETE WEARING COURSE, 1-1/2" THICK	30,997.00	S.Y.	0	01	309 97
002	4.02 AF-R ASPHALTIC CONCRETE WEARING COURSE, 2" THICK	27,461.00	S.Y.	19	00	521,759 00
003	4.02 AG ASPHALTIC CONCRETE WEARING COURSE, 3" THICK	42,637.00	S.Y.	21	00	895,377 00
004	4.02 CA BINDER MIXTURE	9,867.00	TONS	83	00	818,961 00
005	4.02 CB ASPHALTIC CONCRETE MIXTURE	60.00	TONS	150	00	9,000 00
006	4.04 H CONCRETE BASE FOR PAVEMENT, VARIABLE THICKNESS FOR TRENCH RESTORATION, (HIGH-EARLY STRENGTH)	10,551.00	C.Y.	285	00	3,007,035 00
007	4.05 AX HIGH-EARLY STRENGTH REINFORCED CONCRETE PAVEMENT (BUS STOPS)	750.00	C.Y.	445	00	333,750 00
008	4.07 AB RESET BLUESTONE CURB	3,465.00	L.F.	99	00	343,035 00



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REBID: N/A

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				DOLLARS	CTS		
009	4.07 BA RESET GRANITE CURB	160.00	L.F.	97	00	15,520	00
010	4.07 CB NEW GRANITE CURB, STRAIGHT	160.00	L.F.	155	00	24,800	00
011	4.08 AA CONCRETE CURB (18" DEEP)	50.00	L.F.	81	00	4,050	00
012	4.08 BA CONCRETE CURB (21" DEEP)	3,995.00	L.F.	87	00	347,565	00
013	4.09 AE STRAIGHT STEEL FACED CONCRETE CURB (21" DEEP)	8,753.00	L.F.	105	00	919,065	00
014	4.09 AF STRAIGHT STEEL FACED CONCRETE CURB (27" DEEP)	845.00	L.F.	130	00	109,850	00
015	4.09 BE DEPRESSED STEEL FACED CONCRETE CURB (21" DEEP)	2,096.00	L.F.	105	00	220,080	00
016	4.09 BF DEPRESSED STEEL FACED CONCRETE CURB (27" DEEP)	10.00	L.F.	130	00	1,300	00



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				DOLLARS	CTS	DOLLARS	CTS
017	4.09 CE CORNER STEEL FACED CONCRETE CURB (21" DEEP)	2,049.00	L.F.	165	00	338,085	00
018	4.11 CA FILL, PLACE MEASUREMENT	200.00	C.Y.	65	00	13,000	00
019	4.13 AAS 4" CONCRETE SIDEWALK (UNPIGMENTED)	98,290.00	S.F.	11	00	1,081,190	00
020	4.13 BAS 7" CONCRETE SIDEWALK (UNPIGMENTED)	41,535.00	S.F.	20	00	830,700	00
021	4.13 DE EMBEDDED PREFORMED DETECTABLE WARNING UNITS	975.00	S.F.	15	00	14,625	00
022	4.15 TOPSOIL	200.00	C.Y.	125	00	25,000	00
023	4.16 AA TREES REMOVED (4" TO UNDER 12" CALIPER)	2.00	EACH	750	00	1,500	00
024	4.16 AAX TREES REMOVED (4" TO UNDER 18" CALIPER)	2.00	EACH	1,025	00	2,050	00



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				DOLLARS	CENTS	DOLLARS	CENTS
025	4.16 AC TREES REMOVED (18" TO UNDER 24" CALIPER)	3.00	EACH	1,950	00	5,850	00
026	4.16 ADE TREES REMOVED (24" TO UNDER 48" CALIPER)	1.00	EACH	4,150	00	4,150	00
027	4.16 BA TREES PLANTED, 2-1/2" TO 3" CALIPER, ALL TYPES	5.00	EACH	2,500	00	12,500	00
028	4.16 CA510 TREES PLANTED, 3" TO 3-1/2" CALIPER, ALL TYPES, IN 5' X 10' TREE PITS	11.00	EACH	2,800	00	30,800	00
029	4.18 A MAINTENANCE TREE PRUNING (UNDER 12" CAL.)	56.00	EACH	660	00	36,960	00
030	4.18 B MAINTENANCE TREE PRUNING (12" TO UNDER 18" CAL.)	11.00	EACH	725	00	7,975	00
031	4.18 C MAINTENANCE TREE PRUNING (18" TO UNDER 24" CAL.)	3.00	EACH	835	00	2,505	00
032	4.18 D MAINTENANCE TREE PRUNING (24" CAL. AND OVER)	3.00	EACH	910	00	2,730	00



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				DOLLARS	CTS	DOLLARS	CTS
033	4.19 SODDING	300.00	S.Y.	36	00	10,800	00
034	4.21 TREE CONSULTANT	546.00	P/HR	75	00	40,950	00
035	50.21C3C024D 24" R.C.P. CLASS III COMBINED SEWER, ON CONCRETE CRADLE	225.00	L.F.	600	00	135,000	00
036	50.21C4C024D 24" R.C.P. CLASS IV COMBINED SEWER, ON CONCRETE CRADLE	135.00	L.F.	1,200	00	162,000	00
037	50.21C4C042D 42" R.C.P. CLASS IV COMBINED SEWER, ON CONCRETE CRADLE	135.00	L.F.	1,300	00	175,500	00
038	50.31CC12 12" E.S.V.P. COMBINED SEWER, ON CONCRETE CRADLE	200.00	L.F.	550	00	110,000	00
039	50.31CC15 15" E.S.V.P. COMBINED SEWER, ON CONCRETE CRADLE	3,345.00	L.F.	600	00	2,007,000	00
040	50.31CC18 18" E.S.V.P. COMBINED SEWER, ON CONCRETE CRADLE	600.00	L.F.	850	00	510,000	00



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				DOLLARS	CTS	DOLLARS	CTS
041	50.31CE15 15" E.S.V.P. COMBINED SEWER, ENCASED IN CONCRETE	240.00	L.F.	840	00	201,600	00
042	50.41C6C16 16" D.I.P. CLASS 56 COMBINED SEWER, ON CONCRETE CRADLE	100.00	L.F.	800	00	80,000	00
043	50.41C6E16 16" D.I.P. CLASS 56 COMBINED SEWER, ENCASED IN CONCRETE	260.00	L.F.	1,000	00	260,000	00
044	51.11P004 STANDARD 4'-0" DIAMETER PRECAST MANHOLE	30.00	EACH	9,000	00	270,000	00
045	51.11P005 STANDARD 5'-0" DIAMETER PRECAST MANHOLE	3.00	EACH	14,000	00	42,000	00
046	51.11P006 STANDARD 6'-0" DIAMETER PRECAST MANHOLE	4.00	EACH	32,000	00	128,000	00
047	51.11P007 STANDARD 7'-0" DIAMETER PRECAST MANHOLE	4.00	EACH	40,000	00	160,000	00
048	51.21L001000V SPECIAL MANHOLE NO. 1	1.00	EACH	125,000	00	125,000	00



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				DOLLARS	CTS.	DOLLARS	CTS.
049	51.21L002000V SPECIAL MANHOLE NO. 2	1.00	EACH	88,000	00	88,000	00
050	51.21S0A1000V STANDARD MANHOLE TYPE A-1	30.00	EACH	8,000	00	240,000	00
051	51.21S0A2000V STANDARD MANHOLE TYPE A-2	6.00	EACH	8,500	00	51,000	00
052	51.21S0C2042R STANDARD MANHOLE TYPE C-2 ON 42" R.C.P. SEWER	2.00	EACH	40,000	00	80,000	00
053	51.23RF REPLACEMENT OF EXISTING MANHOLE FRAME AND COVER	5.00	EACH	1,200	00	6,000	00
054	51.41S001 STANDARD CATCH BASIN, TYPE 1	81.00	EACH	15,000	00	1,215,000	00
055	51.41S003 STANDARD CATCH BASIN, TYPE 3	8.00	EACH	25,000	00	200,000	00
056	51.41W000 SHALLOW CATCH BASIN	4.00	EACH	14,000	00	56,000	00



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				DOLLARS	CENTS	DOLLARS	CENTS
057	51.42S1S0 INCREMENTAL COST OF STANDARD CATCH BASIN TYPE 3 WITH CURB PIECE IN LIEU OF STANDARD CATCH BASIN TYPE 1	7.00	EACH	10,000	00	70,000	00
058	52.11D12 12" DUCTILE IRON PIPE BASIN CONNECTION	1,740.00	L.F.	500	00	870,000	00
059	52.21V06 6" E.S.V.P. RISER FOR HOUSE CONNECTION	50.00	V.F.	120	00	6,000	00
060	52.21V08 8" E.S.V.P. RISER FOR HOUSE CONNECTION	50.00	V.F.	130	00	6,500	00
061	52.31D06C16 6" DUCTILE IRON PIPE SPUR FOR HOUSE CONNECTION ON 16" D.I.P. COMBINED SEWER	4.00	EACH	1,950	00	7,800	00
062	52.31V06C15 6" E.S.V.P. SPUR FOR HOUSE CONNECTION ON 15" E.S.V.P. COMBINED SEWER	25.00	EACH	640	00	16,000	00
063	52.31V06C18 6" E.S.V.P. SPUR FOR HOUSE CONNECTION ON 18" E.S.V.P. COMBINED SEWER	5.00	EACH	735	00	3,675	00
064	52.31V08C15 8" E.S.V.P. SPUR FOR HOUSE CONNECTION ON 15" E.S.V.P. COMBINED SEWER	25.00	EACH	640	00	16,000	00



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				DOLLARS	CTS	DOLLARS	CTS
065	52.31V08C18 8" E.S.V.P. SPUR FOR HOUSE CONNECTION ON 18" E.S.V.P. COMBINED SEWER	10.00	EACH	735	00	7,350	00
066	52.41D06R 6" D.I.P. HOUSE CONNECTION DRAIN ON CONCRETE CRADLE (RECONNECTION)	700.00	L.F.	170	00	119,000	00
067	52.41D08R 8" D.I.P. HOUSE CONNECTION DRAIN ON CONCRETE CRADLE (RECONNECTION)	500.00	L.F.	190	00	95,000	00
068	52.41V06R 6" E.S.V.P. HOUSE CONNECTION DRAIN ON CONCRETE CRADLE (RECONNECTION)	1,200.00	L.F.	1	00	1,200	00
069	52.41V08R 8" E.S.V.P. HOUSE CONNECTION DRAIN ON CONCRETE CRADLE (RECONNECTION)	930.00	L.F.	1	00	930	00
070	53.11DR TELEVISION INSPECTION AND DIGITAL AUDIO-VISUAL RECORDING OF SEWERS	5,920.00	L.F.	5	00	29,600	00
071	6.02 AAN UNCLASSIFIED EXCAVATION	13,615.00	C.Y.	200	00	2,723,000	00
072	6.02 XHEC INCREMENTAL COST FOR MODIFYING WORK METHODS NEAR (WITHIN 3 FEET OF) TRANSIT FACILITIES AND BUILDING VAULTS	700.00	C.Y.	80	00	56,000	00



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				DOLLARS	CENTS	DOLLARS	CENTS
073	6.02 XSCW INCREMENTAL COST FOR USING SPECIAL CARE WORK METHODS NEAR (FROM 3 FEET TO 50 FEET) TRANSIT FACILITIES	700.00	C.Y.	80	00	56,000	00
074	6.23 AB REMOVE EXISTING FIRE ALARM POST	1.00	EACH	925	00	925	00
075	6.23 BA FURNISH AND INSTALL FIRE ALARM POST AND SUBBASE IN ACCORDANCE WITH F.D. STD. DWG. #141	1.00	EACH	3,800	00	3,800	00
076	6.23 BD FURNISH AND INSTALL 4-PAIR FIRE ALARM CABLE	3,895.00	L.F.	9	00	35,055	00
077	6.23 BE FURNISH AND INSTALL FIRE DEPARTMENT MANHOLE TYPE "A" WITH FRAME AND COVER IN ACCORDANCE WITH F.D. STD. DWG. #140, #144 & #144E	1.00	EACH	9,000	00	9,000	00
078	6.23 BES FURNISH AND INSTALL FIRE DEPARTMENT SLOTTED MANHOLE TYPE "A" WITH FRAME AND COVER IN ACCORDANCE WITH F.D. STD. DWG. #140, #144S & #144E	1.00	EACH	10,000	00	10,000	00
079	6.23 BFB FURNISH AND INSTALL FIRE DEPARTMENT 24 WIRE TERMINAL BOX AND TERMINATE FIRE ALARM CABLES	1.00	EACH	3,600	00	3,600	00
080	6.23 BGSE FURNISH AND INSTALL 4" P.V.C. CONDUIT, SCHEDULE 40, U.L. 651 (WITH PAVEMENT EXCAVATION)	20.00	L.F.	61	00	1,220	00

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				DOLLARS	CTS	DOLLARS	CTS
081	6.23 BGTE FURNISH AND INSTALL 2 - 4" P.V.C. CONDUIT, SCHEDULE 40, U.L. 651 IN ONE TRENCH (WITH PAVEMENT EXCAVATION, ONE ON TOP OF THE OTHER)	2,455.00	L.F.	80	00	196,400	00
082	6.23 BHE FURNISH AND INSTALL 4" 90-DEGREE P.V.C. WIDE BEND, SCHEDULE 40, U.L. 651 (WITH PAVEMENT EXCAVATION) IN ACCORDANCE WITH F.D. STD. DWG. #141 OR #145AA	1.00	EACH	650	00	650	00
083	6.23 BP FURNISH AND INSTALL FIRE ALARM PEDESTAL BUMPERS (2 REQUIRED PER SET) IN ACCORDANCE WITH F.D. STD. DWG. #168	1.00	SETS	700	00	700	00
084	6.23 EB FURNISH AND INSTALL FIRE DEPARTMENT MANHOLE TYPE "B" WITH FRAME & COVER IN ACCORDANCE WITH F.D. STD. DWG. #140, #144, #144C, #144CC & #144E	1.00	EACH	13,500	00	13,500	00
085	6.23 XY FURNISH AND INSTALL POLYPROPYLENE DRAG ROPE	2,575.00	L.F.	6	50	16,737	50
086	6.25 RS TEMPORARY SIGNS	3,673.00	S.F.	10	00	36,730	00
087	6.26 TIMBER CURB	35,185.00	L.F.	0	01	351	85

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				DOLLARS	CTS	DOLLARS	CTS
088	6.28 AA LIGHTED TIMBER BARRICADES	5,760.00	L.F.	0	01	57	60
089	6.40 D ENGINEER'S FIELD OFFICE (TYPE D)	48.00	MONTH	10,000	00	480,000	00
090	6.43 D DIGITAL PHOTOGRAPHS	100.00	SETS	20	00	2,000	00
091	6.44 THERMOPLASTIC REFLECTORIZED PAVEMENT MARKINGS (4" WIDE)	30,386.00	L.F.	1	00	30,386	00
092	6.49 TEMPORARY PAVEMENT MARKINGS (4" WIDE)	31,195.00	L.F.	0	70	21,836	50
093	6.52 CG CROSSING GUARD	8,625.00	P/HR	75	00	646,875	00
094	6.53 REMOVE EXISTING LANE MARKINGS (4" WIDE)	19,598.00	L.F.	1	00	19,598	00
095	6.55 SAWCUTTING EXISTING PAVEMENT	3,850.00	L.F.	3	00	11,550	00



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096	6.75 GRINDING EXISTING ASPHALTIC CONCRETE WEARING COURSE	670.00	C.Y.	100	67,000 00
097	6.82 A REMOVING EXISTING TRAFFIC AND STREET NAME SIGNS	147.00	S.F.	15	2,205 00
098	6.82 B REMOVING EXISTING TRAFFIC AND STREET NAME SIGN POSTS	138.00	L.F.	15	2,070 00
099	6.83 AA FURNISHING NEW NON-REFLECTORIZED TRAFFIC SIGNS	130.00	S.F.	40	5,200 00
100	6.83 AB FURNISHING NEW TRAFFIC SIGN POSTS	228.00	L.F.	15	3,420 00
101	6.83 AR FURNISHING NEW REFLECTORIZED TRAFFIC SIGNS	600.00	S.F.	43	25,800 00
102	6.83 BA INSTALLING TRAFFIC SIGNS	180.00	S.F.	30	5,400 00
103	6.83 BB INSTALLING TRAFFIC SIGN POSTS	228.00	L.F.	30	6,840 00

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104	6.84 B LOLLOPOP TYPE BUS STOP SIGNS PRICE BID SHALL BE FOR THE FIXED SUM OF \$ 50,000.00	1.00	F.S.	50,000 00	\$50,000 00	00
105	6.86 AA FURNISHING NEW STREET NAME SIGNS	30.00	S.F.	60 00	1,800 00	00
106	6.86 AB FURNISHING NEW STREET NAME SIGN POSTS	28.00	L.F.	20 00	560 00	00
107	6.86 BA INSTALLING STREET NAME SIGNS	30.00	S.F.	31 00	930 00	00
108	6.86 BB INSTALLING STREET NAME SIGN POSTS	28.00	L.F.	30 00	840 00	00
109	6.87 PLASTIC BARRELS	6,224.00	EACH	10 00	62,240 00	00
110	6.91 REFLECTIVE CRACKING MEMBRANE (18" WIDE)	3,850.00	L.F.	7 50	28,875 00	00
111	60.11R516 FURNISHING AND DELIVERING 16-INCH DUCTILE IRON RESTRAINED JOINT PIPE (CLASS 55)	40.00	L.F.	165 00	6,600 00	00

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				DOLLARS	CTS	DOLLARS	CTS
112	60.11R520 FURNISHING AND DELIVERING 20-INCH DUCTILE IRON RESTRAINED JOINT PIPE (CLASS 55)	14,215.00	L.F.	182	00	2,587,130	00
113	60.11R548 FURNISHING AND DELIVERING 48-INCH DUCTILE IRON RESTRAINED JOINT PIPE (CLASS 55)	10.00	L.F.	1,500	00	15,000	00
114	60.11R606 FURNISHING AND DELIVERING 6-INCH DUCTILE IRON RESTRAINED JOINT PIPE (CLASS 56)	955.00	L.F.	41	00	39,155	00
115	60.11R608 FURNISHING AND DELIVERING 8-INCH DUCTILE IRON RESTRAINED JOINT PIPE (CLASS 56)	2,680.00	L.F.	57	00	152,760	00
116	60.11R612 FURNISHING AND DELIVERING 12-INCH DUCTILE IRON RESTRAINED JOINT PIPE (CLASS 56)	6,570.00	L.F.	92	00	604,440	00
117	60.12D06 LAYING 6-INCH DUCTILE IRON PIPE AND FITTINGS	1,230.00	L.F.	73	00	89,790	00
118	60.12D08 LAYING 8-INCH DUCTILE IRON PIPE AND FITTINGS	2,930.00	L.F.	135	00	395,550	00
119	60.12D12 LAYING 12-INCH DUCTILE IRON PIPE AND FITTINGS	6,918.00	L.F.	241	00	1,667,238	00



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REBID: N/A

BID SCHEDULE FORM

COL 1	COL 2	COL 3	COL 4	COL 5	COL 6
SEQ. NO	ITEM NUMBER and DESCRIPTION	ENGINEER'S ESTIMATE OF QUANTITY	UNIT	UNIT PRICE (IN FIGURES) DOLLARS CTS	EXTENDED AMOUNT (IN FIGURES) DOLLARS CTS
120	60.12D16 LAYING 16-INCH DUCTILE IRON PIPE AND FITTINGS	45.00	L.F.	377 00	16,965 00
121	60.12D20 LAYING 20-INCH DUCTILE IRON PIPE AND FITTINGS	14,535.00	L.F.	320 00	4,651,200 00
122	60.12D48 LAYING 48-INCH DUCTILE IRON PIPE AND FITTINGS	15.00	L.F.	1,100 00	16,500 00
123	60.13M0A24 FURNISHING AND DELIVERING DUCTILE IRON MECHANICAL JOINT 24-INCH DIAMETER AND SMALLER FITTINGS, INCLUDING WEDGE TYPE RETAINER GLANDS	131.00	TONS	25,000 00	3,275,000 00
124	60.13M5S48 FURNISHING AND DELIVERING 48-INCH DUCTILE IRON MECHANICAL JOINT SLEEVES (CLASS 55)	2.00	EACH	15,000 00	30,000 00
125	60.18BJC20EL FURNISHING, DELIVERING AND INSTALLING BELL JOINT CLAMPS, COMPLETE FOR 20-INCH PIPE AND LESS	40.00	EACH	1 00	40 00
126	60.21SP4T48 FURNISHING, DELIVERING AND LAYING 48-INCH STRAIGHT STEEL PIPE, 1/2-INCH WALL THICKNESS	7,440.00	L.F.	900 00	6,696,000 00
127	60.22BR4T48 FURNISHING, DELIVERING AND LAYING 48-INCH STEEL BENDS AND REDUCERS, 1/2-INCH WALL THICKNESS	85.00	L.F.	4,000 00	340,000 00

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BID SCHEDULE FORM

COL. 1 SEQ. NO.	COL. 2 ITEM NUMBER and DESCRIPTION	COL. 3 ENGINEER'S ESTIMATE OF QUANTITY	COL. 4 UNIT	COL. 5 UNIT PRICE (IN FIGURES)		COL. 6 EXTENDED AMOUNT (IN FIGURES)	
				DOLLARS	CIS	DOLLARS	CIS
128	60.23ST48T48 FURNISHING, DELIVERING AND INSTALLING 48-INCH X 48-INCH STEEL TEE	3.00	EACH	140,000	∞	420,000	∞
129	60.23ST48T60 FURNISHING, DELIVERING AND INSTALLING 60-INCH X 48-INCH STEEL TEE	1.00	EACH	260,000	∞	260,000	∞
130	60.24SB36 FURNISHING, DELIVERING AND INSTALLING 36-INCH DIAMETER STEEL BULKHEAD	1.00	EACH	50,000	∞	50,000	∞
131	60.24SB48 FURNISHING, DELIVERING AND INSTALLING 48-INCH DIAMETER STEEL BULKHEAD	1.00	EACH	60,000	∞	60,000	∞
132	60.25PSO FURNISHING, DELIVERING AND INSTALLING PLATE STEEL OUTLETS ON STEEL PIPE, ACCESS MANHOLE OUTLETS WITH COVERS, AND NUTS AND BOLTS COMPLETE	16,000.00	LBS.	18	50	296,000	∞
133	60.27RSC48 FURNISHING, DELIVERING AND INSTALLING 48-INCH DIAMETER BOLTED, SPLIT SLEEVE-TYPE RESTRAINED COUPLING	5.00	EACH	50,000	∞	250,000	∞
134	60.28CSA48A FURNISHING, DELIVERING AND INSTALLING 48-INCH CONCRETE TO STEEL ADAPTER	1.00	EACH	40,000	∞	40,000	∞
135	60.29CP FURNISHING, INSTALLING AND TESTING CORROSION CONTROL AND/OR CATHODIC PROTECTION SYSTEM	1.00	L.S.	250,000	∞	250,000	∞

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COL. 1 SEQ. NO.	COL. 2 ITEM NUMBER and DESCRIPTION	COL. 3 ENGINEER'S ESTIMATE OF QUANTITY	COL. 4 UNIT	COL. 5 UNIT PRICE (IN FIGURES)		COL. 6 EXTENDED AMOUNT (IN FIGURES)	
				DOLLARS	CTS	DOLLARS	CTS
136	60.61CFS48RS STRUCTURAL REHABILITATION OF 48-INCH RIVETED STEEL WATER MAIN PIPE BY CARBON FIBER SYSTEM (CFS) LINING METHOD	750.00	L.F.	5,766	00	4,324,500	00
137	61.11DFM06 FURNISHING AND DELIVERING 6-INCH FLANGED-MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLAND	16.00	EACH	10,000	00	160,000	00
138	61.11DFM20 FURNISHING AND DELIVERING 20-INCH FLANGED-MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLAND	10.00	EACH	40,000	00	400,000	00
139	61.11DMM06 FURNISHING AND DELIVERING 6-INCH MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	77.00	EACH	3,300	00	254,100	00
140	61.11DMM08 FURNISHING AND DELIVERING 8-INCH MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	19.00	EACH	5,100	00	96,900	00
141	61.11DMM12 FURNISHING AND DELIVERING 12-INCH MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	30.00	EACH	10,000	00	300,000	00
142	61.11DMM20 FURNISHING AND DELIVERING 20-INCH MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	49.00	EACH	59,000	00	2,891,000	00

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COL. 1 SEQ. NO	COL. 2 ITEM NUMBER and DESCRIPTION	COL. 3 ENGINEER'S ESTIMATE OF QUANTITY	COL. 4 UNIT	COL. 5 UNIT PRICE (IN FIGURES)		COL. 6 EXTENDED AMOUNT (IN FIGURES)
				DOLLARS	CTS	
143	61.11TWC03 FURNISHING AND DELIVERING 3-INCH WET CONNECTION TAPPING VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	7.00	EACH	900	00	6,300 00
144	61.11TWC04 FURNISHING AND DELIVERING 4-INCH WET CONNECTION TAPPING VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	10.00	EACH	1,000	00	10,000 00
145	61.11TWC06 FURNISHING AND DELIVERING 6-INCH WET CONNECTION TAPPING VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	9.00	EACH	1,100	00	9,900 00
146	61.11TWC08 FURNISHING AND DELIVERING 8-INCH WET CONNECTION TAPPING VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	2.00	EACH	1,730	00	3,460 00
147	61.12DFM06 SETTING 6-INCH FLANGED-MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLAND	16.00	EACH	20,000	00	320,000 00
148	61.12DFM20 SETTING 20-INCH FLANGED-MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLAND	10.00	EACH	30,000	00	300,000 00
149	61.12DMM06 SETTING 6-INCH MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	77.00	EACH	250	00	19,250 00
150	61.12DMM08 SETTING 8-INCH MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	19.00	EACH	250	00	4,750 00



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				DOLLARS	CTS	DOLLARS	CTS
151	61.12DMM12 SETTING 12-INCH MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	30.00	EACH	250	00	7,500	00
152	61.12DMM20 SETTING 20-INCH MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	49.00	EACH	400	00	19,600	00
153	61.12TWC03 SETTING 3-INCH WET CONNECTION TAPPING VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	7.00	EACH	100	00	700	00
154	61.12TWC04 SETTING 4-INCH WET CONNECTION TAPPING VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	10.00	EACH	150	00	1,500	00
155	61.12TWC06 SETTING 6-INCH WET CONNECTION TAPPING VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	9.00	EACH	200	00	1,800	00
156	61.12TWC08 SETTING 8-INCH WET CONNECTION TAPPING VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	2.00	EACH	400	00	800	00
157	61.21BVB48 FURNISHING, DELIVERING AND INSTALLING 48-INCH BUTTERFLY VALVE WITH BY-PASS ARRANGEMENT AND OUTLET, COMPLETE	6.00	EACH	350,000	00	2,100,000	00
158	61.21EJB48 FURNISHING, DELIVERING AND INSTALLING 48-INCH EXPANSION JOINT FOR BUTTERFLY VALVE INCLUDING 6-INCH BY-PASS OUTLET	1.00	EACH	150,000	00	150,000	00

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COL. 1 SEQ. NO.	COL. 2 ITEM NUMBER and DESCRIPTION	COL. 3 ENGINEER'S ESTIMATE OF QUANTITY	COL. 4 UNIT	COL. 5 UNIT PRICE (IN FIGURES)		COL. 6 EXTENDED AMOUNT (IN FIGURES)	
				DOLLARS	CTS	DOLLARS	CTS
159	61.31PV20 FURNISHING, DELIVERING AND INSTALLING 20-INCH PRESSURE REGULATOR VALVE	3.00	EACH	200,000	00	600,000	00
160	62.11SD FURNISHING AND DELIVERING HYDRANTS	87.00	EACH	5,000	00	435,000	00
161	62.12SG SETTING HYDRANTS COMPLETE WITH WEDGE TYPE RETAINER GLANDS	87.00	EACH	2,000	00	174,000	00
162	62.13RH REMOVING HYDRANTS	55.00	EACH	1,000	00	55,000	00
163	62.14FS FURNISHING, DELIVERING AND INSTALLING HYDRANT FENDERS	174.00	EACH	300	00	52,200	00
164	63.11MH FURNISHING, DELIVERING AND INSTALLING 36-INCH CAST IRON MANHOLE HEADS AND COVERS	13.00	TONS	2,000	00	26,000	00
165	63.11MS FURNISHING, DELIVERING AND INSTALLING MANHOLE STEPS TYPE PS2-PF	356.00	EACH	35	00	12,460	00
166	63.11VC FURNISHING AND DELIVERING VARIOUS CASTINGS	154.00	TONS	530	00	81,620	00



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COL 1 SEQ. NO	COL 2 ITEM NUMBER and DESCRIPTION	COL 3 ENGINEER'S ESTIMATE OF QUANTITY	COL 4 UNIT	COL 5 UNIT PRICE (IN FIGURES) DOLLARS	COL 6 EXTENDED AMOUNT (IN FIGURES) DOLLARS	C/S
167	64.11EL WITHDRAWING AND REPLACING HOUSE SERVICES USING 1-1/2- INCH OR LARGER SCREW TAPS	95.00	EACH	1,000	95,000	00
168	64.11ST WITHDRAWING AND REPLACING HOUSE SERVICES USING SMALLER THAN 1-1/2-INCH SCREW TAPS	118.00	EACH	700	82,600	00
169	64.12COEG CUTTING AND OFFSETTING HOUSE SERVICE WATER CONNECTIONS (EQUAL TO OR GREATER THAN 3-INCH DIAMETER)	900.00	L.F.	1	900	00
170	64.12COLT CUTTING AND OFFSETTING HOUSE SERVICE WATER CONNECTIONS (LESS THAN 3-INCH DIAMETER)	1,130.00	L.F.	1	1,130	00
171	64.12ESEG EXTENDING HOUSE SERVICE WATER CONNECTIONS (EQUAL TO OR GREATER THAN 3-INCH DIAMETER)	900.00	L.F.	1	900	00
172	64.12ESLT EXTENDING HOUSE SERVICE WATER CONNECTIONS (LESS THAN 3- INCH DIAMETER)	1,130.00	L.F.	1	1,130	00
173	64.13WC08 FURNISHING, DELIVERING AND INSTALLING WET CONNECTION SLEEVE ON 8-INCH WATER MAIN PIPE WITH VARIOUS OUTLETS	4.00	EACH	2,000	8,000	00
174	64.13WC12 FURNISHING, DELIVERING AND INSTALLING WET CONNECTION SLEEVE ON 12-INCH WATER MAIN PIPE WITH VARIOUS OUTLETS	10.00	EACH	2,800	28,000	00



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COL.1 SEQ. NO	COL.2 ITEM NUMBER and DESCRIPTION	COL.3 ENGINEER'S ESTIMATE OF QUANTITY	COL.4 UNIT	COL.5 UNIT PRICE (IN FIGURES)		COL.6 EXTENDED AMOUNT (IN FIGURES)
				DOLLARS	CTS	
175	64.13WC20 FURNISHING, DELIVERING AND INSTALLING WET CONNECTION SLEEVE ON 20-INCH WATER MAIN PIPE WITH VARIOUS OUTLETS	14.00	EACH	4,000	00	56,000 00
176	65.11BR FURNISHING, DELIVERING AND INSTALLING BANDS, RODS, WASHERS, ETC., COMPLETE, FOR RESTRAINING JOINTS	14,360.00	LBS.		01	143 00
177	65.21PS FURNISHING AND PLACING POLYETHYLENE SLEEVE Unit price bid shall not be less than: \$ 2.00	12,320.00	L.F.		2 00	24,640 00
178	65.31FF FURNISHING, DELIVERING AND PLACING FILTER FABRIC Unit price bid shall not be less than: \$ 0.10	195,082.00	S.F.		10	19,508 20
179	65.41PS06 FURNISHING, DELIVERING AND INSTALLING 6-INCH PIPE-TO-WALL PENETRATION SEAL, INCLUDING STEEL SLEEVE AND ANCHOR/WATER STOP PLATE	12.00	EACH	1,000	00	12,000 00
180	65.41PS20 FURNISHING, DELIVERING AND INSTALLING 20-INCH PIPE-TO-WALL PENETRATION SEAL, INCLUDING STEEL SLEEVE AND ANCHOR/WATER STOP PLATE	16.00	EACH	1,500	00	24,000 00
181	65.41PS48 FURNISHING, DELIVERING AND INSTALLING 48-INCH PIPE-TO-WALL PENETRATION SEAL, INCLUDING STEEL SLEEVE AND ANCHOR/WATER STOP PLATE	24.00	EACH	10,000	00	240,000 00



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				DOLLARS	CTS	DOLLARS	CTS
182	65.51PC FURNISHING AND PLACING CAST-IN-PLACE CONCRETE CLASS 40 AND PRECAST CONCRETE CLASS 50	406.00	C.Y.	500	00	203,000	00
183	65.61SS FURNISHING, DELIVERING AND PLACING STRUCTURAL, REINFORCING AND MISCELLANEOUS STEEL	81,570.00	LBS.	7	50	611,775	00
184	65.71SG FURNISHING, DELIVERING AND PLACING SCREENED GRAVEL OR SCREENED BROKEN STONE BEDDING	38,512.00	C.Y.	1	00	38,512	00
185	67.11AA48 INCREMENTAL COST FOR ASBESTOS ABATEMENT WORK PERFORMED ON EXISTING 48-INCH DIAMETER STEEL PIPE WATER MAIN TO BE REMOVED, COMPLETE	50.00	L.F.	1,450	00	72,500	00
186	7.13 B MAINTENANCE OF SITE Unit price bid shall not be less than: \$ 15,000.00	42.00	MONTH	15,000	00	630,000	00
187	7.19 LOAD TRANSFER JOINT	910.00	L.F.	25	00	22,750	00
188	7.36 PEDESTRIAN STEEL BARRICADES	35,070.00	L.F.	10	00	350,700	00



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189	7.88 AA RODENT INFESTATION SURVEY AND MONITORING Unit price bid shall not be less than: \$ 15,000.00	1.00	L.S.	15,000.00	15,000.00	00
190	7.88 AB RODENT BAIT STATIONS Unit price bid shall not be less than: \$ 60.00	76.00	EACH	85.00	6,460.00	00
191	7.88 AC BAITING OF RODENT BAIT STATIONS Unit price bid shall not be less than: \$ 9.50	76.00	EACH	15.00	1,140.00	00
192	7.88 AD WATERBUG BAIT APPLICATIONS Unit price bid shall not be less than: \$ 65.00	69.00	BLOCK	85.00	5,865.00	00
193	70.21DK DECKING	29,000.00	S.Y.	01	290.00	00
194	70.31FN FENCING Unit price bid shall not be less than: \$ 2.00	63,750.00	L.F.	2.00	127,500.00	00



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195	70.51EO EXCAVATION OF BOULDERS IN OPEN CUT Unit price bid shall not be less than: \$ 75.00	75.00	C.Y.	75.00	5,625.00	00
196	70.61RE ROCK EXCAVATION	25.00	C.Y.	1.00	25.00	00
197	70.81CB CLEAN BACKFILL Unit price bid shall not be less than: \$ 15.00	12,077.00	C.Y.	15.00	181,155.00	00
198	70.91SW12 FURNISHING AND PLACING SHEETING AND BRACING IN TRENCH FOR WATER MAIN PIPE 12-INCH IN DIAMETER AND LESS	6,850.00	S.F.	3.00	20,550.00	00
199	70.91SW20 FURNISHING AND PLACING SHEETING AND BRACING IN TRENCH FOR WATER MAIN PIPE 20-INCH IN DIAMETER	14,330.00	S.F.	5.00	71,650.00	00
200	72.11HF HYDRAULIC FILL FOR ABANDONED SEWERS AND WATER MAINS	5,485.00	C.Y.	1.00	5,485.00	00
201	73.11AB ADDITIONAL BRICK MASONRY Unit price bid shall not be less than: \$ 62.50	85.00	C.Y.	62.50	5,312.50	50



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				DOLLARS	CTS	DOLLARS	CTS
202	73.21AC ADDITIONAL CONCRETE Unit price bid shall not be less than: \$ 62.50	190.00	C.Y.	152	00	28,520	00
203	73.31AE0 ADDITIONAL EARTH EXCAVATION INCLUDING TEST PITS (ALL DEPTHS) Unit price bid shall not be less than: \$ 20.00	765.00	C.Y.	20	00	15,300	00
204	73.41AG ADDITIONAL SELECT GRANULAR BACKFILL Unit price bid shall not be less than: \$ 15.00	1,530.00	C.Y.	124	00	185,130	00
205	73.51AS ADDITIONAL STEEL REINFORCING BARS Unit price bid shall not be less than: \$ 1.00	150.00	LBS.	3	00	450	00
206	75.11RT REMOVAL OF ABANDONED TRACKS	3,000.00	L.F.	50	00	150,000	00
207	76.11CR CONSTRUCTION REPORT	1.00	L.S.	50,000	00	50,000	00



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				DOLLARS	CTS		
208	76.21MR MONITORING AND POST-CONSTRUCTION REPORT	1.00	L.S.	125,000.00		125,000.00	00
209	8.01 C1 HANDLING, TRANSPORTING AND DISPOSAL OF NON-HAZARDOUS CONTAMINATED SOIL	10,000.00	TONS	66.00		660,000.00	00
210	8.01 C2 SAMPLING AND TESTING OF CONTAMINATED/POTENTIALLY HAZARDOUS SOIL FOR DISPOSAL PURPOSES	130.00	SETS	3,000.00		390,000.00	00
211	8.01 H HANDLING, TRANSPORTING AND DISPOSAL OF HAZARDOUS SOIL	1,500.00	TONS	181.00		271,500.00	00
212	8.01 S HEALTH AND SAFETY	1.00	L.S.	50,000.00		50,000.00	00
213	8.01 W1 REMOVAL, TREATMENT, AND DISCHARGE/DISPOSAL OF CONTAMINATED WATER	5.00	DAY	1,000.00		5,000.00	00
214	8.01 W2 SAMPLING AND TESTING OF CONTAMINATED WATER	5.00	SETS	1,500.00		7,500.00	00
215	8.02 A SPECIAL CARE EXCAVATION AND RESTORATION FOR SIDEWALK WORK	2,000.00	S.F.	4.00		8,000.00	00

BID SCHEDULE FORM

COL 1 SEQ. NO.	COL 2 ITEM NUMBER and DESCRIPTION	COL 3 ENGINEER'S ESTIMATE OF QUANTITY	COL 4 UNIT	COL 5 UNIT PRICE (IN FIGURES) DOLLARS CTS	COL 6 EXTENDED AMOUNT (IN FIGURES) DOLLARS CTS
216	8.02 B SPECIAL CARE EXCAVATION AND RESTORATION FOR CURB WORK	400.00	L.F.	30 00	12,000 00
217	8.08 VARIABLE MESSAGE BOARD	4.00	EACH	25,000 00	100,000 00
218	9.04 HW ALLOWANCE FOR ANTI-FREEZE ADDITIVE IN CONCRETE PRICE BID SHALL BE FOR THE FIXED SUM OF \$ 50,000.00	1.00	F.S.	50,000 00	\$50,000 00
219	9.28 EXPANDED WORK ALLOWANCE PRICE BID SHALL BE FOR THE FIXED SUM OF \$ 6,270,000.00	1.00	F.S.	6,270,000 00	\$6,270,000 00
220	9.30 STORM WATER POLLUTION PREVENTION	1.00	L.S.	15,000 00	15,000 00
221	9.99 FLASHING ARROW BOARD	1.00	EACH	20,000 00	20,000 00
222	HW-900H ALLOWANCE FOR CITY WORK ACCELERATION PRICE BID SHALL BE FOR THE FIXED SUM OF \$ 500,000.00	1.00	F.S.	500,000 00	\$500,000 00

BID SCHEDULE FORM

COL 1 SEQ. NO.	COL 2 ITEM NUMBER and DESCRIPTION	COL 3 ENGINEER'S ESTIMATE OF QUANTITY	COL 4 UNIT	COL 5 UNIT PRICE (IN FIGURES)		COL 6 EXTENDED AMOUNT (IN FIGURES)	
				DOLLARS	CTS	DOLLARS	CTS
223	SL-20.02.02 FURNISH AND INSTALL STANDARD TYPE ANCHOR BOLT FOUNDATION, AS PER DRAWING E-3788	9.00	EACH	1,700	00	15,300	00
224	SL-20.08.01 REMOVE STANDARD TYPE ANCHOR BOLT CONCRETE FOUNDATION	8.00	EACH	420	00	3,360	00
225	SL-21.03.02 FURNISH AND INSTALL TYPE 2S, 4S, 6S, 8S OR 12S LAMPPOST WITH TRANSFORMER BASE	1.00	EACH	4,000	00	4,000	00
226	SL-21.04.06 FURNISH AND INSTALL "FLATBUSH AVENUE" LAMPPOST WITH OCTAGONAL TRANSFORMER BASE	3.00	EACH	8,000	00	24,000	00
227	SL-21.04.07 FURNISH AND INSTALL "FLATBUSH AVENUE" TWIN ARM LAMPPOST WITH OCTAGONAL TRANSFORMER BASE. Arms at 90 degrees or 180 degrees.	5.00	EACH	10,000	00	50,000	00
228	SL-21.09.05 REMOVE STANDARD FABRICATED STEEL, SPUN ALUMINUM NO. 10, ETC. WITH ARM(S), LUMINAIRE(S), CONTROL(S) WITH ALL ATTACHMENTS, IF ANY.	8.00	EACH	750	00	6,000	00
229	SL-22.16.05 FURNISH AND INSTALL ROADWAY TYPE LED FIXTURE AS PER SPECIFICATION 466 WITH PEC RECEPTACLE AND PEC	1.00	EACH	450	00	450	00
230	SL-22.16.17 FURNISH AND INSTALL "TEAR DROP" LUMINAIRE WITH PEC RECEPTACLE	13.00	EACH	1,850	00	24,050	00



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231	SL-26.01.04 FURNISH AND INSTALL LONG LIFE PHOTO ELECTRIC CONTROL WITH SURGE PROTECTION FOR LED LIGHT	1.00	EACH	100 00	100 00
232	SL-28.01.01 FURNISH AND INSTALL COPPER WELD GROUND ROD AND CLAMP, AS PER DRAWING H-5019	1.00	EACH	200 00	200 00
233	SL-31.01.01 PAINT A STANDARD STREET TYPE LAMPPOST	3.00	EACH	450 00	1,350 00
234	SL-33.01.02 FURNISH AND INSTALL NO. 6 AWG XLP COPPER CABLE OR EQUAL IN CONDUIT	600.00	L.F.	7 50	4,500 00
235	SL-33.03.01 FURNISH AND INSTALL #6 BARE COPPER CONDUCTOR IN CONDUIT OR OVERHEAD.	300.00	L.F.	13 00	3,900 00
236	SL-35.03.03 FURNISH AND INSTALL 1-1/2" HOT DIPPED GALVANIZED STEEL CONDUIT IN UNPAVED AREA	88.00	L.F.	75 00	6,600 00
237	SL-35.03.04 FURNISH AND INSTALL 2" HOT DIPPED GALVANIZED STEEL CONDUIT IN UNPAVED AREA	240.00	L.F.	82 00	19,680 00
238	SL-37.05.08 FURNISH AND INSTALL TYPE 1812 ROADWAY CONCRETE BOX WITH CAST IRON FRAME AND COVER WITH TAMPER PROOF BOLTS AS PER DWG J-3179B.	3.00	EACH	3,400 00	10,200 00



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				DOLLARS	CTS	DOLLARS	CTS
239	T-1.1 INSTALL TYPE "S" OR "T" FOUNDATION	12.00	EACH	2,000	00	24,000	00
240	T-1.18 REMOVE TYPE "A", "B", "S" OR "T" SERIES FOUNDATION	6.00	EACH	560	00	3,360	00
241	T-1.2 INSTALL TYPE "F-1" FOUNDATION	3.00	EACH	2,500	00	7,500	00
242	T-1.20 REMOVE TYPE "M" SERIES FOUNDATION	9.00	EACH	675	00	6,075	00
243	T-1.21 REMOVE TYPE "F-1" FOUNDATION	1.00	EACH	675	00	675	00
244	T-1.23 REMOVE STREET LIGHT FOUNDATION	1.00	EACH	420	00	420	00
245	T-1.26 REMOVE STEEL CYLINDER (32" DIAMETER X 9")	1.00	EACH	420	00	420	00
246	T-1.3 INSTALL TYPE "M2-5S" FOUNDATION	11.00	EACH	2,740	00	30,140	00



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				DOLLARS	CTS	DOLLARS	CTS
247	T-1.6 INSTALL TYPE "M2-5T" FOUNDATION	3.00	EACH	2,715	00	8,145	00
248	T-2.1 INSTALL TYPE "S-1" OR "T-1" SERIES POST	12.00	EACH	600	00	7,200	00
249	T-2.10 INSTALL MAST ARM ON ANY OTHER TYPE EXISTING POST	1.00	EACH	1,210	00	1,210	00
250	T-2.16 FURNISH, INSTALL, MAINTAIN AND REMOVE TEMPORARY POST OR PYLON WITH SIGNALS	5.00	EACH	1,450	00	7,250	00
251	T-2.2 INSTALL TYPE "S-14" POST	3.00	EACH	600	00	1,800	00
252	T-2.22 REMOVE TYPE "S-1" OR "T-1" SERIES POST	6.00	EACH	540	00	3,240	00
253	T-2.23 REMOVE TYPE "S-10", "T-10" OR "S-14" SERIES POST	1.00	EACH	630	00	630	00
254	T-2.24 REMOVE TYPE "M" SERIES POST	11.00	EACH	1,500	00	16,500	00

BID SCHEDULE FORM

COL 1 SEQ. NO	COL 2 ITEM NUMBER and DESCRIPTION	COL 3 ENGINEER'S ESTIMATE OF QUANTITY	COL 4 UNIT	COL 5 UNIT PRICE (IN FIGURES)		COL 6 EXTENDED AMOUNT (IN FIGURES) DOLLARS
				DOLLARS	CTS	
255	T-2.27 REMOVE ANY OTHER TYPE POST	1.00	EACH	1,200	00	1,200 00
256	T-2.28 REMOVE MAST ARM FROM ANY POST	1.00	EACH	300	00	300 00
257	T-2.38 INSTALL ONE STREET LIGHT POLE	1.00	EACH	700	00	700 00
258	T-2.4 INSTALL TYPE "M-2" POST	14.00	EACH	1,800	00	25,200 00
259	T-20000 FURNISH TEN FOOT ALUMINUM SIGNAL POST TYPE "S-1"	12.00	EACH	1,640	00	19,680 00
260	T-20020 a) FURNISH 3/4" ANCHOR BOLT ASSEMBLIES FOR S-1 (EACH) (3 REQUIRED PER POST)	36.00	EACH	12	00	432 00
261	T-20021 b) FURNISH 1" ANCHOR BOLT ASSEMBLIES FOR F-1 (EACH) (4 REQUIRED PER POST)	12.00	EACH	23	00	276 00
262	T-20160 FURNISH 20 FOOT SIGNAL MAST ARM POLE ASSEMBLY TYPE "M-2"	9.00	EACH	4,520	00	40,680 00



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				DOLLARS	CENTS	DOLLARS	CENTS
263	T-20184 a) FURNISH 5' EXTENSION ARM ASSEMBLY WITH FITTINGS	5.00	EACH	400	00	2,000	00
264	T-20186 b) FURNISH 20' ARM ASSEMBLY WITH FITTINGS	1.00	EACH	2,900	00	2,900	00
265	T-20220 c) FURNISH 1-1/4" ANCHOR BOLT ASSEMBLIES FOR M-2 (EACH) (4 REQUIRED PER POST)	56.00	EACH	48	00	2,688	00
266	T-20640 FURNISH ALUMINUM TRAFFIC SIGNAL POST TYPE "S-14"	3.00	EACH	2,150	00	6,450	00
267	T-3.1 INSTALL "ONE-WAY" SIGNAL UNIT ON MAST ARM OR TOP OF TRAFFIC POST	31.00	EACH	305	00	9,455	00
268	T-3.18 REMOVE SIGNAL HEAD FROM ANY TYPE POST	24.00	EACH	390	00	9,360	00
269	T-3.2 INSTALL "ONE-WAY" SIGNAL UNIT ON THE SHAFT OF ANY POST	11.00	EACH	460	00	5,060	00
270	T-3.21 REMOVE PEDESTRIAN SIGNAL OR SIGN UNIT OR OTHER ILLUMINATED SIGNS FROM ANY POST	55.00	EACH	360	00	19,800	00



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				DOLLARS	CTS		
271	T-3.28 INSTALL LONG VISORS ON SIGNAL UNITS	1.00	EACH	150	00	150	00
272	T-3.40 FURNISH AND INSTALL AUDIBLE PEDESTRIAN SIGNALS UNIT	20.00	EACH	760	00	15,200	00
273	T-3.6 INSTALL PEDESTRIAN SIGNAL ON ANY TYPE POST	58.00	EACH	400	00	23,200	00
274	T-30013L FURNISH ADJUSTABLE 3 SECTION 1-WAY, DIE CAST ALUMINUM TRAFFIC SIGNALS 8" - W/LED LENS	30.00	EACH	385	00	11,550	00
275	T-30080 FURNISH TUNNEL-TYPE VISORS FOR 8" & 12" VEHICULAR TRAFFIC SIGNAL.	1.00	EACH	105	00	105	00
276	T-31150 FURNISH "1SA" ALUMINUM DIE CASTINGS AND ASSEMBLY FOR POST SIGNAL MOUNTING	1.00	EACH	95	00	95	00
277	T-31200 e) "VB" ASSEMBLY *ASSEMBLY IS EQUAL TO ONE PAIR	11.00	EACH	73	00	803	00
278	T-31205 FURNISH MAST ARM SIGNAL MOUNTING ASSEMBLY - a) "1MS"	8.00	EACH	35	00	280	00



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				DOLLARS	CTS		
279	T-31210 h) "HUB" ASSEMBLY *ASSEMBLY IS EQUAL TO ONE PAIR	24.00	EACH	38	00	912	00
280	T-31215 b) "2MS"	2.00	EACH	255	00	510	00
281	T-31225 c) "3MS"	4.00	EACH	280	00	1,120	00
282	T-31235 d) "4MS"	1.00	EACH	250	00	250	00
283	T-31340 f) "VB-P" ASSEMBLY *ASSEMBLY IS EQUAL TO ONE PAIR	20.00	EACH	87	00	1,740	00
284	T-31351 g) "VB-2P" ASSEMBLY *ASSEMBLY IS EQUAL TO ONE PAIR	20.00	EACH	235	00	4,700	00
285	T-31500AL FURNISH 12" LENS & SIGNAL SECTION (LED AMBER ARROWS)	8.00	EACH	260	00	2,080	00
286	T-31500GL FURNISH 12" LENS & SIGNAL SECTION (LED GREEN ARROWS)	11.00	EACH	260	00	2,860	00



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				DOLLARS	CTS	
287	T-31500L FURNISH ADJUSTABLE 3 SECTION 1-WAY, DIE CAST ALUMINUM TRAFFIC SIGNALS 12" - W/LED LENS	10.00	EACH	555	00	5,550 00
288	T-33000L FURNISH POLYCARBONATE INCANDESCENT PED SIGNAL W/LED LENS	5.00	EACH	300	00	1,500 00
289	T-33001-L FURNISH POLYCARBONATE PEDESTRIAN SIGNAL (16 X 16) W/LED COUNT LENS (SPECIFICATION A-L)	54.00	EACH	390	00	21,060 00
290	T-33002 FURNISH AUDIBLE PEDESTRIAN SIGNAL UNIT	20.00	EACH	875	00	17,500 00
291	T-4.22 INSTALL ANY TYPE OF ADVANCED SOLID STATE TRAFFIC SIGNAL CONTROLLER AND CABINET ON METAL POLE	4.00	EACH	2,530	00	10,120 00
292	T-4.23 INSTALL BATTERY BACK-UP POWER SUPPLY SYSTEM ON ANY POST	2.00	EACH	1,200	00	2,400 00
293	T-4.8 REMOVE ONE CONTROL BOX AND CONTROLLER FROM ANY POST OR SUPPORT	4.00	EACH	900	00	3,600 00
294	T-4.9 REMOVE CONTROL BOX FROM ANY POST OR SUPPORT	2.00	EACH	1,200	00	2,400 00



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				DOLLARS	CTS		
295	T-5.31 FURNISH AND INSTALL 2" FLEXIBLE BEND IN EXISTING FOUNDATION	1.00	EACH	790	00	790	00
296	T-5.32 RESTORING PERMANENT ROADWAY (INCLUDING SAWCUT)	1,300.00	L.F.	45	00	58,500	00
297	T-5.34 RESTORING PERMANENT SIDEWALK	20.00	S.F.	15	00	300	00
298	T-5.49 FURNISH AND INSTALL ADDITIONAL 2" HDPE CONDUIT	110.00	L.F.	80	00	8,800	00
299	T-5.50 FURNISH AND INSTALL 2" HDPE UNDERGROUND CONDUIT IN PAVED ROADWAY	2,000.00	L.F.	83	00	166,000	00
300	T-5.51 FURNISH AND INSTALL 2" HDPE UNDERGROUND CONDUIT IN PAVED SIDEWALK	20.00	L.F.	79	00	1,580	00
301	T-5.52 FURNISH AND INSTALL 2" HDPE UNDERGROUND CONDUIT IN UNPAVED AREA	120.00	L.F.	63	00	7,560	00
302	T-5.54 PERMANENT RESTORATION OF PAVED ROADWAY	700.00	L.F.	71	00	49,700	00

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				DOLLARS	CTS	DOLLARS	CTS
303	T-6.1 INSTALL CABLE (INCLUDES OVERHEAD)	4,100.00	L.F.	8	00	32,800	00
304	T-6.10 REMOVE CABLE (INCLUDES OVERHEAD)	5,300.00	L.F.	8	00	42,400	00
305	T-6.2 INSTALL MULTIPLE CABLE (INCLUDES OVERHEAD)	3,800.00	L.F.	15	00	57,000	00
306	T-60000B FURNISH 2 c # 10B (BREAKDOWN = 2#10 WITH 3RD WIRE FOR GROUNDING).	3,300.00	L.F.	1	85	6,105	00
307	T-60040 c) 7 CONDUCTOR, 14 A.W.G.	2,600.00	L.F.	1	50	3,900	00
308	T-60190 e) 13 CONDUCTOR, 14 A.W.G.	5,700.00	L.F.	2	45	13,965	00
309	T-60200 FURNISH AND INSTALL AUDIBLE PEDESTRIAN SIGNALS CABLE	200.00	L.F.	1	50	300	00
310	T-8.8 INSTALL CONCRETE PYLON	18.00	EACH	1,530	00	27,900	00



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				DOLLARS	CTS		
311	T-8.9 REMOVE CONCRETE PYLON	18.00	EACH	900	00	14,200	00
312	T-81000 FURNISH CONCRETE PYLON	18.00	EACH	760	00	13,680	00
313	UTL-6.01.1 (NG) GAS MAIN CROSSING SEWER UP TO 24" IN DIAMETER (\$6.01) Unit price bid shall not be less than: \$ 1,040.00	9.00	EACH	1,040	00	9,360	00
314	UTL-6.01.3 (NG) GAS MAIN CROSSING SEWER 36" THRU 42" IN DIAMETER (\$6.01) Unit price bid shall not be less than: \$ 2,040.00	1.00	EACH	2,040	00	2,040	00
315	UTL-6.01.8 (NG) GAS SERVICES CROSSING TRENCHES AND/OR EXCAVATIONS (\$6.01) Unit price bid shall not be less than: \$ 465.00	22.00	EACH	465	00	10,230	00
316	UTL-6.01.9 (NG) GAS MAIN CROSSING WATER MAIN UP TO 20" IN DIAMETER (\$6.01) Unit price bid shall not be less than: \$ 485.00	64.00	EACH	485	00	31,040	00

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				DOLLARS	CTS	
317	UTL-6.02 (NG) EXTRA EXCAVATION FOR THE INSTALLATION OF CATCH BASIN SEWER DRAIN PIPES WITH GAS INTERFERENCES (\$6.02) Unit price bid shall not be less than: \$ 715.00	3.00	EACH	715	00	2,145 00
318	UTL-6.03 (NG) REMOVAL OF ABANDONED GAS FACILITIES. ALL SIZES. (\$6.03) Unit price bid shall not be less than: \$ 15.00	3,000.00	L.F.	15	00	45,000 00
319	UTL-6.03.1 (NG) REMOVAL OF ABANDONED GAS FACILITIES WITH POSSIBLE COAL TAR WRAP. ALL SIZES. (FOR NATIONAL GRID WORK ONLY) (\$6.03) Unit price bid shall not be less than: \$ 25.00	1,000.00	L.F.	25	00	25,000 00
320	UTL-6.04 (NG) ADJUST HARDWARE TO GRADE USING SPACER RINGS/ADAPTORS. (STREET REPAVING.) (\$6.04) Unit price bid shall not be less than: \$ 35.00	35.00	EACH	70	00	2,450 00
321	UTL-6.05 (NG) ADJUST HARDWARE TO GRADE BY RESETTING. (ROAD RECONSTRUCTION.) (\$6.05) Unit price bid shall not be less than: \$ 65.00	45.00	EACH	130	00	5,850 00
322	UTL-6.06 (NG) SPECIAL CARE EXCAVATION AND BACKFILLING (\$6.06) Unit price bid shall not be less than: \$ 180.00	5,400.00	C.Y.	180	00	972,000 00



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				DOLLARS	CTS	
323	UTL-6.06A (NG) SPECIAL CARE EXCAVATION AND BACKFILLING FOR TRANSMISSION MAINS (TRANSMISSION MAIN IS DESCRIBED AS ANY GAS MAIN WITH A MAOP GREATER THAN 124-PSIG) (\$6.06A) Unit price bid shall not be less than: \$ 230.00	200.00	C.Y.	230	00	46,000 00
324	UTL-6.07 (NG) TEST PITS FOR GAS FACILITIES (\$6.07) Unit price bid shall not be less than: \$ 100.00	50.00	C.Y.	100	00	5,000 00
325	UTL-6.1.12 GAS MAIN CROSSING WATER MAIN 48" THRU 54" DIAMETER (\$6.01) Unit price bid shall not be less than: \$ 810.00	15.00	EACH	2,430	00	36,450 00
326	UTL-GCS-2WS (NG) GAS INTERFERENCES AND ACCOMMODATIONS PRICE BID SHALL BE FOR THE FIXED SUM OF \$ 100,000.00	1.00	F.S.	100,000	00	\$100,000 00

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SUB-TOTAL: \$ 71,501,634.72

327	6.39 B MOBILIZATION BID PRICE OF MOBILIZATION SHALL NOT EXCEED 8% OF THE ABOVE SUB-TOTAL PRICE.	1.00	L.S.	\$ 720,000.40	\$ 720,000.40
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TOTAL BID PRICE: \$ 77,221,635.12

PLEASE BE SURE A LEGIBLE BID IS ENTERED FOR EACH ITEM.
THE BIDDER SHALL INSERT THE TOTAL BID PRICE IN
THE BID FORM IN THIS BID BOOKLET.

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C. DRAWINGS

Contract Drawings

PROJECT ID: BED776

PIN: 8502019WM0001C

SHEET NO.	TOTAL SHEET NO.	DESCRIPTION
1 OF 76	1 OF 102	TITLE SHEET
2 OF 76	2 OF 102	LEGEND
3 OF 76	3 OF 102	GENERAL NOTES
4 OF 76	4 OF 102	NYC TRANSIT AUTHORITY GENERAL NOTES
5 OF 76	5 OF 102	KEY PLAN / LIST OF DRAWINGS
6 THRU 17	6 - 18 OF 102	PLANS AND PROFILES
18 THRU 21A	19 - 23 OF 102	SEWER PROFILES
22- 23	24 - 25 OF 102	SECTIONS-WATER MAIN PROFILES- MISCELLANEOUS DETAILS
24 OF 76	26 OF 102	SPECIAL MANHOLE DETAILS NO. 1 & NO. 2
25 OF 76	27 OF 102	SHALLOW CATCH BASIN DETAILS
26 - 27	28 - 29 OF 102	MODIFIED PRECAST MANHOLE DETAILS
SC1- SC2	30 – 31 OF 102	SURVEY CONTROL
HP1	32 OF 102	HIGHWAY CONSTRUCTION PLAN
HCS1	33 OF 102	HIGHWAY TYPICAL CROSS SECTIONS
PM1	34 OF 102	PAVEMENT MARKING PLAN
PRT1	35 OF 102	PEDESTRIAN RAMP INFORMATION TABLE
LP1	36 OF 102	LANDSCAPING PLANTING
SL1	37 OF 102	STREET LIGHTING PLAN
TS1 THRU TS4	38 – 41 OF 102	TRAFFIC SIGNALS DRAWINGS

SHEET NO.	TOTAL SHEET NO.	DESCRIPTION
CC1 THRU CC12	42 - 53 OF 102	CORROSION CONTROL CATHODIC PROTECTION
BS1- BS2	54- 55 OF 102	BUS ROUTE PLAN
MPT1 THRU MPT3	56 - 58 OF 102	MAINTENANCE AND PROTECTION OF TRAFFIC
FD1 THRU FD4	59- 62 OF 102	FIRE DEPARTMENT DRAWINGS
TA1 THRU TA3	63 - 65 OF 102	NYC TRANSIT AUTHORITY DETAILS
B1 THRU B11	66- 76 OF 102	RECORD OF BORINGS
U1 THRU U26	77 - 102 OF 102	U-SECTION DRAWINGS

Standard Drawings

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**Department of
Design and
Construction**

**DIVISION OF INFRASTRUCTURE
BUREAU OF DESIGN**

VOLUME 1 OF 3

PROJECT ID: BED776

**48" TRUNK WATER MAIN AND 20", 12", 8" DISTRIBUTION WATER MAIN REPLACEMENT
IN EAST NEW YORK AVENUE AND JAMAICA AVENUE BETWEEN TAPSCOTT STREET
TO VERMONT STREET, IN ATLANTIC AVENUE BETWEEN VAN SINDEREN AVENUE AND
PENNSYLVANIA AVENUE, ETC.**

INCLUDING SEWER, STREET LIGHTING, AND TRAFFIC SIGNAL WORK

**Together With All Work Incidental Thereto
BOROUGH OF BROOKLYN
CITY OF NEW YORK**

Contractor

Dated _____, 20____



**Department of
Design and
Construction**

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

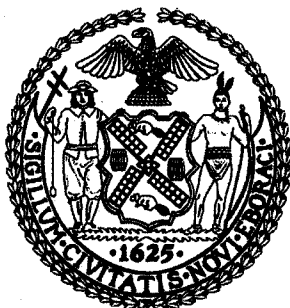
TO BE FILLED IN BY THE BIDDER:

BIDDER'S NAME:

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

NUMBER OF ADDENDUMS RECEIVED
AND ATTACHED TO BID:
_____ ADDENDUMS

DDC CLIENT AGENCY:
**THE DEPARTMENT OF
ENVIRONMENTAL PROTECTION**
PREPARED BY:
IN-HOUSE DESIGN
DATE PREPARED:
November 12, 2019



VOLUME 2 OF 3

FOR FURNISHING ALL LABOR AND MATERIALS
NECESSARY AND REQUIRED FOR:

PROJECT ID: BED776

**INFORMATION FOR BIDDERS
CONTRACT**

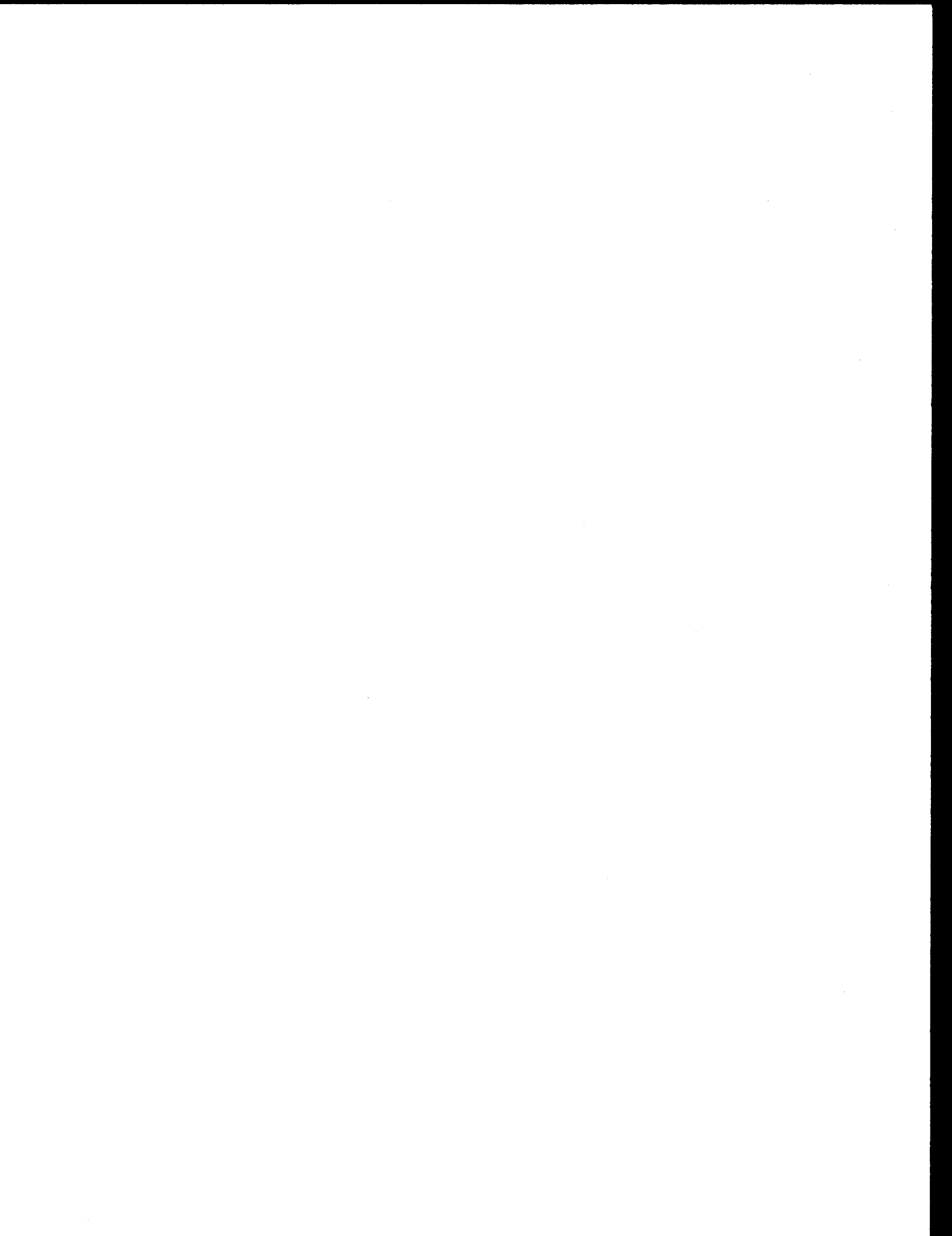
**PERFORMANCE AND PAYMENT BONDS
PREVAILING WAGE SCHEDULE**

FOR FURNISHING ALL LABOR AND MATERIALS NECESSARY
AND REQUIRED FOR:

**48" TRUNK WATER MAIN AND 20", 12", 8"
DISTRIBUTION WATER MAIN REPLACEMENT IN EAST
NEW YORK AVENUE AND JAMAICA AVENUE BETWEEN
TAPSCOTT STREET TO VERMONT STREET, IN
ATLANTIC AVENUE BETWEEN VAN SINDEREN
AVENUE AND PENNSYLVANIA AVENUE, ETC.**

**INCLUDING SEWER, STREET LIGHTING, AND TRAFFIC
SIGNAL WORK**

TOGETHER WITH ALL WORK INCIDENTAL THERETO
**BOROUGH OF BROOKLYN
CITY OF NEW YORK**





**Department of
Design and
Construction**

VOLUME 2 OF 3

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

FOR FURNISHING ALL LABOR AND MATERIALS
NECESSARY AND REQUIRED FOR:
**INFORMATION FOR BIDDERS
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DDC CLIENT AGENCY:

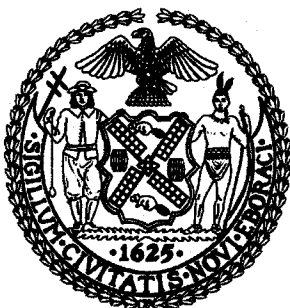
**THE DEPARTMENT OF
ENVIRONMENTAL PROTECTION**

PREPARED BY:

IN-HOUSE DESIGN

DATE PREPARED:

March 1, 2017





NOTICE TO BIDDERS

Please note that the Safety Requirements for Construction Contracts has been updated. Changes include but are not limited to:

1. **Throughout:** Change name of Construction Safety Unit to Office of Construction Safety.
2. **Section III:** Updated definition of "Work" to include Utility Interference work.
3. **Section VI:** Allow for the Office of Construction Safety to request Site Safety Plan to be developed and approved using the SSP App.

*NOTE: The list above is intended as a guide.
The text of the Safety Requirements for Construction Contracts govern.*

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1/2/2020

DISCONTINUE THE USE OF THIS NOTICE ON 7/2/2020

CITY OF NEW YORK

**DEPARTMENT OF
DESIGN AND CONSTRUCTION
DIVISION OF INFRASTRUCTURE**

INFORMATION FOR BIDDERS

JULY 2019

(NO TEXT ON THIS PAGE)

*CITY OF NEW YORK CITY
DEPARTMENT OF DESIGN AND CONSTRUCTION
INFORMATION FOR BIDDERS*

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INFORMATION FOR BIDDERS

1. Description and Location of Work

The description and location of the work for which bids are requested are specified in Attachment 1, "Bid Information". Attachment 1 is included in the BID BOOKLET, VOLUME 1 OF 3.

2. Time and Place for Receipt of Bids

Sealed bids shall be received on or before the date and hour specified in Attachment 1, at which time they will be publicly opened and read aloud in the presence of the Commissioner or his 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, if used, 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 at the location set forth in Attachment 1.

(C) Deposit for Copy of Invitation For Bids Documents: Prospective bidders may obtain a copy of the Invitation For Bids Documents by complying with the conditions set forth in the Notice of Solicitation. The deposit must be in the form of a check or money order made payable to the City of New York, and drawn upon a state or national bank or trust company, or a check of such bank or trust company signed by a duly authorized officer thereof.

(D) Return of Invitation For Bids Documents: All Invitation For Bids Documents must be returned to the Department upon request. If the bidder elects not to submit a bid thereunder, the

Invitation For Bids Documents shall be returned to the Department, along with a statement that no bid will be submitted.

(E) Return of Deposit: Such deposit will be returned within 30 days after the award of the contract or the rejection of all bids as set forth in the advertisement, provided the Invitation For Bids Documents are returned to the location specified in Attachment 1, in physical condition satisfactory to the Commissioner.

(F) Additional Copies: Additional copies of the Invitation For Bids Documents may be obtained, subject to the conditions set forth in the advertisement for bids.

5. Pre-Bid Conference

A pre-bid conference shall be held as set forth in Attachment 1. 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 Attachment 1.

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

(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 Attachment 1.

(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 he finds that they do so materially differ, or that they could not have been reasonably anticipated by the contractor and were not anticipated by the City, the Contract may be modified with his 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 Attachment 1, 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 his option, may ask to be relieved of his 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.

(D) 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 Attachment 1 (BID BOOKLET, VOLUME 1 OF 3). 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 Attachment 1. 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 Attachment 1 (BID BOOKLET, VOLUME 1 OF 3). 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 his 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 his 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 Bid Booklet.

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 BID BOOKLET VOLUME 1 OF 3.

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. Viewing of Submitted Bid Documents

In accordance with Procurement Policy Board Rules of the City of New York, Section 3-02, the submitted bid documents will be available to view immediately after completion of the bid opening and by appointment for up to 72 hours after the bid opening.

42. 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.

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 (timer frame and responsible personnel).
8. Recording and Reporting Injuries – Procedures to meet 29 CFR 1904 requirements.
9. First Aid and Medical Attention – Responsible staff, location and inspection of First Aid kit, directions to local hospitals; emergency telephone numbers.
10. Project Specific Fire Protection and Prevention Program – Project specific procedures, including responsible staff, fire alarm system/methods, hot work procedures, etc.
11. Housekeeping Procedure.
12. Project Specific Illumination Procedure.
13. Project Specific Sanitation Procedure.
14. Personal Protective Equipment (PPE), including Respiratory Protection Program and Hearing Conservation Program, if required.
15. Hazard Communication Program – Contractor's Hazard Communication Program, responsible staff; training; SDS records, project specific list of chemicals; location of the program and SDS records.
16. Means of Egress – Information regarding free and unobstructed egress from all parts of the building or structure; exit marking; maintenance of means of egress, etc.
17. Employee Emergency Action Plan – Project specific: responsible staff, emergency alarm system/devices, evacuation procedure, procedure to account for employees after evacuation, etc.
18. Evacuation Plan – Project specific evacuation plan (drawing/scheme) with exists and evacuation routes.
19. Ionizing/Nonionizing Radiation – Competent person, license and qualification requirements, type of radiation, employee's exposure and protection, safety procedures, etc.

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

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

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

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

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

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

VIII. EVALUATION DURING WORK IN PROGRESS

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

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

IX. SAFETY PERFORMANCE EVALUATION

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

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 may be 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, impact drills, 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**

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 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

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.

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.

20.4 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 time.² Contractors of the City or of other governmental entities may be required to provide sick time pursuant to the PSLL.

35.5.1(b) The PSLL became effective on April 1, 2014, and is codified at Title 20, Chapter 8, of the New York City Administrative Code. It is administered by the City's Department of Consumer Affairs ("DCA"); DCA's rules promulgated under the PSLL are codified at Chapter 7 of Title 6 of the Rules of the City of New York ("Rules").

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.

35.5.1(c) The **Contractor** agrees to comply in all respects with the PSL 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 PSL 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 PSL 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 PSL and Rules.

35.5.1(e) The PSL is summarized below for the convenience of the **Contractor**. The **Contractor** is advised to review the PSL and Rules in their entirety. On the website www.nyc.gov/PaidSickLeave there are links to the PSL 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 PSL. The **Contractor** acknowledges that it is responsible for compliance with the PSL notwithstanding any inconsistent language contained herein.

35.5.2 Pursuant to the PSL 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 PSL ("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 PSL 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 PSSL. 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 PSSL 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 PSSL 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 PSSL 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 PSSL for such employee;

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

35.5.3(f) an employee in a work study program under Section 2753 of Chapter 42 of the United States Code;

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

35.5.3(h) a participant in a Work Experience Program (WEP) under section 336-c of the New York State Social Services Law.

35.5.4 Retaliation Prohibited. An employer may not threaten or engage in retaliation against an employee for exercising or attempting in good faith to exercise any right provided by the PSLL. In addition, an employer may not interfere with any investigation, proceeding, or hearing pursuant to the PSLL.

35.5.5 Notice of Rights.

35.5.5(a) An employer must provide its employees with written notice of their rights pursuant to the PSLL. Such notice must be in English and the primary language spoken by an employee, provided that DCA has made available a translation into such language. Downloadable notices are available on DCA's website at <http://www.nyc.gov/html/dca/html/law/PaidSickLeave.shtml>.

35.5.5(b) Any person or entity that willfully violates these notice requirements is subject to a civil penalty in an amount not to exceed fifty dollars for each employee who was not given appropriate notice.

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

35.5.7 Enforcement and Penalties.

35.5.7(a) Upon receiving a complaint alleging a violation of the PSLL, DCA has the right to investigate such complaint and attempt to resolve it through mediation. Within 30 Days of written notification of a complaint by DCA, or sooner in certain circumstances, the employer must provide DCA with a written response and such other information as DCA may request. If DCA believes that a violation of the PSLL has occurred, it has the right to issue a notice of violation to the employer.

35.5.7(b) DCA has the power to grant an employee or former employee all appropriate relief as set forth in New York City Administrative Code § 20-924(d). Such relief may include, among other remedies, treble damages for the wages that should have been paid, damages for unlawful retaliation, and damages and reinstatement for unlawful discharge. In addition, DCA may impose on an employer found to have violated the PSLL civil penalties not to exceed \$500 for a first violation, \$750 for a second violation within two years of the first violation, and \$1,000 for each succeeding violation within two years of the previous violation.

35.5.8 More Generous 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 **ContrSact** 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 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**

NOTICE TO ALL PROSPECTIVE CONTRACTORS

ARTICLE I. M/WBE PROGRAM

Local Law No. 129 of 2005 added and Local Law 1 of 2013 amended Section 6-129 of the Administrative Code of the City of New York (hereinafter "Section 6-129"). 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. 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 I to this Contract (see Page 1, line 1 Total Participation Goals) or will be set forth on Schedule B, Part I 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 New York City Department of Small Business Services 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 II (see Pages 2-4) 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; and (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. 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 II (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 nonresponsive.

(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 II (see Pages 2-4) 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; and (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. 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 II). A SCHEDULE B SUBMITTED BY THE BIDDER/PROPOSER WHICH DOES NOT INCLUDE THE VENDOR CERTIFICATION AND REQUIRED AFFIRMATIONS (SEE SECTION V OF PART II) WILL BE DEEMED TO BE NON-RESPONSIVE, UNLESS A FULL WAIVER OF THE PARTICIPATION GOALS IS GRANTED (SCHEDULE B, PART III). 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 multiyear 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 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) 513-6356, or by visiting or writing DSBS at 110 William St., New York, New York, 10038, 7th 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 III (Page 5) 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 poped@ddc.nyc.gov or via facsimile at (718) 391-1886. Bidders, proposers, or contractors, as applicable, who have submitted 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 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.

13. 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.

14. 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 an 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 an 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 VENDEX as caution data.

IN WITNESS WHEREOF, the Commissioner, on behalf of the City of New York, and the Contractor, have executed this agreement in quadruplicate, two parts of which are to remain with the Commissioner, another to be filed with the Comptroller of the City, and the fourth to be delivered to the Contractor.

THE CITY OF NEW YORK

By: Lorraine Gallo
Commissioner

CONTRACTOR: C.A.C. Industries, Inc.

By: [Signature]
(Member of Firm or Officer of Corporation)

Title: CFO

(Where Contractor is a Corporation, add):

Attest:

[Signature]
Secretary

(Seal)

ACKNOWLEDGEMENT OF PRINCIPAL, IF A CORPORATION

State of New York County of Queens ss:

On this 7th day of Oct, 2020, before me personally came RICHARD E. GAVIN to me known who, being by me duly sworn did depose and say that he resides at 7 RED OAK ROAD ST JAMES NY 11780 that he is the CFO of the corporation described in and which executed the foregoing instrument; that he knows the seal of said corporation; that one of the seals affixed to said instrument is such seal; that it was so affixed by order of the directors of said corporation, and that he signed his name thereto by like order.

DIANE C. DERIN
Notary Public, State of New York
No. 01DE5048152
Qualified in Queens County
Commission Expires August 14, 2021

[Signature]
Notary Public or Commissioner of Deeds

ACKNOWLEDGEMENT OF PRINCIPAL, IF A PARTNERSHIP

State of _____ County of _____ ss:

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

Notary Public or Commissioner of Deeds

ACKNOWLEDGEMENT OF PRINCIPAL, IF AN INDIVIDUAL

State of _____ County of _____ ss:

On this _____ day of _____, _____, before me personally appeared _____ to me known, and known to me to be the person described in and who executed the foregoing instrument; and acknowledged that he executed the same.

Notary Public or Commissioner of Deeds

ACKNOWLEDGEMENT BY COMMISSIONER

State of _____ County of _____ ss:

On this _____ day of _____, _____, before me personally came _____ to me known, and known to be the Deputy Commissioner of the Department of Design and Construction of The City of New York, the person described as such in and who as such executed the foregoing instrument and acknowledged to me that he executed the same as Deputy Commissioner for the purposes therein mentioned.

Notary Public or Commissioner of Deeds

AUTHORITY

MAYOR'S CERTIFICATE NO. CBX
BUDGET DIRECTOR'S CERTIFICATE NO.

DATED
DATED

APPROPRIATION
COMMISSIONER'S CERTIFICATE

In conformity with the provisions of Section 6-101 of the Administrative Code of the City of New York, it is hereby certified that the estimated cost of the work, materials and supplies required by the within Contract, amounting to

Dollars (\$ _____)

is chargeable to the fund of the Department of Design and Construction entitled Code

Department of Design and Construction

I hereby certify that the specifications contained herein comply with the terms and conditions of the BUDGET.

Lorraine Gallo

Commissioner

COMPTROLLER'S CERTIFICATE

The City of New York _____

Pursuant to the provisions of Section 6-101 of the Administrative Code of the City of New York, I hereby certify that there remains unapplied and unexpended a balance of the above mentioned fund applicable to this Contract sufficient to pay the estimated expense of executing the same viz:

\$ _____

Comptroller

**MAYOR'S CERTIFICATE OR
CERTIFICATE OF THE DIRECTOR
OF THE BUDGET**

Performance Bond #1 (Pages 100 to 103): Use if the total contract price is \$5 Million Or Less. Performance Bond #1 has been approved by the U.S. Small Business Administration ("SBA") for participation in its Bond Guarantee Program.

PERFORMANCE BOND #1 (Page 1)

PERFORMANCE BOND #1

KNOW ALL PERSONS BY THESE PRESENTS,;

That we, _____

hereinafter referred to as the "Principal,"
and, _____

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

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

WHEREAS, the Principal is about to enter, or has entered, into a Contract in writing with the City for _____

a copy of which Contract is annexed to and hereby made a part of this bond as though herein set forth in full;

NOW, THEREFORE, the conditions of this obligation are such that if the Principal, his or its representatives or assigns, shall well and faithfully perform the said Contract and all modifications, amendments, additions and alterations thereto that may hereafter be made, according to its terms and its true intent and meaning, including repair and or replacement of defective work and guarantees of maintenance for the periods stated in the Contract, and shall fully indemnify and save harmless the City from all cost and damage which it may suffer by reason of the Principal's default of the Contract, and shall fully reimburse and repay the City for all outlay and expense which the City may incur in making

Performance Bond #1 (Pages 100 to 103): Use if the total contract price is \$5 Million Or Less. Performance Bond #1 has been approved by the U.S. Small Business Administration ("SBA") for participation in its Bond Guarantee Program.

PERFORMANCE BOND #1 (Page 2)

good any such default and shall protect the said City of New York against, and pay any and all amounts, damages, cost and judgments which may or shall be recovered against said City or its officers or agents or which the said City of New York may be called upon to pay any person or corporation by reason of any damages arising or growing out of the Principal's default of the Contract, then this obligation shall be null and void, otherwise to remain in full force and effect.

The Surety (Sureties), for value received, hereby stipulates and agrees, upon written notice from the City that the City has determined that the Principal is in default of the Contract, to (1) pay the City the cost to complete the contract as determined by the City in excess of the balance of the Contract held by the City, plus any damages or costs to which the City is entitled, up to the full amount of the above penal sum, (2) fully perform and complete the Work to be performed under the Contract, pursuant to the terms, conditions, and covenants thereof, or (3) tender a completion Contractor that is acceptable to the City. The Surety (Sureties) further agrees, at its option, either to notify the City that it elects to pay the city the cost of completion plus any applicable damages and costs under option (1) above, or to commence and diligently perform the Work specified in the Contract, including physical site work, within twenty-five (25) business days after written notice thereof from the City and, if the Surety elects to fully perform and complete the Work, then to complete all Work within the time set forth in the Contract or such other time as agreed to between the City and Surety in accordance with the Contract. If the Surety elects to tender payment pursuant to (1) above, then the Surety shall tender such amount within fifteen (15) business days notification from the City of the cost of completion. The Surety and the City reserve all rights and defenses each may have against the other; provided, however, that the Surety expressly agrees that its reservation of rights shall not provide a basis for non-performance of its obligation to pay the City the cost of completion, to commence and complete all Work as provided herein, or to tender a completion contractor.

The Surety (Sureties), for value received, for itself and its successors and assigns, hereby stipulates and agrees that the obligation of said Surety (Sureties) and its bond shall be in no way impaired or affected by any extension of time, modification, omission, addition, or change in or to the said Contract or the Work to be performed thereunder, or by any payment thereunder before the time required therein, or by any waiver of any provisions thereof, or any moneys due or to become due thereunder; and said Surety (Sureties) does hereby waive notice of any and all of such extensions, modifications, omissions, additions, changes, payments, and waivers, and hereby expressly stipulates and agrees that any and all things done and omitted to be done by and in relation to subcontractors shall have the same effect as to said Surety (Sureties) as though done or omitted to be done by or in relation to said Principal. Notwithstanding the above, if the City makes payments to the Principal before the time required by the contract that in the aggregate exceed \$100,000 or 10% of the Contract price, whichever is less, and that have not become earned prior to the Principal being found to be in default, then all payments made to the Principal before the time required by the Contract shall be added to the remaining contract value available to be paid for the completion of the Contract as if such sums had not been paid to the Principal, but shall not provide a basis for non-performance of its obligation to pay the City the cost of completion, to commence and to complete all Work as provided herein, or to tender a completion contractor.

Performance Bond #1 (Pages 100 to 103): Use if the total contract price is \$5 Million Or Less. Performance Bond #1 has been approved by the U.S. Small Business Administration ("SBA") for participation in its Bond Guarantee Program.

PERFORMANCE BOND #1 (Page 3)

IN WITNESS WHEREOF, The Principal and the Surety (Sureties) have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereunto affixed and these presents to be signed by their proper officers, this

_____ day of _____, 20_____
(Seal)

Principal (L.S.)

By: _____
(Seal) Surety

By: _____
(Seal) Surety

By: _____
(Seal) Surety

By: _____
(Seal) Surety

By: _____
(Seal) Surety

By: _____

Bond Premium Rate _____

Bond Premium Cost _____

If the Contractor (Principal) is a partnership, the bond should be signed by each of the individuals who are partners.

If the Contractor (Principal) is a corporation, the bond should be signed in its correct corporate name by a duly authorized officer, agent, or attorney-in-fact.

There should be executed an appropriate number of counterparts of the bond corresponding to the number of counterparts of the Contract.

Performance Bond #1 (Pages 100 to 103): Use if the total contract price is \$5 Million Or Less. Performance Bond #1 has been approved by the U.S. Small Business Administration ("SBA") for participation in its Bond Guarantee Program.m.

PERFORMANCE BOND #1 (Page 4)

ACKNOWLEDGMENT OF PRINCIPAL IF A CORPORATION

State of _____ County of _____ ss:

On this _____ day of _____, 20 _____ before me personally came _____, to me known, who, being by me duly sworn did depose and say that he/she resides at _____

_____ ; that he/she is the _____ of the corporation described in and which executed the foregoing instrument; and that he/she signed his/her name to the foregoing instrument by order of the directors of said corporation as the duly authorized and binding act thereof.

Notary Public or Commissioner of Deeds.

ACKNOWLEDGMENT OF PRINCIPAL IF A PARTNERSHIP

State of _____ County of _____ ss:

On this _____ day of _____, 20 _____ before me personally came _____, to me known, who, being by me duly sworn did depose and say that he/she resides at _____

_____ ; that he/she is _____ partner of _____, a limited/general partnership existing under the laws of the State of _____, the partnership described in and which executed the foregoing instrument; and that he/she signed his/her name to the foregoing instrument as the duly authorized and binding act of said partnership.

Notary Public or Commissioner of Deeds.

ACKNOWLEDGMENT OF PRINCIPAL IF AN INDIVIDUAL

State of _____ County of _____ ss:

On this _____ day of _____, 20 _____ before me personally came _____, to me known, who, being by me duly sworn did depose and say that he/she resides at _____

_____ , and that he/she is the individual whose name is subscribed to the within instrument and acknowledged to me that by his/her signature on the instrument, said individual executed the instrument.

Notary Public or Commissioner of Deeds

Each executed bond should be accompanied by: (a) appropriate acknowledgments of the respective parties; (b) appropriate duly certified copy of Power of Attorney or other certificate of authority where bond is executed by agent, officer or other representative of Principal or Surety; (c) a duly certified extract from By-Laws or resolutions of Surety under which Power of Attorney or other certificate of authority of its agent, officer or representative was issued, and (d) certified copy of latest published financial statement of assets and liabilities of Surety.

Affix Acknowledgments and Justification of Sureties.

Bond No. K40210222

Performance Bond #2 (Pages 104 to 107): Use if the total contract price is more than \$5 Million.

PERFORMANCE BOND #2 (Page 1)

PERFORMANCE BOND #2

KNOW ALL PERSONS BY THESE PRESENTS;

That we, C.A.C. Industries, Inc.

54-08 Vernon Blvd., Long Island City, NY 11101

hereinafter referred to as the "Principal,"
and, Federal Insurance Company

202B Hall's Mill Road, P.O. Box 1650, Whitehouse Station, NJ 08889-1650

hereinafter referred to as the "Surety" ("Sureties") are held and firmly bound to THE CITY OF NEW YORK, hereinafter referred to as the "City" or to its successors and assigns in the penal sum of Seventy Seven Million Two Hundred Twenty One Thousand Six Hundred Thirty Five Dollars and

12/100

(\$ 77,221,635.12) Dollars, lawful money of the United States for the payment of which said sum of money well and truly to be made, we, and each of us, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal is about to enter, or has entered, into a Contract in writing with the City for

BED-776 48" Truck Water Main and 20", 12", 8" Distribution Water Main Replacement in East New

York, Avenue and Jamaica Avenue, Borough of Brooklyn

a copy of which Contract is annexed to and hereby made a part of this bond as though herein set forth in full;

NOW, THEREFORE, the conditions of this obligation are such that if the Principal, his or its representatives or assigns, shall well and faithfully perform the said Contract and all modifications, amendments, additions and alterations thereto that may hereafter be made, according to its terms and its true intent and meaning, including repair and or replacement of defective work and guarantees of maintenance for the periods stated in the Contract, and shall fully indemnify and save harmless the City from all cost and damage which it may suffer by reason of the Principal's default of the Contract, and shall fully reimburse and repay the City for all outlay and expense which the City may incur in making

CITY OF NEW YORK
DDC

STANDARD CONSTRUCTION CONTRACT
March 2017

Performance Bond #2 (Pages 104 to 107): Use if the total contract price is more than \$5 Million.

PERFORMANCE BOND #2 (Page 2)

good any such default and shall protect the said City of New York against, and pay any and all amounts, damages, cost and judgments which may or shall be recovered against said City or its officers or agents or which the said City of New York may be called upon to pay any person or corporation by reason of any damages arising or growing out of the Principal's default of the Contract, then this obligation shall be null and void, otherwise to remain in full force and effect.

The Surety (Sureties), for value received, hereby stipulates and agrees, upon written notice from the City that the City has determined that the Principal is in default of the Contract, to either (1) pay the full amount of the above penal sum in complete discharge and exoneration of this bond and of all the liabilities of the Surety relating to this bond, or (2) fully perform and complete the Work to be performed under the Contract, pursuant to the terms, conditions, and covenants thereof. The Surety (Sureties) further agrees, at its option, either to tender the penal sum or to commence and diligently perform the Work specified in the Contract, including physical site work, within twenty-five (25) business days after written notice thereof from the City and to complete all Work within the time set forth in the Contract or such other time as agreed to between the City and Surety in accordance with the Contract. The Surety and the City reserve all rights and defenses each may have against the other; provided, however, that the Surety expressly agrees that its reservation of rights shall not provide a basis for non-performance of its obligation to commence and to complete all Work as provided herein.

The Surety (Sureties), for value received, for itself and its successors and assigns, hereby stipulates and agrees that the obligation of said Surety (Sureties) and its bond shall be in no way impaired or affected by any extension of time, modification, omission, addition, or change in or to the said Contract or the Work to be performed thereunder, or by any payment thereunder before the time required therein, or by any waiver of any provisions thereof, or by any assignment, subletting or other transfer thereof or of any Work to be performed or any moneys due or to become due thereunder; and said Surety (Sureties) does hereby waive notice of any and all of such extensions, modifications, omissions, additions, changes, payments, waivers, assignments, subcontracts and transfers, and hereby expressly stipulates and agrees that any and all things done and omitted to be done by and in relation to assignees, subcontractors, and other transferees shall have the same effect as to said Surety (Sureties) as though done or omitted to be done by or in relation to said Principal.

Performance Bond #2 (Pages 104 to 107): Use if the total contract price is more than \$5 Million.

PERFORMANCE BOND #2 (Page 3)

IN WITNESS WHEREOF, The Principal and the Surety (Sureties) have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereunto affixed and these presents to be signed by their proper officers, this 5th day of October, 2020.

(Seal) C.A.C. Industries, Inc. (L.S.)

Principal

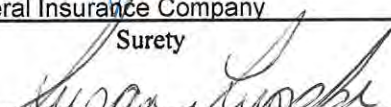
By:  _____

(Seal)



Federal Insurance Company

Surety

By:  _____

Susan Lupski, Attorney-in-Fact

(Seal)

Surety

By: _____

(Seal)

Surety

By: _____

(Seal)

Surety

By: _____

(Seal)

Surety

By: _____

Bond Premium Rate \$7.65/M Sliding Scale

Bond Premium Cost \$ 404,419.00

If the Contractor (Principal) is a partnership, the bond should be signed by each of the individuals who are partners.

If the Contractor (Principal) is a corporation, the bond should be signed in its correct corporate name by a duly authorized officer, agent, or attorney-in-fact.

There should be executed an appropriate number of counterparts of the bond corresponding to the number of counterparts of the Contract.

Performance Bond #2 (Pages 104 to 107): Use if the total contract price is more than \$5 Million.

PERFORMANCE BOND #2 (Page 4)

ACKNOWLEDGMENT OF PRINCIPAL IF A CORPORATION

State of New York County of Queens ss:
On this 6th day of Oct, 200 before me personally
came MICHAEL A CAPASSO,
to me known, who, being by me duly sworn did depose and say that he/she resides
at 41 KENNEDY ST
NYC NY 11022; that he/she is the President
of the corporation described in and which executed the foregoing instrument; and that he/she signed his/her name to
the foregoing instrument by order of the directors of said corporation as the duly authorized and binding act thereof.

[Signature]
Notary Public or Commissioner of Deeds

DIANE C. DERIN
Notary Public, State of New York
No. 01DE5048152
Qualified in Queens County
Commission Expires August 14, 2021

ACKNOWLEDGMENT OF PRINCIPAL IF A PARTNERSHIP

State of _____ County of _____ ss:
On this _____ day of _____, _____ before me personally
came _____,
to me known, who, being by me duly sworn did depose and say that he/she resides
at _____,
_____ ; that he/she is _____ partner of
_____, a limited/general partnership existing under the laws of the State of
_____, the partnership described in and which executed the foregoing instrument;
and that he/she signed his/her name to the foregoing instrument as the duly authorized and binding act of
said partnership.

Notary Public or Commissioner of Deeds

ACKNOWLEDGMENT OF PRINCIPAL IF AN INDIVIDUAL

State of _____ County of _____ ss:
On this _____ day of _____, _____ before me personally
came _____,
to me known, who, being by me duly sworn did depose and say that he/she resides
at _____,
_____ , and that he/she is the individual whose name is
subscribed to the within instrument and acknowledged to me that by his/her signature on the
instrument, said individual executed the instrument.

Notary Public or Commissioner of Deeds

Each executed bond should be accompanied by: (a) appropriate acknowledgments of the respective parties; (b) appropriate duly certified copy of Power of Attorney or other certificate of authority where bond is executed by agent, officer or other representative of Principal or Surety; (c) a duly certified extract from By-Laws or resolutions of Surety under which Power of Attorney or other certificate of authority of its agent, officer or representative was issued, and (d) certified copy of latest published financial statement of assets and liabilities of Surety.

Affix Acknowledgments and Justification of Sureties.

Power of Attorney

Federal Insurance Company | Vigilant Insurance Company | Pacific Indemnity Company

Know All by These Presents, That FEDERAL INSURANCE COMPANY, an Indiana corporation, VIGILANT INSURANCE COMPANY, a New York corporation, and PACIFIC INDEMNITY COMPANY, a Wisconsin corporation, do each hereby constitute and appoint Katherine Acosta, Thomas Bean, George O. Brewster, Desiree Cardlin, Colette R. Chisholm, Dana Granice, Susan Lupski, Gerard S. Macholz, Camille Maitland, Robert T. Pearson, Nelly Renchiwich, Rita Losquadro, Vincent A. Walsh and Michelle Wannamaker of Uniondale, New York-----

each as their true and lawful Attorney-in-Fact to execute under such designation in their names and to affix their corporate seals to and deliver for and on their behalf as surety thereon or otherwise, bonds and undertakings and other writings obligatory in the nature thereof (other than bail bonds) given or executed in the course of business, and any instruments amending or altering the same, and consents to the modification or alteration of any instrument referred to in said bonds or obligations.

In Witness Whereof, said FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, and PACIFIC INDEMNITY COMPANY have each executed and attested these presents and affixed their corporate seals on this 25th day of March, 2019.

Dawn M. Chloros

Dawn M. Chloros, Assistant Secretary

Stephen M. Haney

Stephen M. Haney, Vice President



STATE OF NEW JERSEY

County of Hunterdon

ss.

On this 25th day of March, 2019, before me, a Notary Public of New Jersey, personally came Dawn M. Chloros, to me known to be Assistant Secretary of FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, and PACIFIC INDEMNITY COMPANY, the companies which executed the foregoing Power of Attorney, and the said Dawn M. Chloros, being by me duly sworn, did depose and say that she is Assistant Secretary of FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, and PACIFIC INDEMNITY COMPANY and knows the corporate seals thereof, that the seals affixed to the foregoing Power of Attorney are such corporate seals and were thereto affixed by authority of said Companies; and that she signed said Power of Attorney as Assistant Secretary of said Companies by like authority; and that she is acquainted with Stephen M. Haney, and knows him to be Vice President of said Companies; and that the signature of Stephen M. Haney, subscribed to said Power of Attorney is in the genuine handwriting of Stephen M. Haney, and was thereto subscribed by authority of said Companies and in deponent's presence.

Notarial Seal



ROSE CURTIS
NOTARY PUBLIC OF NEW JERSEY
No. 50072400
Commission Expires November 22, 2022

Rose Curtis
Notary Public

CERTIFICATION

Resolutions adopted by the Boards of Directors of FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, and PACIFIC INDEMNITY COMPANY on August 30, 2016:

"RESOLVED, that the following authorizations relate to the execution, for and on behalf of the Company, of bonds, undertakings, recognizances, contracts and other written commitments of the Company entered into in the ordinary course of business (each a "Written Commitment"):

- (1) Each of the Chairman, the President and the Vice Presidents of the Company is hereby authorized to execute any Written Commitment for and on behalf of the Company, under the seal of the Company or otherwise.
(2) Each duly appointed attorney-in-fact of the Company is hereby authorized to execute any Written Commitment for and on behalf of the Company, under the seal of the Company or otherwise, to the extent that such action is authorized by the grant of powers provided for in such person's written appointment as such attorney-in-fact.
(3) Each of the Chairman, the President and the Vice Presidents of the Company is hereby authorized, for and on behalf of the Company, to appoint in writing any person the attorney-in-fact of the Company with full power and authority to execute, for and on behalf of the Company, under the seal of the Company or otherwise, such Written Commitments of the Company as may be specified in such written appointment, which specification may be by general type or class of Written Commitments or by specification of one or more particular Written Commitments.
(4) Each of the Chairman, the President and the Vice Presidents of the Company is hereby authorized, for and on behalf of the Company, to delegate in writing to any other officer of the Company the authority to execute, for and on behalf of the Company, under the Company's seal or otherwise, such Written Commitments of the Company as are specified in such written delegation, which specification may be by general type or class of Written Commitments or by specification of one or more particular Written Commitments.
(5) The signature of any officer or other person executing any Written Commitment or appointment or delegation pursuant to this Resolution, and the seal of the Company, may be affixed by facsimile on such Written Commitment or written appointment or delegation.

FURTHER RESOLVED, that the foregoing Resolution shall not be deemed to be an exclusive statement of the powers and authority of officers, employees and other persons to act for and on behalf of the Company, and such Resolution shall not limit or otherwise affect the exercise of any such power or authority otherwise validly granted or vested."

I, Dawn M. Chloros, Assistant Secretary of FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, and PACIFIC INDEMNITY COMPANY (the "Companies") do hereby certify that

- (i) the foregoing Resolutions adopted by the Board of Directors of the Companies are true, correct and in full force and effect,
(ii) the foregoing Power of Attorney is true, correct and in full force and effect.

Given under my hand and seals of said Companies at Whitehouse Station, NJ, this October 5, 2020



Dawn M. Chloros

Dawn M. Chloros, Assistant Secretary

IN THE EVENT YOU WISH TO VERIFY THE AUTHENTICITY OF THIS BOND OR NOTIFY US OF ANY OTHER MATTER, PLEASE CONTACT US AT:
Telephone (908) 903-3493 Fax (908) 903-3656 e-mail: surety@chubb.com

ACKNOWLEDGEMENT OF SURETY COMPANY

STATE OF NEW YORK

COUNTY OF NASSAU

On this October 5, 2020, before me personally came
Susan Lupski to me known, who, being by me duly sworn,
did depose and say; that he/she resides in Nassau County, State of New York that
he/she is the Attorney-In-Fact of the Federal Insurance Company
the corporation described in which executed the above instrument; that he/she knows the seal of said
corporation; that the seal affixed to said instrument is such corporate seal; that is was so affixed by the
Board of Directors of said corporation; and that he/she signed his/her name thereto by like order; and
the affiant did further depose and say that the Superintendent of Insurance of the State of New York,
has, pursuant to Section 1111 of the Insurance Law of the State of New York, issued to
Federal Insurance Company (Surety)
his/her certificate of qualification evidencing the qualification of said Company and its sufficiency under
any law of the State of New York as surety and guarantor, and the propriety of accepting and approving
it as such; and that such Certificate has not been revoked.



Notary Public

Grace Ackerson
Notary Public, State of New York
No. 01AC6111590
Qualified in Nassau County
Commission Expires 6/14/2024

FEDERAL INSURANCE COMPANY
STATEMENT OF ASSETS, LIABILITIES AND SURPLUS TO POLICYHOLDERS

Statutory Basis

December 31, 2019

(in thousands)

ASSETS		LIABILITIES AND SURPLUS TO POLICYHOLDERS	
Cash and Short Term Investments United States Government, State and Municipal Bonds	\$ (429,780)	Outstanding Losses and Loss Expenses	\$ 6,823,691
Other Bonds	4,559,706	Reinsurance Payable on Losses and Expenses	1,433,250
Stocks	5,314,219	Unearned Premiums	2,014,727
Other Invested Assets	32,735	Ceded Reinsurance Premiums Payable	353,115
	1,029,733	Other Liabilities	849,544
TOTAL INVESTMENTS	10,506,613	TOTAL LIABILITIES	11,474,327
Investments in Affiliates:		Capital Stock	20,980
Great Northern Ins. Co.	395,442	Paid-In Surplus	2,711,474
Vigilant Ins. Co.	341,290	Unassigned Funds	1,306,881
Chubb Indemnity Ins. Co.	178,808		
Chubb National Ins. Co.	181,053	SURPLUS TO POLICYHOLDERS	4,039,335
Other Affiliates	97,150		
Premiums Receivable	1,511,096		
Other Assets	2,302,210		
		TOTAL LIABILITIES AND SURPLUS	\$ 15,513,662
TOTAL ADMITTED ASSETS	\$ 15,513,662		

Investments are valued in accordance with requirements of the National Association of Insurance Commissioners. At December 31, 2019, investments with a carrying value of \$508,749,121 were deposited with government authorities as required by law.

STATE OF PENNSYLVANIA

COUNTY OF PHILADELPHIA

John Taylor, being duly sworn, says that he is Senior Vice President of Federal Insurance Company and that to the best of his knowledge and belief the foregoing is a true and correct statement of the said Company's financial condition as of the 31 st day of December, 2019.

Sworn before me this April 14, 2020

John Taylor

Senior Vice President

Diane Wright
Notary Public

August 8, 2023
My commission expires

Commonwealth of Pennsylvania - Notary Seal
Diane Wright, Notary Public
Philadelphia County
My commission expires August 8, 2023
Commission number 1235745
Member, Pennsylvania Association of Notaries

Bond No. K40210222

Payment Bond (Pages 108 to 111): Use for any contract for which a Payment Bond is required.

PAYMENT BOND (Page 1)

PAYMENT BOND

KNOW ALL PERSONS BY THESE PRESENTS, That we, _____

C.A.C. Industries, Inc. _____

54-08 Vernon Blvd., Long Island City, NY 11101 _____

hereinafter referred to as the "Principal", and Federal Insurance Company _____

202B Hall's Mill Road, P.O. Box 1650 , Whitehouse Station, NJ 08889-1650 _____

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

Seventy Seven Million Two Hundred Twenty One Thousand Six Hundred Thirty Five Dollars and

12/100 _____

(\$ 77,221,635.12) Dollars, lawful money of the United States, for the payment of which said sum of money well and truly to be made, we, and each of us, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal is about to enter, or has entered, into a Contract in writing with the City for BED-776 48" Truck Water Main and 20", 12", 8" Distribution Water Main Replacement in East New York, Avenue and Jamaica Avenue, Borough of Brooklyn

a copy of which Contract is annexed to and hereby made a part of this bond as though herein set forth in full;

NOW, THEREFORE, the conditions of this obligation are such that if the Principal, his or its representatives or assigns and other Subcontractors to whom Work under this Contract is sublet and his or their successors and assigns shall promptly pay or cause to be paid all lawful claims for

(a) Wages and compensation for labor performed and services rendered by all persons engaged in the prosecution of the Work under said Contract, and any amendment or extension thereof or addition thereto, whether such persons be agents servants or employees of the Principal or any such Subcontractor, including all persons so engaged who perform the work of laborers or mechanics at or in the vicinity of the site

Payment Bond (Pages 108 to 111): Use for any contract for which a Payment Bond is required.

PAYMENT BOND (Page 2)

of the Project regardless of any contractual relationship between the Principal or such Subcontractors, or his or their successors or assigns, on the one hand and such laborers or mechanics on the other, but not including office employees not regularly stationed at the site of the project; and

(b) Materials and supplies (whether incorporated in the permanent structure or not), as well as teams, fuels, oils, implements or machinery furnished, used or consumed by said Principal or any subcontractor at or in the vicinity of the site of the Project in the prosecution of the Work under said Contract and any amendment or extension thereof or addition thereto; then this obligation shall be void, otherwise to remain in full force and effect.

This bond is subject to the following additional conditions, limitations and agreements:

(a) The Principal and Surety (Sureties) agree that this bond shall be for the benefit of any materialmen or laborer having a just claim, as well as the City itself.

(b) All persons who have performed labor, rendered services or furnished materials and supplies, as aforesaid, shall have a direct right of action against the Principal and his, its or their successors and assigns, and the Surety (Sureties) herein, or against either or both or any of them and their successors and assigns. Such persons may sue in their own name, and may prosecute the suit to judgment and execution without the necessity of joining with any other persons as party plaintiff.

(c) The Principal and Surety (Sureties) agree that neither of them will hold the City liable for any judgment for costs of otherwise, obtained by either or both of them against a laborer or materialman in a suit brought by either a laborer or materialman under this bond for moneys allegedly due for performing work or furnishing material.

(d) The Surety (Sureties) or its successors and assigns shall not be liable for any compensation recoverable by an employee or laborer under the Workmen's Compensation Law.

(e) In no event shall the Surety (Sureties), or its successors or assigns, be liable for a greater sum than the penalty of this bond or be subject to any suit, action or proceeding hereon that is instituted by any person, firm, or corporation hereunder later than two years after the complete performance of said Contract and final settlement thereof.

The Principal, for himself and his successors and assigns, and the Surety (Sureties), for itself and its successors and assigns, do hereby expressly waive any objection that might be interposed as to the right of the City to require a bond containing the foregoing provisions, and they do hereby further expressly waive any defense which they or either of them might interpose to an action brought hereon by any person, firm or corporation, including subcontractors, materialmen and third persons, for work, labor, services, supplies or material performed rendered, or furnished as aforesaid upon the ground that there is no law authorizing the City to require the foregoing provisions to be place in this bond.

And the Surety (Sureties), for value received, for itself and its successors and assigns, hereby stipulates and agrees that the obligation of said Surety (Sureties), and its bonds shall be in no way impaired or affected by any extension of time, modification, omission, addition, or change in or of the said Contract or the work to be performed thereunder, or by any payment thereunder before the time required therein, or by any waiver of any provisions thereof, or by any assignment, subletting or other transfer thereof or of any part thereof, or of any Work to be performed, or any moneys due to become due thereunder and said Surety (Sureties) does hereby waive notice of any and all of such extensions, modifications, omissions, additions, changes, payments, waivers, assignments, subcontracts and transfers, and hereby expressly stipulates and agrees that any and all things done and omitted to be done by and in relation to assignees, Subcontractors, and other transferees shall have the same effect as to said Surety (Sureties) as though done or omitted to be done or in relation to said Principal.

Payment Bond (Pages 108 to 111): Use for any contract for which a Payment Bond is required.

PAYMENT BOND (Page 3)

IN WITNESS WHEREOF, the Principal and the Surety (Sureties) have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereunto affixed and these presents to be signed by their proper officers, this 5th day of October, 2020.

(Seal) C.A.C. Industries, Inc. (L.S.)
Principal

By: [Signature]

(Seal) Federal Insurance Company
Surety



By: [Signature]
Susan Lupski, Attorney-in-Fact

(Seal) _____
Surety

By: _____

(Seal) _____
Surety

By: _____

(Seal) _____
Surety

By: _____

If the Contractor (Principal) is a partnership, the bond should be signed by each of the individuals who are partners.

If the Contractor (Principal) is a corporation, the bond should be signed in its correct corporate name by a duly authorized officer, agent, or attorney-in-fact.

There should be executed an appropriate number of counterparts of the bond corresponding to the number of counterparts of the Contract.

Payment Bond (Pages 108 to 111): Use for any contract for which a Payment Bond is required.

PAYMENT BOND (Page 4)

ACKNOWLEDGMENT OF PRINCIPAL, IF A CORPORATION

State of NEW YORK County of QUEENS ss:

On this 6th day of Oct, 2020, before me personally came Michael A Capasso to me known, who, being by me duly sworn did depose and say that he resides at 45 E RUD 37 NYC NY 10022 that he is the PRESIDENT of the corporation described in and which executed the foregoing instrument; that he knows the seal of said corporation; that one of the seals affixed to said instrument is such seal; that it was so affixed by order of the directors of said corporation, and that he signed his name thereto by like order.

[Signature]
Notary Public or Commissioner of Deeds

DIANE C. DERIN
Notary Public, State of New York
No. 01DE5048152
Qualified in Queens County
Commission Expires August 14, 2021

ACKNOWLEDGMENT OF PRINCIPAL, IF A PARTNERSHIP

State of _____ County of _____ ss:

On this ____ day of _____, _____, before me personally appeared _____ to me known, and known to me to be one of the members of the firm of _____ described in and who executed the foregoing instrument; and he acknowledged to me that he executed the same as and for the act and deed of said firm.

Notary Public or Commissioner of Deeds

ACKNOWLEDGMENT OF PRINCIPAL, IF AN INDIVIDUAL

State of _____ County of _____ ss:

On this ____ day of _____, _____, before me personally appeared _____ to me known, and known to me to be the person described in and who executed the foregoing instrument; and acknowledged that he executed the same.

Notary Public or Commissioner of Deeds

Each executed bond should be accompanied by: (a) appropriate acknowledgments of the respective parties; (b) appropriate duly certified copy of Power of Attorney or other certificate of authority where bond is executed by agent, officer or other representative of Principal or Surety; (c) a duly certified extract from By-Laws or resolutions of Surety under which Power of Attorney or other certificate of authority of its agent, officer or representative was issued, and (d) certified copy of latest published financial statement of assets and liabilities of Surety.

Affix Acknowledgments and Justification of Sureties.



Power of Attorney

Federal Insurance Company | Vigilant Insurance Company | Pacific Indemnity Company

Know All by These Presents. That FEDERAL INSURANCE COMPANY, an Indiana corporation, VIGILANT INSURANCE COMPANY, a New York corporation, and PACIFIC INDEMNITY COMPANY, a Wisconsin corporation, do each hereby constitute and appoint Katherine Acosta, Thomas Bean, George O. Brewster, Desiree Cardlin, Colette R. Chisholm, Dana Granice, Susan Lupski, Gerard S. Macholz, Camille Maitland, Robert T. Pearson, Nelly Renchiwich, Rita Losquadro, Vincent A. Walsh and Michelle Wannamaker of Uniondale, New York-----

each as their true and lawful Attorney-in-Fact to execute under such designation in their names and to affix their corporate seals to and deliver for and on their behalf as surety thereon or otherwise, bonds and undertakings and other writings obligatory in the nature thereof (other than bail bonds) given or executed in the course of business, and any instruments amending or altering the same, and consents to the modification or alteration of any instrument referred to in said bonds or obligations.

In Witness Whereof, said FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, and PACIFIC INDEMNITY COMPANY have each executed and attested these presents and affixed their corporate seals on this 25th day of March, 2019.

Dawn M. Chloros

Dawn M. Chloros, Assistant Secretary

Stephen M. Haney

Stephen M. Haney, Vice President



STATE OF NEW JERSEY
County of Hunterdon ss.

On this 25th day of March, 2019, before me, a Notary Public of New Jersey, personally came Dawn M. Chloros, to me known to be Assistant Secretary of FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, and PACIFIC INDEMNITY COMPANY, the companies which executed the foregoing Power of Attorney, and the said Dawn M. Chloros, being by me duly sworn, did depose and say that she is Assistant Secretary of FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, and PACIFIC INDEMNITY COMPANY and knows the corporate seals thereof, that the seals affixed to the foregoing Power of Attorney are such corporate seals and were thereto affixed by authority of said Companies; and that she signed said Power of Attorney as Assistant Secretary of said Companies by like authority; and that she is acquainted with Stephen M. Haney, and knows him to be Vice President of said Companies; and that the signature of Stephen M. Haney, subscribed to said Power of Attorney is in the genuine handwriting of Stephen M. Haney, and was thereto subscribed by authority of said Companies and in deponent's presence.

Notarial Seal



ROSE CURTIS
NOTARY PUBLIC OF NEW JERSEY
No. 80072400
Commission Expires November 22, 2022

Rose Curtis
Notary Public

CERTIFICATION

Resolutions adopted by the Boards of Directors of FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, and PACIFIC INDEMNITY COMPANY on August 30, 2016:

"RESOLVED, that the following authorizations relate to the execution, for and on behalf of the Company, of bonds, undertakings, recognizances, contracts and other written commitments of the Company entered into in the ordinary course of business (each a "Written Commitment"):

- (1) Each of the Chairman, the President and the Vice Presidents of the Company is hereby authorized to execute any Written Commitment for and on behalf of the Company, under the seal of the Company or otherwise.
- (2) Each duly appointed attorney-in-fact of the Company is hereby authorized to execute any Written Commitment for and on behalf of the Company, under the seal of the Company or otherwise, to the extent that such action is authorized by the grant of powers provided for in such person's written appointment as such attorney-in-fact.
- (3) Each of the Chairman, the President and the Vice Presidents of the Company is hereby authorized, for and on behalf of the Company, to appoint in writing any person the attorney-in-fact of the Company with full power and authority to execute, for and on behalf of the Company, under the seal of the Company or otherwise, such Written Commitments of the Company as may be specified in such written appointment, which specification may be by general type or class of Written Commitments or by specification of one or more particular Written Commitments.
- (4) Each of the Chairman, the President and the Vice Presidents of the Company is hereby authorized, for and on behalf of the Company, to delegate in writing to any other officer of the Company the authority to execute, for and on behalf of the Company, under the Company's seal or otherwise, such Written Commitments of the Company as are specified in such written delegation, which specification may be by general type or class of Written Commitments or by specification of one or more particular Written Commitments.
- (5) The signature of any officer or other person executing any Written Commitment or appointment or delegation pursuant to this Resolution, and the seal of the Company, may be affixed by facsimile on such Written Commitment or written appointment or delegation.

FURTHER RESOLVED, that the foregoing Resolution shall not be deemed to be an exclusive statement of the powers and authority of officers, employees and other persons to act for and on behalf of the Company, and such Resolution shall not limit or otherwise affect the exercise of any such power or authority otherwise validly granted or vested."

I, Dawn M. Chloros, Assistant Secretary of FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, and PACIFIC INDEMNITY COMPANY (the "Companies") do hereby certify that

- (i) the foregoing Resolutions adopted by the Board of Directors of the Companies are true, correct and in full force and effect,
- (ii) the foregoing Power of Attorney is true, correct and in full force and effect.

Given under my hand and seals of said Companies at Whitehouse Station, NJ, this October 5, 2020



Dawn M. Chloros

Dawn M. Chloros, Assistant Secretary

IN THE EVENT YOU WISH TO VERIFY THE AUTHENTICITY OF THIS BOND OR NOTIFY US OF ANY OTHER MATTER, PLEASE CONTACT US AT:
Telephone (908) 903-3493 Fax (908) 903-3656 e-mail: surety@chubb.com

ACKNOWLEDGEMENT OF SURETY COMPANY

STATE OF NEW YORK

COUNTY OF NASSAU

On this October 5, 2020, before me personally came
Susan Lupski to me known, who, being by me duly sworn,
did depose and say; that he/she resides in Nassau County, State of New York that
he/she is the Attorney-In-Fact of the Federal Insurance Company
the corporation described in which executed the above instrument; that he/she knows the seal of said
corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by the
Board of Directors of said corporation; and that he/she signed his/her name thereto by like order; and
the affiant did further depose and say that the Superintendent of Insurance of the State of New York,
has, pursuant to Section 1111 of the Insurance Law of the State of New York, issued to
Federal Insurance Company (Surety)
his/her certificate of qualification evidencing the qualification of said Company and its sufficiency under
any law of the State of New York as surety and guarantor, and the propriety of accepting and approving
it as such; and that such Certificate has not been revoked.



Notary Public

Grace Ackerson
Notary Public, State of New York
No. 01AC6111590
Qualified in Nassau County
Commission Expires 6/14/2024

FEDERAL INSURANCE COMPANY

STATEMENT OF ASSETS, LIABILITIES AND SURPLUS TO POLICYHOLDERS

Statutory Basis

December 31, 2019

(in thousands)

ASSETS		LIABILITIES AND SURPLUS TO POLICYHOLDERS	
Cash and Short Term Investments United States Government, State and Municipal Bonds	\$ (429,780)	Outstanding Losses and Loss Expenses	\$ 6,823,691
Other Bonds	4,559,706	Reinsurance Payable on Losses and Expenses	1,433,250
Stocks	5,314,219	Unearned Premiums	2,014,727
Other Invested Assets	32,735	Ceded Reinsurance Premiums Payable	353,115
	<u>1,029,733</u>	Other Liabilities	<u>849,544</u>
TOTAL INVESTMENTS	<u>10,506,613</u>	TOTAL LIABILITIES	<u>11,474,327</u>
Investments in Affiliates:		Capital Stock	20,980
Great Northern Ins. Co.	395,442	Paid-In Surplus	2,711,474
Vigilant Ins. Co.	341,290	Unassigned Funds	<u>1,306,881</u>
Chubb Indemnity Ins. Co.	178,808	SURPLUS TO POLICYHOLDERS	<u>4,039,335</u>
Chubb National Ins. Co.	181,053		
Other Affiliates	97,150		
Premiums Receivable	1,511,096		
Other Assets	<u>2,302,210</u>		
TOTAL ADMITTED ASSETS	<u>\$ 15,513,662</u>	TOTAL LIABILITIES AND SURPLUS	<u>\$ 15,513,662</u>

Investments are valued in accordance with requirements of the National Association of Insurance Commissioners, At December 31, 2019, investments with a carrying value of \$508,749,121 were deposited with government authorities as required by law.

STATE OF PENNSYLVANIA

COUNTY OF PHILADELPHIA

John Taylor, being duly sworn, says that he is Senior Vice President of Federal Insurance Company and that to the best of his knowledge and belief the foregoing is a true and correct statement of the said Company's financial condition as of the 31 st day of December, 2019.

Sworn before me this April 14, 2020

John Taylor

Senior Vice President

Diane Wright
Notary Public

August 8, 2023
My commission expires

Commonwealth of Pennsylvania - Notary Seal
Diane Wright, Notary Public
Philadelphia County
My commission expires August 8, 2023
Commission number 1235745
Member, Pennsylvania Association of Notaries



CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)
10/15/2020

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 Construction Risk Partners Campus View Plaza 1250 Route 28, Suite 201 Branchburg, NJ 08876	1-908-566-1010	CONTACT NAME: Kimberly Bernard PHONE (A/C. No. Ext): 516-962-8170 E-MAIL ADDRESS: kbernard@constructionriskpartners.com	FAX (A/C. No.): 516-962-8180
INSURED C.A.C. Industries, Inc. 54-08 Vernon Boulevard Long Island City, NY 11101		INSURER(S) AFFORDING COVERAGE	
		INSURER A: TRAVELERS IND CO	NAIC # 25658
		INSURER B: TRAVELERS PROP CAS CO OF AMER	25674
		INSURER C: NAVIGATORS INS CO	42307
		INSURER D: ASPEN AMER INS CO	43460
		INSURER E: INDIAN HARBOR INS CO	36940
		INSURER F: STARR IND & LIAB CO	38318

COVERAGES

CERTIFICATE NUMBER: 60513264

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 <input checked="" type="checkbox"/> Contractual Liab GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC <input type="checkbox"/> OTHER:			VTC2K-CO-4E994751-IND-20	06/29/20	06/29/21	EACH OCCURRENCE \$ 3,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 300,000 MED EXP (Any one person) \$ 10,000 PERSONAL & ADV INJURY \$ 3,000,000 GENERAL AGGREGATE \$ 6,000,000 PRODUCTS - COMP/OP AGG \$ 6,000,000 \$
B	<input checked="" type="checkbox"/> AUTOMOBILE LIABILITY <input checked="" type="checkbox"/> ANY AUTO <input type="checkbox"/> OWNED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> HIRED AUTOS ONLY <input type="checkbox"/> NON-OWNED AUTOS ONLY			VTC2J-CAP-7K029318-TIL-20	06/29/20	06/29/21	COMBINED SINGLE LIMIT (Ea accident) \$ 2,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ \$
C	<input type="checkbox"/> UMBRELLA LIAB <input checked="" type="checkbox"/> OCCUR <input checked="" type="checkbox"/> EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE <input type="checkbox"/> DED <input type="checkbox"/> RETENTION \$			NY20EXCZ05LG1IV	06/29/20	06/29/21	EACH OCCURRENCE \$ 3,000,000 AGGREGATE \$ 3,000,000 \$
	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				<input type="checkbox"/> PER STATUTE <input type="checkbox"/> OTH-ER E.L. EACH ACCIDENT \$ E.L. DISEASE - EA EMPLOYEE \$ E.L. DISEASE - POLICY LIMIT \$
D	Property Contents			IMAEG5Q20	06/29/20	06/29/21	Limit 40,000
E	Professional			CEO744641303	06/29/20	06/29/21	Occurrence/Agg 2,000,000
F	Excess Liability #1			10005854721	06/29/20	06/29/21	Occurrence/Agg 10M/10M

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

Project: BED-776; 48" Trunk Water Main and 20", 12", 8" Distribution Water Main Replacement in East New York Avenue and Jamaica Avenue, Borough of Brooklyn
 City of New York, including its officials and employees; The Long Island Railroad (LIRR), Metropolitan Transportation Authority (MTA), its subsidiaries and affiliated companies; The New York City Transit Authority (NYCTA), Manhattan and Bronx Surface Transit Authority (MaBSTOA), Staten Island Rapid Transit Operation Authority (SIRTOA), Metropolitan, Transportation Authority (MTA) its subsidiaries and affiliated companies; Nation Grid are additional insureds as required by written contract.

CERTIFICATE HOLDER**CANCELLATION**

New York City Department of Design & Construction 30-30 Thomson Avenue Long Island City, NY 11101 USA	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE 
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ACORD 25 (2016/03)

The ACORD name and logo are registered marks of ACORD

JFine
60513264

CITY OF NEW YORK

CERTIFICATION BY INSURANCE BROKER OR AGENT

The undersigned insurance broker or agent represents to the City of New York that the attached Certificate of Insurance is accurate in all material respects.

Construction Risk Partners, LLC
[Name of broker or agent (typewritten)]

1250 Route 28, Suite 201 Branchburg, NJ 08876
[Address of broker or agent (typewritten)]

certs@constructionriskpartners.com
[Email address of broker or agent (typewritten)]

908-566-1010 / 908-566-1020
[Phone number/Fax number of broker or agent (typewritten)]

Nancy Huddy
[Signature of authorized official, broker, or agent]

Nancy Huddy, Assistant Account Associate
[Name and title of authorized official, broker, or agent (typewritten)]

State of New Jersey.....)
) ss.:
County of Somerset.....)

Sworn to before me this 15th day of October 2020

Jennifer H. Fine
NOTARY PUBLIC FOR THE STATE OF New Jersey



JENNIFER H. FINE
NOTARY PUBLIC OF NEW JERSEY
MY COMMISSION EXPIRES ON JANUARY 3, 2023

CERTIFICATE OF WORKERS' COMPENSATION INSURANCE (RENEWED)



SCAN TO VALIDATE
AND SUBSCRIBE

^ ^ ^ ^ ^ ^ ^ ^ 113082726
LEVITT-FUIRST ASSOCIATES LTD
520 WHITE PLAINS ROAD, 2ND FL
TARRYTOWN NY 10591

POLICYHOLDER C.A.C. INDUSTRIES INC 54-08 VERNON BLVD LONG ISLAND CITY NY 11101		CERTIFICATE HOLDER NEW YORK CITY DEPARTMENT OF DESIGN & CONSTRUCTION 30-30 THOMSON AVENUE LONG ISLAND CITY NY 11101	
POLICY NUMBER G1394 246-1	CERTIFICATE NUMBER 207145	POLICY PERIOD 06/29/2020 TO 06/29/2021	DATE 10/15/2020

THIS IS TO CERTIFY THAT THE POLICYHOLDER NAMED ABOVE IS INSURED WITH THE NEW YORK STATE INSURANCE FUND UNDER POLICY NO. 1394 246-1, 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.

THIS POLICY DOES NOT COVER THE SOLE PROPRIETOR, PARTNERS AND/OR MEMBERS OF A LIMITED LIABILITY COMPANY.

THIS CERTIFICATE DOES NOT APPLY TO THOSE JOB SITES WHICH ARE COVERED BY OTHER INSURANCE AND ARE SPECIFICALLY EXCLUDED BY ENDORSEMENT.

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: 650394613

CERTIFICATE OF INSURANCE COVERAGE DISABILITY AND PAID FAMILY LEAVE BENEFITS LAW

PART 1. To be completed by Disability and Paid Family Leave Benefits Carrier or Licensed Insurance Agent of that Carrier

<p>1a. Legal Name & Address of Insured (use street address only)</p> <p>C.A.C Industries, Inc. 54 08 Vernon Blvd Long Island City, NY 11101</p> <p><small>Work Location of Insured (Only required if coverage is specifically limited to certain locations in New York State, i.e., Wrap-Up Policy)</small></p>	<p>1b. Business Telephone Number of Insured</p> <p style="text-align: center;">718-729-3600</p> <p>1c. Federal Employer Identification Number of Insured or Social Security Number</p> <p style="text-align: center;">113082726</p>
<p>2. Name and Address of Entity Requesting Proof of Coverage (Entity Being Listed as the Certificate Holder)</p> <p>New York City Department of Design & Construction 30-30 Thomson Avenue Long Island City, NY 11101</p>	<p>3a. Name of Insurance Carrier</p> <p style="text-align: center;">Arch Insurance Company</p> <p>3b. Policy Number of Entity Listed in Box "1a"</p> <p style="text-align: center;">11DBL2168000</p> <p>3c. Policy effective period</p> <p style="text-align: center;">1/1/2021 to 12/31/2021</p>

4. Policy provides the following benefits:

A. Both disability and paid family leave benefits.

B. Disability benefits only.

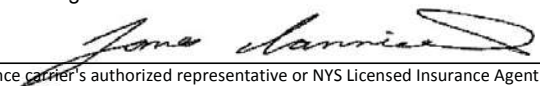
C. Paid family leave benefits only.

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 1/15/2021 By 
(Signature of insurance carrier's authorized representative or NYS Licensed Insurance Agent of that insurance carrier)

Telephone Number 201-743-3937 Name and Title James Iannicelli, AVP Accident & Health

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 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 4C or 5B of Part 1 has 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 with respect to all of his/her 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.**



(NO TEXT ON THIS PAGE)

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 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 § 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 New York State 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.

The appropriate schedule of prevailing wages and benefits must be posted at all public work sites pursuant to Labor Law § 220 (3-a) (a).

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.

The Comptroller's Office has attempted to include all overtime, shift and night differential, Holiday, Saturday, Sunday or other premium time work. However, this schedule does not set forth every prevailing practice with respect to such rates with which employers must comply. All such practices are nevertheless part of the employer's prevailing wage obligation and contained in the collective bargaining agreements of the prevailing wage unions. These collective bargaining agreements are available for inspection by appointment. Requests for appointments may be made by calling (212) 669-4443, Monday through Friday between the hours of 9 a.m. and 5 p.m.

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

Prevailing rates and ratios for apprentices are published in the Construction Apprentice Prevailing Wage Schedule. Pursuant to Labor Law § 220 (3-e), only apprentices who are individually registered in a bona fide program to which the employer contractor is a participant, registered with the New York State Department of Labor, may be paid at the apprentice rates. Apprentices who are not so registered must be paid as journey persons.

New York City public work projects awarded pursuant to a Project Labor Agreement ("PLA") in accordance with Labor Law section 222 may have different labor standards for shift, premium and overtime work. Please refer to the PLA's pre-negotiated labor agreements for wage and benefit rates applicable to work performed outside of the regular workday. More information is available at the Mayor's Office of Contract Services (MOCS) web page at:

<https://www1.nyc.gov/site/mocs/legal-forms/project-labor-agreements.page>

All the provisions of Labor Law Article 8 remain applicable to PLA work including, but not limited to, the enforcement of prevailing wage requirements by the Comptroller in accordance with the trade classifications in this schedule; however, we will enforce shift, premium, overtime and other non-standard rates as they appear in a project's pre-negotiated labor agreement.

In order to meet their obligation to provide prevailing supplemental benefits to each covered employee, employers must either:

- 1) Provide bona fide fringe benefits which cost the employer no less than the prevailing supplemental benefits rate; or
- 2) Supplement the employee's hourly wage by an amount no less than the prevailing supplemental benefits rate; or
- 3) Provide a combination of bona fide fringe benefits and wage supplements which cost the employer no less than the prevailing supplemental benefits rate in total.

Although prevailing wage laws do not require employers to provide bona fide fringe benefits (as opposed to wage supplements) to their employees, other laws may. For example, the Employee Retirement Income Security Act, 29 U.S.C. § 1001 et seq., the Patient Protection and Affordable Care Act, 42 U.S.C. § 18001 et seq., and the New York City Paid Sick Leave Law, N.Y.C. Admin. Code § 20-911 et seq., require certain employers to provide certain benefits to their employees. Labor agreements to which employers are a party may also require certain benefits. The Comptroller's Office does not enforce these laws or agreements.

Employers must provide prevailing supplemental benefits at the straight time rate for each hour worked unless otherwise noted in the classification.

Paid Holidays, Vacation and Sick Leave when listed must be paid or provided in addition to the prevailing hourly supplemental benefit rate.

For more information, please refer to the Comptroller's Prevailing Wage Law Regulations in Title 44 of the Rules of the City of New York, Chapter 2, available at comptroller.nyc.gov/wages.

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

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

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

ASBESTOS HANDLER
SEE HAZARDOUS MATERIAL HANDLER

BLASTER

Blaster

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: **\$55.86**
Supplemental Benefit Rate per Hour: **\$44.48**

Blaster- Hydraulic Trac Drill

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: **\$50.00**
Supplemental Benefit Rate per Hour: **\$44.48**

Blaster - Wagon: Air Trac: Quarry Bar: Drillrunners

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: **\$49.17**
Supplemental Benefit Rate per Hour: **\$44.48**

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: 7/1/2019 - 6/30/2020
Wage Rate per Hour: **\$42.65**
Supplemental Benefit Rate per Hour: **\$44.48**

Blaster - Magazine Keepers: (Watch Person)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: **\$21.33**
Supplemental Benefit Rate per Hour: **\$44.48**

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: 7/1/2019 - 6/30/2020

Wage Rate per Hour: \$59.17

Supplemental Benefit Rate per Hour: \$44.59

Supplemental Note: For time and one half overtime - \$66.44 For double overtime - \$88.28

Overtime Description

For Repair and Maintenance work:

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

For New Construction work:

Double time the regular rate after an 8 hour day.

Double time the regular time rate for Saturday.

Double time the regular rate for Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day
President's Day
Memorial Day
Independence Day

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

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

When shifts are required, the first shift shall work eight (8) hours at the regular straight-time hourly rate. The second shift shall work seven and one-half (7 ½) hours and receive eight hours at the regular straight time hourly rate plus twenty-five cents (\$0.25) per hour. The third shift shall work seven (7) hours and receive eight hours at the regular straight time hourly rate plus fifty cents (\$0.50) per hour. A thirty (30) minute lunch period shall not be considered as time worked. Work in excess of the above shall be paid overtime at the appropriate new construction work or repair work overtime wage and supplemental benefit hourly rate.

(Local #5)

BRICKLAYER

Bricklayer

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: **\$56.32**
Supplemental Benefit Rate per Hour: **\$33.11**

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.
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

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

Thanksgiving Day
Christmas Day

Paid Holidays
None

Shift Rates
Overtime rates to be paid outside the regular scheduled work day.

(Bricklayer District Council)

CARPENTER - BUILDING COMMERCIAL

Building Commercial

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$52.50
Supplemental Benefit Rate per Hour: \$46.38

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.
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
Columbus Day
Presidential Election Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Paid Holidays
None

Shift Rates

The employer may work two (2) shifts with the first shift at the straight time wage rate starting at the established time between 7 a.m. and 9 a.m. The second shift will receive one hour at the double time rate of pay for the last hour of the shift; eight (8) hours pay for seven (7) hours of work, nine (9) hours pay for eight (8) hours of work.

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

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.

(Carpenters District Council)

CARPENTER - HEAVY CONSTRUCTION WORK
(Construction of Engineering Structures and Building Foundations)

Heavy Construction Work

Effective Period: 7/1/2019 - 6/30/2020

Wage Rate per Hour: \$54.68

Supplemental Benefit Rate per Hour: \$51.73

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.

(Carpenters District Council)

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

CARPENTER - HIGH RISE CONCRETE FORMS
(Excludes Engineering Structures and Building Foundations)

Carpenter High Rise A

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$50.78
Supplemental Benefit Rate per Hour: \$43.44

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: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$40.19
Supplemental Benefit Rate per Hour: \$16.75

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

Paid Holidays

None

Shift Rates

The second shift wage rate shall be 113% of the straight time hourly wage rate. There must be a first shift in order to work a second shift.

(Carpenters District Council)

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

CARPENTER - SIDEWALK SHED, SCAFFOLD AND HOIST

Carpenter - Hod Hoist

(Assisted by Mason Tender)

Effective Period: 7/1/2019 - 6/30/2020

Wage Rate per Hour: **\$50.50**

Supplemental Benefit Rate per Hour: **\$39.56**

Overtime

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

Saturday may be used as a make-up day at straight time when a day is lost during that week to inclement weather.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day

President's Day

Memorial Day

Independence Day

Labor Day

Columbus Day

Presidential Election Day

Thanksgiving Day

Day after Thanksgiving

Christmas Day

Paid Holidays

None

Shift Rates

The second shift will receive one hour at the double time rate of pay for the last hour of the shift; eight hours pay for seven hours of work, nine hours pay for eight hours of work. There must be a first shift in order to work a second shift.

(Carpenters District Council)

CARPENTER - WOOD WATER STORAGE TANK

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

Tank Mechanic

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: **\$34.14**
Supplemental Benefit Rate per Hour: **\$19.00**

Tank Helper

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: **\$27.30**
Supplemental Benefit Rate per Hour: **\$19.00**

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.
1/2 day on New Year's Eve if work is performed in the A.M.

Vacation

Employed for one (1) year.....One (1) week vacation (40 hours)
Employed for three (3) years.....two (2) weeks vacation (80 hours)
Employed for more than twenty (20) years.....three (3) weeks vacation (120 hours)

SICK LEAVE:

Two (2) sick days after being employed for twenty (20) years.

(Carpenters District Council)

CEMENT & CONCRETE WORKER

Cement & Concrete Worker

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: **\$43.53**

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

Supplemental Benefit Rate per Hour: \$28.95
Supplemental Note: \$32.45 on Saturdays; \$35.95 on Sundays & Holidays

Cement & Concrete Worker - (Hired after 2/6/2016)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$33.05
Supplemental Benefit Rate per Hour: \$20.95
Supplemental Note: \$22.45 on Saturdays; \$23.95 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 Dockbullders on pile cap forms and for work below street level to the top of the foundation wall, not to exceed 2 feet or 3 feet above the sidewalk-brick shelf, when working on the foundation and structure.)

Overtime

Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

- New Year's Day
- President's Day
- Good Friday
- Memorial Day
- Independence Day
- Labor Day
- Columbus Day
- Presidential Election Day
- Thanksgiving Day
- Christmas Day

Paid Holidays

- 1/2 day before Christmas Day
- 1/2 day before New Year's Day

Shift Rates

On shift work extending over a twenty-four hour period, all shifts are paid at straight time.

(Cement Concrete Workers District Council)

CEMENT MASON

Cement Mason

Effective Period: 7/1/2019 - 6/30/2020

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

Wage Rate per Hour: **\$44.97**

Supplemental Benefit Rate per Hour: **\$40.56**

Supplemental Note: Supplemental benefit time and one half rate: \$71.19; 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.

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 an off shift day, (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. Four Days a week at Ten (10)hour day.

(Local #780) (BCA)

CORE DRILLER

Core Driller

Effective Period: 7/1/2019 - 6/30/2020

Wage Rate per Hour: **\$40.44**

Supplemental Benefit Rate per Hour: **\$26.70**

Core Driller Helper

Effective Period: 7/1/2019 - 6/30/2020

Wage Rate per Hour: **\$32.12**

Supplemental Benefit Rate per Hour: **\$26.70**

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

Core Driller Helper(Third year in the industry)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$28.91
Supplemental Benefit Rate per Hour: \$26.70

Core Driller Helper (Second year in the industry)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$25.70
Supplemental Benefit Rate per Hour: \$26.70

Core Driller Helper (First year in the industry)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$22.48
Supplemental Benefit Rate per Hour: \$26.70

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

The shift day shall be the continuous eight and one-half (8½) hours from 6:00 A.M. to 2:30 P.M. and from 2:30 P.M. to 11:00 P.M., including one-half (½) hour of employees regular rate of pay for lunch. 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 seventy-five cents (\$0.75) 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)

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

DERRICKPERSON AND RIGGER

Derrick Person & Rigger

Effective Period: 7/1/2019 - 6/30/2020

Wage Rate per Hour: \$50.91

Supplemental Benefit Rate per Hour: \$54.11

Supplemental Note: The above supplemental rate applies for work performed in Manhattan, Bronx, Brooklyn and Queens. \$55.53 - For work performed in Staten Island.

Derrick Person & Rigger - Site Work

Assists the Stone Mason-Setter in the setting of stone and paving stone.

Effective Period: 7/1/2019 - 6/30/2020

Wage Rate per Hour: \$42.59

Supplemental Benefit Rate per Hour: \$42.37

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)

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

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$69.22
Supplemental Benefit Rate per Hour: \$51.73

Diver Tender (Marine)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$49.14
Supplemental Benefit Rate per Hour: \$51.73

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: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$54.63
Supplemental Benefit Rate per Hour: \$51.73

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

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.

(Carpenters District Council)

DRIVER: TRUCK (TEAMSTER)

Driver - Dump Truck

Effective Period: 7/1/2019 - 6/30/2020

Wage Rate per Hour: \$41.18

Supplemental Benefit Rate per Hour: \$49.65

Supplemental Note: Over 40 hours worked: at time and one half rate - \$22.08; at double time rate - \$29.44

Driver - Tractor Trailer

Effective Period: 7/1/2019 - 6/30/2020

Wage Rate per Hour: \$43.84

Supplemental Benefit Rate per Hour: \$49.03

Supplemental Note: Over 40 hours worked: at time and one half rate - \$19.80; at double time rate - \$26.40

Driver - Euclid & Turnapull Operator

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

Effective Period: 7/1/2019 - 6/30/2020

Wage Rate per Hour: \$44.40

Supplemental Benefit Rate per Hour: \$49.03

Supplemental Note: Over 40 hours worked: at time and one half rate - \$19.80; at double time rate - \$26.40

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 single shift work commencing between 6:00 P.M. and 5:00 A.M. shall work eight and one half (8 1/2) hours allowing for one half hour for lunch and be paid 117.3% of the straight time hourly wage rate.

Driver Redi-Mix (Sand & Gravel)

Effective Period: 7/1/2019 - 6/30/2020

Wage Rate per Hour: \$39.00

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

Supplemental Benefit Rate per Hour: \$45.52

Supplemental Note: Over 40 hours worked: time and one half rate \$16.78; double time rate \$22.37.

Overtime Description

For Paid Holidays: Employees working two (2) days in the calendar week in which the holiday falls are to be paid for these holidays, provided they shape each remaining workday during that calendar 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).

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: 7/1/2019 - 6/30/2020

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

Wage Rate per Hour: \$56.00
Supplemental Benefit Rate per Hour: \$56.54

Electrician "A" (Regular Day Overtime after 7 hrs / Day Shift Overtime after 8 hrs)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$84.00
Supplemental Benefit Rate per Hour: \$60.07

Electrician "A" (Swing Shift)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$65.71
Supplemental Benefit Rate per Hour: \$64.36

Electrician "A" (Swing Shift Overtime After 7.5 hours)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$98.57
Supplemental Benefit Rate per Hour: \$68.51

Electrician "A" (Graveyard Shift)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$73.60
Supplemental Benefit Rate per Hour: \$70.94

Electrician "A" (Graveyard Shift Overtime After 7 hours)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$110.40
Supplemental Benefit Rate per Hour: \$75.59

Overtime

Time and one half the regular rate after a 7 hour day.
Time and one half the regular rate for Saturday.
Time and one half the regular rate for Sunday.

Overtime Holidays

Time and one half the regular rate for work on a holiday.
New Year's Day
Martin Luther King Jr. Day
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Day after Thanksgiving

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

Christmas Day

Paid Holidays

None

Shift Rates

When so elected by the Employer, one or more shifts of at least five days duration may be scheduled as follows:
Day Shift: 8:00 am to 4:30 pm, Swing Shift 4:30 pm to 12:30 am, Graveyard Shift: 12:30 am to 8:00 am.

For multiple shifts of temporary light and/or power, the temporary light and/or power employee shall be paid for 8 hours at the straight time rate. For three or less workers performing 8 hours temporary light and/or power the supplemental benefit rate is \$24.92.

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: 7/1/2019 - 6/30/2020

Wage Rate per Hour: \$29.00

Supplemental Benefit Rate per Hour: \$23.43

First and Second Year "M" Wage Rate Per Hour: \$24.50

First and Second Year "M" Supplemental Rate: \$21.07

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: 7/1/2019 - 6/30/2020

Wage Rate per Hour: \$43.50

Supplemental Benefit Rate per Hour: \$25.26

First and Second Year "M" Wage Rate Per Hour: \$36.75

First and Second Year "M" Supplemental Rate: \$22.62

Overtime

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Time and one half the regular rate for Sunday.

Overtime Holidays

Time and one half the regular rate for work on the following holiday(s).

New Year's Day

Martin Luther King Jr. Day

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

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: 7/1/2019 - 3/9/2020

Wage Rate per Hour: **\$33.40**

Supplemental Benefit Rate per Hour: **\$17.68**

Supplemental Note: \$16.06 only after 8 hours worked in a day

Effective Period: 3/10/2020 - 6/30/2020

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

Overtime Description

Time and one half the regular rate for work on the following holidays: Columbus Day, Veterans Day, Day after Thanksgiving.

Double time the regular rate for work on the following holidays: New Year's day, Martin Luther King Jr. Day, President's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Christmas Day.

Overtime

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

Paid Holidays

New Year's Day

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

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 8:00 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: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$56.00
Supplemental Benefit Rate per Hour: \$58.44

Electrician - Electro Pole Foundation Installer

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$42.66
Supplemental Benefit Rate per Hour: \$43.52

Electrician - Electro Pole Maintainer

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$36.61
Supplemental Benefit Rate per Hour: \$39.16

Overtime Description

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

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: 7/1/2019 - 3/16/2020

Wage Rate per Hour: **\$66.95**

Supplemental Benefit Rate per Hour: **\$36.65**

Effective Period: 3/17/2020 - 6/30/2020

Wage Rate per Hour: **\$69.56**

Supplemental Benefit Rate per Hour: **\$37.47**

Overtime Description

For New Construction: work performed after 7 or 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

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).

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: 7/1/2019 - 3/16/2020

Wage Rate per Hour: **\$52.44**

Supplemental Benefit Rate per Hour: **\$36.55**

Effective Period: 3/17/2020 - 6/30/2020

Wage Rate per Hour: **\$54.56**

Supplemental Benefit Rate per Hour: **\$37.37**

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

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

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: 7/1/2019 - 6/30/2020

Wage Rate per Hour: \$70.71

Supplemental Benefit Rate per Hour: \$39.74

Supplemental Note: \$72.08 on overtime

Shift Wage Rate: \$113.14

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, Cherry-pickers. 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.

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

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$68.58
Supplemental Benefit Rate per Hour: \$39.74
Supplemental Note: \$72.08 on overtime
Shift Wage Rate: \$109.73

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: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$65.00
Supplemental Benefit Rate per Hour: \$39.74
Supplemental Note: \$72.08 on overtime
Shift Wage Rate: \$104.00

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: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$68.25
Supplemental Benefit Rate per Hour: \$39.74
Supplemental Note: \$72.08 on overtime
Shift Wage Rate: \$109.20

Engineer - Heavy Construction Maintenance Engineer II

On Base Mounted Tower Cranes

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$90.00
Supplemental Benefit Rate per Hour: \$39.74
Supplemental Note: \$72.08 on overtime
Shift Wage Rate: \$144.00

Engineer - Heavy Construction Maintenance Engineer III

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

On Generators, Light Towers

Effective Period: 7/1/2019 - 6/30/2020

Wage Rate per Hour: **\$44.64**

Supplemental Benefit Rate per Hour: **\$39.74**

Supplemental Note: \$72.08 on overtime

Shift Wage Rate: **\$71.42**

Engineer - Heavy Construction Maintenance Engineer IV

On Pumps and Mixers including mud sucking

Effective Period: 7/1/2019 - 6/30/2020

Wage Rate per Hour: **\$45.83**

Supplemental Benefit Rate per Hour: **\$39.74**

Supplemental Note: \$72.08 on overtime

Shift Wage Rate: **\$73.33**

Engineer - Steel Erection Maintenance Engineers

Derrick, Travelers, Tower, Crawler Tower and Climbing Cranes

Effective Period: 7/1/2019 - 6/30/2020

Wage Rate per Hour: **\$65.31**

Supplemental Benefit Rate per Hour: **\$39.74**

Supplemental Note: \$72.08 on overtime

Shift Wage Rate: **\$104.50**

Engineer - Steel Erection Oiler I

On a Truck Crane

Effective Period: 7/1/2019 - 6/30/2020

Wage Rate per Hour: **\$61.05**

Supplemental Benefit Rate per Hour: **\$39.74**

Supplemental Note: \$72.08 on overtime

Shift Wage Rate: **\$97.68**

Engineer - Steel Erection Oiler II

On a Crawler Crane

Effective Period: 7/1/2019 - 6/30/2020

Wage Rate per Hour: **\$46.18**

Supplemental Benefit Rate per Hour: **\$39.74**

Supplemental Note: \$72.08 on overtime

Shift Wage Rate: **\$73.89**

Overtime Description

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

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
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: 7/1/2019 - 6/30/2020

Wage Rate per Hour: \$62.45

Supplemental Benefit Rate per Hour: \$39.74

Supplemental Note: \$72.08 on overtime

Engineer - Building Work Maintenance Engineers II

On Pumps, Generators, Mixers and Heaters

Effective Period: 7/1/2019 - 6/30/2020

Wage Rate per Hour: \$48.26

Supplemental Benefit Rate per Hour: \$39.74

Supplemental Note: \$72.08 on overtime

Engineer - Building Work Oilers I

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

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: 7/1/2019 - 6/30/2020

Wage Rate per Hour: \$59.33

Supplemental Benefit Rate per Hour: \$39.74

Supplemental Note: \$72.08 on overtime

Engineer - Building Work Oilers II

Oilers on Crawler Cranes, Backhoes, Trenching Machines, Gunite Machines, Compressors (three or more in
Battery).

Effective Period: 7/1/2019 - 6/30/2020

Wage Rate per Hour: \$43.78

Supplemental Benefit Rate per Hour: \$39.74

Supplemental Note: \$72.08 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

Off Shift: double time the regular hourly rate.

(Local #15)

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

ENGINEER - CITY SURVEYOR AND CONSULTANT

Party Chief

Effective Period: 7/1/2019 - 6/30/2020

Wage Rate per Hour: **\$40.41**

Supplemental Benefit Rate per Hour: **\$22.75**

Supplemental Note: Overtime Benefit Rate - \$27.25 per hour (time & one half) \$31.75 per hour (double time).

Instrument Person

Effective Period: 7/1/2019 - 6/30/2020

Wage Rate per Hour: **\$33.13**

Supplemental Benefit Rate per Hour: **\$22.75**

Supplemental Note: Overtime Benefit Rate - \$27.25 per hour (time & one half) \$31.75 per hour (double time).

Rodperson

Effective Period: 7/1/2019 - 6/30/2020

Wage Rate per Hour: **\$28.54**

Supplemental Benefit Rate per Hour: **\$22.75**

Supplemental Note: Overtime Benefit Rate - \$27.25 per hour (time & one half) \$31.75 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)

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

ENGINEER - FIELD (BUILDING CONSTRUCTION)
(Construction of Building Projects, Concrete Superstructures, etc.)

Field Engineer - BC Party Chief

Effective Period: 7/1/2019 - 6/30/2020

Wage Rate per Hour: **\$65.44**

Supplemental Benefit Rate per Hour: **\$35.12**

Supplemental Note: Overtime Benefit Rate - \$49.33 per hour (time & one half) \$63.54 per hour (double time).

Field Engineer - BC Instrument Person

Effective Period: 7/1/2019 - 6/30/2020

Wage Rate per Hour: **\$50.83**

Supplemental Benefit Rate per Hour: **\$35.12**

Supplemental Note: Overtime Benefit Rate - \$49.33 per hour (time & one half) \$63.54 per hour (double time).

Field Engineer - BC Rodperson

Effective Period: 7/1/2019 - 6/30/2020

Wage Rate per Hour: **\$32.84**

Supplemental Benefit Rate per Hour: **\$35.12**

Supplemental Note: Overtime Benefit Rate - \$49.33 per hour (time & one half) \$63.54 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)

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

ENGINEER - FIELD (HEAVY CONSTRUCTION)
(Construction of Roads, Tunnels, Bridges, Sewers, Building Foundations,
Engineering Structures etc.)

Field Engineer - HC Party Chief

Effective Period: 7/1/2019 - 6/30/2020

Wage Rate per Hour: **\$74.18**

Supplemental Benefit Rate per Hour: **\$36.51**

Supplemental Note: Overtime benefit rate - \$51.29 per hour (time & one half), \$66.07 per hour (double time).

Field Engineer - HC Instrument Person

Effective Period: 7/1/2019 - 6/30/2020

Wage Rate per Hour: **\$54.47**

Supplemental Benefit Rate per Hour: **\$36.51**

Supplemental Note: Overtime benefit rate - \$51.29 per hour (time & one half), \$66.07 per hour (double time).

Field Engineer - HC Rodperson

Effective Period: 7/1/2019 - 6/30/2020

Wage Rate per Hour: **\$45.70**

Supplemental Benefit Rate per Hour: **\$36.51**

Supplemental Note: Overtime benefit rate - \$51.29 per hour (time & one half), \$66.07 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)

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

ENGINEER - FIELD (STEEL ERECTION)

Field Engineer - Steel Erection Party Chief

Effective Period: 7/1/2019 - 6/30/2020

Wage Rate per Hour: **\$69.15**

Supplemental Benefit Rate per Hour: **\$36.01**

Supplemental Note: Overtime benefit rate - \$50.54 per hour (time & one half), \$65.07 per hour (double time).

Field Engineer - Steel Erection Instrument Person

Effective Period: 7/1/2019 - 6/30/2020

Wage Rate per Hour: **\$53.88**

Supplemental Benefit Rate per Hour: **\$36.01**

Supplemental Note: Overtime benefit rate - \$50.54 per hour (time & one half), \$65.07 per hour (double time).

Field Engineer - Steel Erection Rodperson

Effective Period: 7/1/2019 - 6/30/2020

Wage Rate per Hour: **\$36.04**

Supplemental Benefit Rate per Hour: **\$36.01**

Supplemental Note: Overtime benefit rate - \$50.54 per hour (time & one half), \$65.07 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)

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

ENGINEER - OPERATING

Operating Engineer - Road & Heavy Construction I

Back Filling Machines, Cranes, Mucking Machines and Dual Drum Paver.

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: **\$81.17**
Supplemental Benefit Rate per Hour: **\$32.95**
Supplemental Note: **\$59.95** overtime hours
Shift Wage Rate: **\$129.87**

Operating Engineer - Road & Heavy Construction II

Backhoes, Power Shovels, Hydraulic Clam Shells, Steel Erection, Molés and machines of a similar nature.

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: **\$84.01**
Supplemental Benefit Rate per Hour: **\$32.95**
Supplemental Note: **\$59.95** overtime hours
Shift Wage Rate: **\$134.42**

Operating Engineer - Road & Heavy Construction III

Mine Hoists, Cranes, etc. (Used as Mine Hoists)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: **\$86.69**
Supplemental Benefit Rate per Hour: **\$32.95**
Supplemental Note: **\$59.95** overtime hours
Shift Wage Rate: **\$138.70**

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: 7/1/2019 - 6/30/2020
Wage Rate per Hour: **\$84.62**
Supplemental Benefit Rate per Hour: **\$32.95**
Supplemental Note: **\$59.95** overtime hours
Shift Wage Rate: **\$135.39**

Operating Engineer - Road & Heavy Construction V

Pile Drivers & Rigs (employing Dock Builder foreperson): Derrick Boats, Tunnel Shovels.

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

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: **\$82.96**
Supplemental Benefit Rate per Hour: **\$32.95**
Supplemental Note: **\$59.95** overtime hours
Shift Wage Rate: **\$132.74**

Operating Engineer - Road & Heavy Construction VI

Mixers (Concrete with loading attachment), Concrete Pavers, Cableways, Land Derricks, Power Houses (Low Air Pressure Units).

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: **\$78.85**
Supplemental Benefit Rate per Hour: **\$32.95**
Supplemental Note: **\$59.95** overtime hours
Shift Wage Rate: **\$126.16**

Operating Engineer - Road & Heavy Construction VII

Barrier Movers , Barrier Transport and Machines of a Similar Nature.

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: **\$63.81**
Supplemental Benefit Rate per Hour: **\$32.95**
Supplemental Note: **\$59.95** overtime hours
Shift Wage Rate: **\$102.10**

Operating Engineer - Road & Heavy Construction VIII

Utility Compressors

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: **\$49.67**
Supplemental Benefit Rate per Hour: **\$32.95**
Supplemental Note: **\$59.95** overtime hours
Shift Wage Rate: **\$62.44**

Operating Engineer - Road & Heavy Construction IX

Horizontal Boring Rig

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: **\$75.02**
Supplemental Benefit Rate per Hour: **\$32.95**
Supplemental Note: **\$59.95** overtime hours
Shift Wage Rate: **\$120.03**

Operating Engineer - Road & Heavy Construction X

Elevators (manually operated as personnel hoist).

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

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$69.01
Supplemental Benefit Rate per Hour: \$32.95
Supplemental Note: \$59.95 overtime hours
Shift Wage Rate: \$110.42

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: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$53.74
Supplemental Benefit Rate per Hour: \$32.95
Supplemental Note: \$59.95 overtime hours
Shift Wage Rate: \$85.98

Operating Engineer - Road & Heavy Construction XII

All Drills and Machines of a similar nature.

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$79.68
Supplemental Benefit Rate per Hour: \$32.95
Supplemental Note: \$59.95 overtime hours
Shift Wage Rate: \$127.49

Operating Engineer - Road & Heavy Construction XIII

Concrete Pumps, Concrete Plant, Stone Crushers, Double Drum Hoist, Power Houses (other than above).

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$77.19
Supplemental Benefit Rate per Hour: \$32.95
Supplemental Note: \$59.95 overtime hours
Shift Wage Rate: \$123.50

Operating Engineer - Road & Heavy Construction XIV

Concrete Mixer

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$73.82
Supplemental Benefit Rate per Hour: \$32.95
Supplemental Note: \$59.95 overtime hours
Shift Wage Rate: \$118.11

Operating Engineer - Road & Heavy Construction XV

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

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: 7/1/2019 - 6/30/2020

Wage Rate per Hour: **\$49.99**

Supplemental Benefit Rate per Hour: **\$32.95**

Supplemental Note: **\$59.95** overtime hours

Shift Wage Rate: **\$79.98**

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: 7/1/2019 - 6/30/2020

Wage Rate per Hour: **\$70.53**

Supplemental Benefit Rate per Hour: **\$32.95**

Supplemental Note: **\$59.95** overtime hours

Shift Wage Rate: **\$112.85**

Operating Engineer - Road & Heavy Construction XVII

On-Site concrete plant engineer, On-site Asphalt Plant Engineer, and Vibratory console.

Effective Period: 7/1/2019 - 6/30/2020

Wage Rate per Hour: **\$71.06**

Supplemental Benefit Rate per Hour: **\$32.95**

Supplemental Note: **\$59.95** overtime hours

Shift Wage Rate: **\$113.70**

Operating Engineer - Road & Heavy Construction XVIII

Tower Crane

Effective Period: 7/1/2019 - 6/30/2020

Wage Rate per Hour: **\$101.71**

Supplemental Benefit Rate per Hour: **\$32.95**

Supplemental Note: **\$59.95** overtime hours

Shift Wage Rate: **\$162.74**

Operating Engineer - Paving I

Asphalt Spreaders, Autogrades (C.M.I.), Roto/Mil

Effective Period: 7/1/2019 - 6/30/2020

Wage Rate per Hour: **\$78.85**

Supplemental Benefit Rate per Hour: **\$32.95**

Supplemental Note: **\$59.95** overtime hours

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

Shift Wage Rate: \$126.16

Operating Engineer - Paving II

Asphalt Roller

Effective Period: 7/1/2019 - 6/30/2020

Wage Rate per Hour: \$76.83

Supplemental Benefit Rate per Hour: \$32.95

Supplemental Note: \$59.95 overtime hours

Shift Wage Rate: \$122.93

Operating Engineer - Paving III

Asphalt Plants

Effective Period: 7/1/2019 - 6/30/2020

Wage Rate per Hour: \$65.08

Supplemental Benefit Rate per Hour: \$32.95

Supplemental Note: \$59.95 overtime hours

Shift Wage Rate: \$104.13

Operating Engineer - Concrete I

Cranes

Effective Period: 7/1/2019 - 6/30/2020

Wage Rate per Hour: \$84.25

Supplemental Benefit Rate per Hour: \$32.95

Supplemental Note: \$59.95 overtime hours

Operating Engineer - Concrete II

Compressors

Effective Period: 7/1/2019 - 6/30/2020

Wage Rate per Hour: \$50.37

Supplemental Benefit Rate per Hour: \$32.95

Supplemental Note: \$59.95 overtime hours

Operating Engineer - Concrete III

Micro-traps (Negative Air Machines), Vac-All Remediation System.

Effective Period: 7/1/2019 - 6/30/2020

Wage Rate per Hour: \$67.45

Supplemental Benefit Rate per Hour: \$32.95

Supplemental Note: \$59.95 overtime hours

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

Operating Engineer - Steel Erection I

Three Drum Derricks

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: **\$87.14**
Supplemental Benefit Rate per Hour: **\$32.95**
Supplemental Note: **\$59.95** overtime hours
Shift Wage Rate: **\$139.42**

Operating Engineer - Steel Erection II

Cranes, 2 Drum Derricks, Hydraulic Cranes, Fork Lifts and Boom Trucks.

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: **\$83.75**
Supplemental Benefit Rate per Hour: **\$32.95**
Supplemental Note: **\$59.95** overtime hours
Shift Wage Rate: **\$134.00**

Operating Engineer - Steel Erection III

Compressors, Welding Machines.

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: **\$49.95**
Supplemental Benefit Rate per Hour: **\$32.95**
Supplemental Note: **\$59.95** overtime hours
Shift Wage Rate: **\$79.92**

Operating Engineer - Steel Erection IV

Compressors - Not Combined with Welding Machine.

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: **\$47.58**
Supplemental Benefit Rate per Hour: **\$32.95**
Supplemental Note: **\$59.95** overtime hours
Shift Wage Rate: **\$76.13**

Operating Engineer - Building Work I

Forklifts, Plaster (Platform machine), Plaster Bucket, Concrete Pump and all other equipment used for holsting material.

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: **\$69.51**
Supplemental Benefit Rate per Hour: **\$32.95**
Supplemental Note: **\$59.95** overtime hours

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

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: 7/1/2019 - 6/30/2020

Wage Rate per Hour: **\$52.21**

Supplemental Benefit Rate per Hour: **\$32.95**

Supplemental Note: **\$59.95** overtime hours

Operating Engineer - Building Work III

Double Drum

Effective Period: 7/1/2019 - 6/30/2020

Wage Rate per Hour: **\$79.02**

Supplemental Benefit Rate per Hour: **\$32.95**

Supplemental Note: **\$59.95** overtime hours

Operating Engineer - Building Work IV

Stone Derrick, Cranes, Hydraulic Cranes Boom Trucks.

Effective Period: 7/1/2019 - 6/30/2020

Wage Rate per Hour: **\$83.68**

Supplemental Benefit Rate per Hour: **\$32.95**

Supplemental Note: **\$59.95** overtime hours

Operating Engineer - Building Work V

Dismantling and Erection of Cranes, Relief Engineer.

Effective Period: 7/1/2019 - 6/30/2020

Wage Rate per Hour: **\$77.15**

Supplemental Benefit Rate per Hour: **\$32.95**

Supplemental Note: **\$59.95** overtime hours

Operating Engineer - Building Work VI

4 Pole Hoist, Single Drum Hoists.

Effective Period: 7/1/2019 - 6/30/2020

Wage Rate per Hour: **\$76.35**

Supplemental Benefit Rate per Hour: **\$32.95**

Supplemental Note: **\$59.95** overtime hours

Operating Engineer - Building Work VII

Rack & Pinion and House Cars

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

Effective Period: 7/1/2019 - 6/30/2020

Wage Rate per Hour: \$60.84

Supplemental Benefit Rate per Hour: \$32.95

Supplemental Note: \$59.95 overtime hours

For New House Car projects Wage Rate per Hour \$48.70

Overtime Description

On jobs of more than one shift, if an Employee fails to report for work through any cause over which the Employer has no control, the Employee on duty will continue to work at the rate of single time.

For House Cars and Rack & Pinion only: Overtime paid at time and one-half for all hours in excess of eight hours in a day, Saturday, Sunday and Holidays worked.

Overtime

Double time the regular rate after an 8 hour day.

Double time the regular time rate for Saturday.

Double time the regular rate for Sunday.

Double time the regular rate for work on the following holiday(s).

Paid Holidays

New Year's Day

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

Shift Rates

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)

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

Floor Coverer

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$50.50
Supplemental Benefit Rate per Hour: \$45.98

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
Presidential Election Day
Thanksgiving Day
Day after Thanksgiving
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

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. There must be a first shift to work the second shift.

(Carpenters District Council)

GLAZIER

(New Construction, Remodeling, and Alteration)

Glazier

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$46.05
Supplemental Benefit Rate per Hour: \$43.39
Supplemental Note: Supplemental Benefit Overtime Rate: \$65.10

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

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
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, whenever performed, where the total cumulative contract value is under \$141,750)

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: 7/1/2019 - 6/30/2020

Wage Rate per Hour: \$25.64

Supplemental Benefit Rate per Hour: \$22.29

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).

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

Time and one half the regular hourly rate after 40 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: 7/1/2019 - 6/30/2020

Wage Rate per Hour: \$36.50

Supplemental Benefit Rate per Hour: \$16.45

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 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

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

(Local #78 and Local #12A)

HEAT AND FROST INSULATOR

Heat & Frost Insulator

Effective Period: 7/1/2019 - 6/30/2020

Wage Rate per Hour: \$61.46

Supplemental Benefit Rate per Hour: \$40.46

Overtime Description

Double time shall be paid for supplemental benefits during overtime work.
8th hour paid at time and one half.

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
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.

(Local #12) (BCA)

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

**HOUSE WRECKER
(TOTAL DEMOLITION)**

House Wrecker - Tier A

On all work sites the first, second, eleventh and every third House Wrecker thereafter will be Tier A House Wreckers (i.e. 1st, 2nd, 11th, 14th etc). Other House Wreckers may be Tier B House Wreckers.

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$37.18
Supplemental Benefit Rate per Hour: \$29.77

House Wrecker - Tier B

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$26.41
Supplemental Benefit Rate per Hour: \$22.18

Overtime

Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).
New Year's Day
President's Day
Memorial Day
Independence Day
Labor Day
Thanksgiving Day
Christmas Day

Paid Holidays

None

(Mason Tenders District Council)

IRON WORKER - ORNAMENTAL

Iron Worker - Ornamental

Effective Period: 7/1/2019 - 6/30/2020

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

Wage Rate per Hour: **\$45.15**

Supplemental Benefit Rate per Hour: **\$55.62**

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

For off shift work - 8 hours pay for 7 hours of work. When two or three shifts are employed on a job, Monday through Friday, the workday for each shift shall be seven hours and paid for ten and one-half hours at the single time rate. When two or three shifts are worked on Saturday, Sunday or holidays, each shift shall be seven hours and paid fifteen and three-quarters hours.

(Local #580)

IRON WORKER - STRUCTURAL

Iron Worker - Structural

Effective Period: 7/1/2019 - 6/30/2020

Wage Rate per Hour: **\$51.05**

Supplemental Benefit Rate per Hour: **\$76.89**

Supplemental Note: Supplemental benefits are to be paid at the applicable overtime rate when overtime is in effect.

Overtime Description

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

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.

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.

(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: 7/1/2019 - 6/30/2020

Wage Rate per Hour: \$42.65

Supplemental Benefit Rate per Hour: \$44.48

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

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, as well as tree pruning, tree removing, spraying and maintenance in connection with the planting of street trees and the planting of trees in city parks but not when such activities are performed as part of, or in connection with, other construction or reconstruction projects.)

Landscaper (Year 6 and above)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$31.75
Supplemental Benefit Rate per Hour: \$16.05

Landscaper (Year 3 - 5)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$30.72
Supplemental Benefit Rate per Hour: \$16.05

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

Landscaper (up to 3 years)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$28.14
Supplemental Benefit Rate per Hour: \$16.05

Groundperson

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$28.14
Supplemental Benefit Rate per Hour: \$16.05

Tree Remover / Pruner

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$36.92
Supplemental Benefit Rate per Hour: \$16.05

Landscaper Sprayer (Pesticide Applicator)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$26.59
Supplemental Benefit Rate per Hour: \$16.05

Watering - Plant Maintainer

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$21.40
Supplemental Benefit Rate per Hour: \$16.05

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

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

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: 7/1/2019 - 6/30/2020
Wage Rate per Hour: **\$54.44**
Supplemental Benefit Rate per Hour: **\$40.77**

Marble Finisher

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: **\$42.86**
Supplemental Benefit Rate per Hour: **\$38.22**

Marble Polisher

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: **\$39.81**
Supplemental Benefit Rate per Hour: **\$30.35**

Marble Maintenance Finisher

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: **\$24.31**
Supplemental Benefit Rate per Hour: **\$13.34**

Overtime Description

Supplemental Benefit contributions are to be made at the applicable overtime rates. Time and one half the regular rate after a 7 hour day or time and one half the regular rate after an 8 hour day - chosen by Employer at the start of the project and then would last for the full duration of the project.

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

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

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: 7/1/2019 - 6/30/2020

Wage Rate per Hour: \$38.40

Supplemental Benefit Rate per Hour: \$31.04

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.

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

(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: 7/1/2019 - 6/30/2020

Wage Rate per Hour: **\$36.44**

Supplemental Benefit Rate per Hour: **\$24.50**

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: 7/1/2019 - 6/30/2020

Wage Rate per Hour: **\$25.63**

Supplemental Benefit Rate per Hour: **\$18.82**

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)

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

METALLIC LATHER

Metallic Lather

Effective Period: 7/1/2019 - 6/30/2020

Wage Rate per Hour: \$46.23

Supplemental Benefit Rate per Hour: \$46.67

Supplemental Note: Overtime Supplemental Benefit rate - \$57.92

Overtime Description

Overtime would be time and one half the regular rate after a seven (7) or eight (8) hours workday, which would be set at the start of the job.

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

Washington's Birthday

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

There will be no shift differential paid on the first shift if more than one shift is employed. The shift differential will remain \$12/hour on the second and third shift for the first eight (8) hours if worked. There will be no pyramiding on overtime worked on second and third shifts. The time and one half (1.5x) rate will be against the base wage rate, not the shift differential

(Local #46)

MILLWRIGHT

Millwright

Effective Period: 7/1/2019 - 6/30/2020

PUBLISH DATE: 7/1/2019

EFFECTIVE PERIOD: JULY 1, 2019 THROUGH JUNE 30, 2020

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

Wage Rate per Hour: \$54.20
Supplemental Benefit Rate per Hour: \$53.81

Overtime

Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.
Saturday may be used as a make-up day at straight time when a day is lost during that week to inclement weather.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

- New Year's Day
- President's Day
- Good Friday
- Memorial Day
- Independence Day
- Labor Day
- Columbus Day
- Presidential Election Day
- 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

The first shift shall receive the straight time rate of pay. The second shift receives the straight time rate of pay plus fifteen (15%) per cent. Members of the second shift shall be allowed one half hour to eat, with this time being included in the hours of the workday established. There must be a first shift to work a second shift. All additional hours worked shall be paid at the time and one-half rate of pay plus fifteen (15%) per cent for weekday hours.

(Local #740)

MOSAIC MECHANIC

Mosaic Mechanic - Mosaic & Terrazzo Mechanic

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$49.91
Supplemental Benefit Rate per Hour: \$43.24

Mosaic Mechanic - Mosaic & Terrazzo Finisher

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

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$48.31
Supplemental Benefit Rate per Hour: \$43.24

Mosaic Mechanic - Machine Operator Grinder

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$48.31
Supplemental Benefit Rate per Hour: \$43.24

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: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$43.00
Supplemental Benefit Rate per Hour: \$32.49
Supplemental Note: \$ 37.75 on overtime

Spray & Scaffold / Decorative / Sandblast

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$46.00

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

Supplemental Benefit Rate per Hour: **\$32.49**
Supplemental Note: \$ 37.75 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: 7/1/2019 - 6/30/2020
Wage Rate per Hour: **\$35.00**
Supplemental Benefit Rate per Hour: **\$12.37**
Supplemental Note: Overtime Supplemental Benefit rate - \$8.02; New Hire Rate (0-3 months) - \$0.00

Lineperson (Thermoplastic)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: **\$39.00**
Supplemental Benefit Rate per Hour: **\$12.37**
Supplemental Note: Overtime Supplemental Benefit rate - \$8.02; New Hire Rate (0-3 months) - \$0.00

Overtime Description

For Paid Holidays: Employees will only receive Holiday Pay for holidays not worked if said employee worked both the weekday before and the weekday after the holiday.

Overtime

Time and one half the regular rate after an 8 hour day.

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

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

Day after Thanksgiving

Christmas Day

Shift Rates

Four (4), ten (10) hour days may be worked at straight time during a week, Monday thru Thursday.
Friday may be used as a make-up 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. Vacation must be taken during winter months.

(Local #1010)

PAINTER - METAL POLISHER

METAL POLISHER

Effective Period: 7/1/2019 - 6/30/2020

Wage Rate per Hour: **\$30.58**

Supplemental Benefit Rate per Hour: **\$7.16**

METAL POLISHER - NEW CONSTRUCTION

Effective Period: 7/1/2019 - 6/30/2020

Wage Rate per Hour: **\$31.53**

Supplemental Benefit Rate per Hour: **\$7.16**

METAL POLISHER - SCAFFOLD OVER 34 FEET

Effective Period: 7/1/2019 - 6/30/2020

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

Wage Rate per Hour: **\$34.08**

Supplemental Benefit Rate per Hour: **\$7.16**

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

Martin Luther King Jr. Day

President's Day

Memorial Day

Independence Day

Labor Day

Columbus Day

Veteran's Day

Thanksgiving Day

Day after Thanksgiving

Christmas Day

Shift Rates

Four Days a week at Ten (10) hours straight a day.

Local 8A-28A

PAINTER - SIGN

Sign Painter

Effective Period: 7/1/2019 - 6/30/2020

Wage Rate per Hour: **\$41.98**

Supplemental Benefit Rate per Hour: **\$20.10**

Assistant Sign Painter

Effective Period: 7/1/2019 - 6/30/2020

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

Wage Rate per Hour: \$35.67

Supplemental Benefit Rate per Hour: \$18.47

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.

Double 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

Vacation

At least 1 year of employment.....1 week

2 years or more of employment.....2 weeks

8 years or more of employment.....3 weeks

(Local #8A-28A)

PAINTER - STRUCTURAL STEEL

Painters on Structural Steel

Effective Period: 7/1/2019 - 6/30/2020

Wage Rate per Hour: \$49.50

Supplemental Benefit Rate per Hour: \$41.83

Painter - Power Tool

Effective Period: 7/1/2019 - 6/30/2020

Wage Rate per Hour: \$55.50

Supplemental Benefit Rate per Hour: \$41.83

Overtime Wage Rate: \$6.00 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.

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

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

Shift Rates

Regular hourly rates plus a ten per cent (10%) differential

(Local #806)

PAPERHANGER

Paperhanger

Effective Period: 7/1/2019 - 6/30/2020

Wage Rate per Hour: **\$45.40**

Supplemental Benefit Rate per Hour: **\$34.74**

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

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

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: 7/1/2019 - 6/30/2020

Wage Rate per Hour: **\$46.85**

Supplemental Benefit Rate per Hour: **\$44.86**

Supplemental Note: For time and one half overtime - \$48.74 For double overtime - \$52.61

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: 7/1/2019 - 6/30/2020

Wage Rate per Hour: **\$42.98**

Supplemental Benefit Rate per Hour: **\$44.86**

Supplemental Note: For time and one half overtime - \$48.74 For double overtime - \$52.61

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: 7/1/2019 - 6/30/2020

Wage Rate per Hour: **\$47.45**

Supplemental Benefit Rate per Hour: **\$44.86**

Supplemental Note: For time and one half overtime - \$48.74 For double overtime - \$52.61

Production Paver & Roadbuilder - Raker

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

Effective Period: 7/1/2019 - 6/30/2020

Wage Rate per Hour: \$46.85

Supplemental Benefit Rate per Hour: \$44.86

Supplemental Note: For time and one half overtime - \$48.74 For double overtime - \$52.61

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: 7/1/2019 - 6/30/2020

Wage Rate per Hour: \$42.98

Supplemental Benefit Rate per Hour: \$44.86

Supplemental Note: For time and one half overtime - \$48.74 For double overtime - \$52.61

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 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.

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

(Local #1010)

PLASTERER

Plasterer

Effective Period: 7/1/2019 - 6/30/2020

Wage Rate per Hour: **\$45.93**

Supplemental Benefit Rate per Hour: **\$26.52**

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 per cent (12%) per hour differential. Workers on shift work shall be allowed a paid one-half hour meal break.

(Local #262)

PLASTERER - TENDER

Plasterer - Tender

PUBLISH DATE: 7/1/2019

EFFECTIVE PERIOD: JULY 1, 2019 THROUGH JUNE 30, 2020

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

Effective Period: 7/1/2019 - 6/30/2020

Wage Rate per Hour: **\$38.40**

Supplemental Benefit Rate per Hour: **\$31.04**

Overtime

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

Saturday may be used as a make-up day at straight time when a day is lost during that week to inclement weather.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day

Washington's Birthday

Memorial Day

Independence Day

Labor Day

Presidential Election Day

Thanksgiving Day

Christmas Day

Paid Holidays

None

Shift Rates

When work commences outside regular work hours, workers receive an hour additional (differential) wage and supplement payment. Eight hours pay for seven hours work or nine hours pay for eight hours work.

(Mason Tenders District Council)

PLUMBER

Plumber

Effective Period: 7/1/2019 - 6/30/2020

Wage Rate per Hour: **\$69.00**

Supplemental Benefit Rate per Hour: **\$37.20**

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.

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

Effective Period: 7/1/2019 - 6/30/2020

Wage Rate per Hour: \$55.28

Supplemental Benefit Rate per Hour: \$29.68

Overtime Description

Double time the regular rate after a 7 hour day - unless for new construction site work where the plumbing contract price is \$1.5 million or less, the hours of labor can be 8 hours per day at the employers option. On Alteration jobs when other mechanical trades at the site are working an eighth hour at straight time, then the plumber shall also work an eighth hour at straight time.

Overtime

Double time the regular time rate for Saturday.

Double time the regular rate for Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day

President's Day

Memorial Day

Independence Day

Labor Day

Columbus Day

Veteran's Day

Thanksgiving Day

Day after Thanksgiving

Christmas Day

Shift Rates

Shift work, when directly specified in public agency or authority documents where plumbing contract is \$8 million or less, will be permitted. 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: 7/1/2019 - 6/30/2020

Wage Rate per Hour: \$43.05

Supplemental Benefit Rate per Hour: \$17.71

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

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
Day after Thanksgiving
Christmas Day

Paid Holidays

None

(Plumbers Local # 1)

**PLUMBER (RESIDENTIAL RATES FOR 1, 2 AND 3 FAMILY HOME
CONSTRUCTION)**

Effective Period: 7/1/2019 - 6/30/2020

Wage Rate per Hour: \$47.89

Supplemental Benefit Rate per Hour: \$26.74

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

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

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: 7/1/2019 - 6/30/2020

Wage Rate per Hour: \$67.45

Supplemental Benefit Rate per Hour: \$25.26

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

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

(Plumbers Local #1)

**POINTER, WATERPROOFER, CAULKER, SANDBLASTER,
STEAMBLASTER
(Exterior Building Renovation)**

Journey person

Effective Period: 7/1/2019 - 6/30/2020

Wage Rate per Hour: \$53.42

Supplemental Benefit Rate per Hour: \$26.52

Overtime

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Time and one half the regular rate for Sunday.

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 4:30 P.M.) is to be paid at time and one half the regular rate.

(Bricklayer District Council)

ROOFER

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

Roofer

Effective Period: 7/1/2019 - 6/30/2020

Wage Rate per Hour: \$43.50

Supplemental Benefit Rate per Hour: \$33.81

Overtime

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Time and one half the regular rate for Sunday.

Overtime Holidays

Time and one half the regular rate for work on the following holiday(s).

New Year's Day

Memorial Day

Independence Day

Labor Day

Thanksgiving Day

Christmas Day

Paid Holidays

None

Shift Rates

Second shift - Regular hourly rate plus a 10% differential. Third shift - Regular hourly rate plus a 15% differential.

(Local #8)

SHEET METAL WORKER

Sheet Metal Worker

Effective Period: 7/1/2019 - 6/30/2020

Wage Rate per Hour: \$50.15

Supplemental Benefit Rate per Hour: \$50.55

Supplemental Note: Supplemental benefit contributions are to be made at the applicable overtime rates.

Sheet Metal Worker - Fan Maintenance

(The temporary operation of fans or blowers in new or existing buildings for heating and/or ventilation, and/or air conditioning prior to the completion of the project.)

Effective Period: 7/1/2019 - 6/30/2020

Wage Rate per Hour: \$40.12

Supplemental Benefit Rate per Hour: \$50.55

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

Sheet Metal Worker - Duct Cleaner

Effective Period: 7/1/2019 - 6/30/2020

Wage Rate per Hour: \$16.08

Supplemental Benefit Rate per Hour: \$11.63

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

Martin Luther King Jr. Day

President's Day

Memorial Day

Independence Day

Labor Day

Columbus Day

Veteran's Day

Thanksgiving Day

Day after Thanksgiving

Christmas Day

Paid Holidays

None

Shift Rates

Work that can only be performed outside regular working hours (eight hours of work between 7:30 A.M. and 3:30 P.M.) - First shift (work between 3:30 P.M. and 11:30 P.M.) - 10% differential above the established hourly rate.

Second shift (work between 11:30 P.M. and 7:30 A.M.) - 15% differential above the established hourly rate.

For Fan Maintenance: On all full shifts of fan maintenance work the straight time hourly rate of pay will be paid for each shift, including nights, Saturdays, Sundays, and holidays.

(Local #28)

SHEET METAL WORKER - SPECIALTY
(Decking & Siding)

Sheet Metal Specialty Worker

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

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: 7/1/2019 - 6/30/2020

Wage Rate per Hour: \$46.30

Supplemental Benefit Rate per Hour: \$25.95

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: 7/1/2019 - 6/30/2020

Wage Rate per Hour: \$28.50

Supplemental Benefit Rate per Hour: \$3.95

Shipyard Mechanic - Second Class

Effective Period: 7/1/2019 - 6/30/2020

Wage Rate per Hour: \$19.07

Supplemental Benefit Rate per Hour: \$3.59

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

Shipyard Laborer - First Class

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$23.40
Supplemental Benefit Rate per Hour: \$3.75

Shipyard Laborer - Second Class

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$17.38
Supplemental Benefit Rate per Hour: \$3.52

Shipyard Dockhand - First Class

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$21.57
Supplemental Benefit Rate per Hour: \$3.68

Shipyard Dockhand - Second Class

Effective Period: 7/1/2019 - 6/30/2020
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.
Double time the regular rate for Sunday.
Time and one half the regular hourly rate after 40 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

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

SIGN ERECTOR
(Sheet Metal, Plastic, Electric, and Neon)

Sign Erector

Effective Period: 7/1/2019 - 6/30/2020

Wage Rate per Hour: **\$49.35**

Supplemental Benefit Rate per Hour: **\$54.63**

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

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 I

Effective Period: 7/1/2019 - 6/30/2020

Wage Rate per Hour: **\$57.50**

Supplemental Benefit Rate per Hour: **\$57.29**

Supplemental Note: Overtime supplemental benefit rate: **\$113.84**

Steamfitter -Temporary Services

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

The steamfitters shall not do any other work and shall not be permitted to work more than one shift in a twenty-four hour day. When steamfitters are present during the regular working day, no temporary services steamfitter will be required

Effective Period: 7/1/2019 - 6/30/2020

Wage Rate per Hour: \$43.70

Supplemental Benefit Rate per Hour: \$46.54

Overtime

Double time the regular rate after a 7 hour day.

Double time the regular time rate for Saturday.

Double time the regular rate for Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day

President's Day

Memorial Day

Independence Day

Labor Day

Columbus Day

Veteran's Day

Thanksgiving Day

Day after Thanksgiving

Christmas Day

Paid Holidays

None

Shift Rates

Work performed between 3:30 P.M. and 7:00 A.M. and on Saturdays, Sundays and Holidays shall be at double time the regular hourly rate and paid at the overtime supplemental benefit rate above.

Steamfitter II

For heating, ventilation, air conditioning and mechanical public work contracts with a dollar value not to exceed \$30,000,000 and for fire protection/sprinkler public work contracts not to exceed \$3,000,000.

Effective Period: 7/1/2019 - 6/30/2020

Wage Rate per Hour: \$57.50

Supplemental Benefit Rate per Hour: \$57.29

Supplemental Note: Overtime supplemental benefit rate: \$113.84

Steamfitter -Temporary Services

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

The steamfitters shall not do any other work and shall not be permitted to work more than one shift in a twenty-four hour day. When steamfitters are present during the regular working day, no temporary services steamfitter will be required.

Effective Period: 7/1/2019 - 6/30/2020

Wage Rate per Hour: \$43.70

Supplemental Benefit Rate per Hour: \$46.54

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

May be performed outside of the regular workday except Saturday, Sunday and Holidays. A shift shall consist of eight working hours. All work performed in excess of eight hours shall be paid at double time. No shift shall commence after 7:00 P.M. on Friday or 7:00 P.M. the day before holidays. All work performed after 12:01 A.M. Saturday or 12:01 A.M. the day before a Holiday will be paid at double time. 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.

On Transit Authority projects, where work is performed in the vicinity of tracks all shift work on weekends and holidays may be performed at the regular shift rates.

Local #638

STEAMFITTER - REFRIGERATION AND AIR CONDITIONER (Maintenance and Installation Service Person)

Refrigeration and Air Conditioner Mechanic

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

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$42.35
Supplemental Benefit Rate per Hour: \$17.46

Refrigeration and Air Conditioner Service Person V

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$34.80
Supplemental Benefit Rate per Hour: \$15.59

Refrigeration and Air Conditioner Service Person IV

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$28.83
Supplemental Benefit Rate per Hour: \$14.05

Refrigeration and Air Conditioner Service Person III

Filter changing and maintenance thereof, oil and greasing, tower and coil cleaning, scraping and painting, general housekeeping, taking of water samples.

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$24.74
Supplemental Benefit Rate per Hour: \$12.91

Refrigeration and Air Conditioner Service Person II

Filter changing and maintenance thereof, oil and greasing, tower and coil cleaning, scraping and painting, general housekeeping, taking of water samples.

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$20.51
Supplemental Benefit Rate per Hour: \$11.83

Refrigeration and Air Conditioner Service Person I

Filter changing and maintenance thereof, oil and greasing, tower and coil cleaning, scraping and painting, general housekeeping, taking of water samples.

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$15.01
Supplemental Benefit Rate per Hour: \$10.60

Overtime

Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.

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
Independence Day
Labor Day
Veteran's Day
Thanksgiving Day
Christmas Day

Double time and one half the regular rate for work on the following holiday(s).

Martin Luther King Jr. Day
President's Day
Memorial Day
Columbus Day

Paid Holidays

New Year's Day
Martin Luther King Jr. Day
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Christmas Day

(Local #638B)

STONE MASON - SETTER

Stone Mason - Setter

(Assisted by Derrickperson and Rigger)

Effective Period: 7/1/2019 - 6/30/2020

Wage Rate per Hour: \$54.17

Supplemental Benefit Rate per Hour: \$42.65

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

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

Washington's Birthday
Good Friday
Memorial Day
Independence Day
Labor Day
Thanksgiving Day
Christmas Day

Paid Holidays

1/2 day on Christmas Eve if work is performed in the A.M.

Shift Rates

For all work outside the regular workday (8:00 A.M. to 3:30 P.M. Monday through Friday), the pay shall be straight time plus a ten percent (10%) differential.

(Bricklayers District Council)

TAPER

Drywall Taper

Effective Period: 7/1/2019 - 6/30/2020

Wage Rate per Hour: \$47.82

Supplemental Benefit Rate per Hour: \$26.81

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.

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

(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: 7/1/2019 - 6/30/2020

Wage Rate per Hour: \$44.75

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

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

Employees have the option of observing either Martin Luther King's Birthday or the day after Thanksgiving instead of Lincoln's Birthday

Shift Rates

For any workday that starts before 8A.M. or ends after 6P.M. there is a 10% differential for the applicable worker's hourly rate.

Vacation

After 6 months.....one week.
After 12 months but less than 7 years.....two weeks.
After 7 or more but less than 15 years.....three weeks.
After 15 years or more but less than 25 years.....four weeks.

(C.W.A.)

TILE FINISHER

Tile Finisher

Effective Period: 7/1/2019 - 6/30/2020

Wage Rate per Hour: **\$42.72**

Supplemental Benefit Rate per Hour: **\$33.57**

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

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

Off shift work day (work performed outside the regular 8:00 A.M. to 3:30 P.M. workday): shift differential of one and one quarter (1¼) times the regular straight time rate of pay for the seven hours of actual off-shift work.

(Local #7)

TILE LAYER - SETTER

Tile Layer - Setter

Effective Period: 7/1/2019 - 6/30/2020

Wage Rate per Hour: \$54.84

Supplemental Benefit Rate per Hour: \$38.32

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 (1¼) times the regular straight time rate of pay for the seven hours of actual off-shift work.

(Local #7)

TIMBERPERSON

Timberperson

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

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$50.05
Supplemental Benefit Rate per Hour: \$51.03

Overtime

Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.
Saturday may be used as a make-up day at straight time when a day is lost during that week to inclement weather.
Time and one half the regular hourly rate after 40 hours in any work week.

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.

(Local #1536)

TUNNEL WORKER

Blasters, Mucking Machine Operators (Compressed Air Rates)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$65.42
Supplemental Benefit Rate per Hour: \$56.42

Tunnel Workers (Compressed Air Rates)

Includes shield driven liner plate portions or solidification portions work (8 hour shift) during excavation phase.

Effective Period: 7/1/2019 - 6/30/2020

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

Wage Rate per Hour: \$63.21
Supplemental Benefit Rate per Hour: \$54.60

Top Nipper (Compressed Air Rates)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$62.02
Supplemental Benefit Rate per Hour: \$53.57

Outside Lock Tender, Outside Gauge Tender, Muck Lock Tender (Compressed Air Rates)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$60.84
Supplemental Benefit Rate per Hour: \$52.63

Bottom Bell & Top Bell Signal Person: Shaft Person (Compressed Air Rates)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$60.84
Supplemental Benefit Rate per Hour: \$52.63

Changehouse Attendant: Powder Watchperson (Compressed Air Rates)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$53.40
Supplemental Benefit Rate per Hour: \$49.60

Blasters (Free Air Rates)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$62.41
Supplemental Benefit Rate per Hour: \$54.17

Tunnel Workers (Free Air Rates)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$59.72
Supplemental Benefit Rate per Hour: \$51.89

All Others (Free Air Rates)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$55.18
Supplemental Benefit Rate per Hour: \$48.03

Microtunneling (Free Air Rates)

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

Effective Period: 7/1/2019 - 6/30/2020

Wage Rate per Hour: \$47.78

Supplemental Benefit Rate per Hour: \$41.51

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: 7/1/2019 - 6/30/2020

Wage Rate per Hour: \$31.56

Supplemental Benefit Rate per Hour: \$1.93

Utility Locator (Year 5 - 6)

Effective Period: 7/1/2019 - 6/30/2020

Wage Rate per Hour: \$22.85

Supplemental Benefit Rate per Hour: \$1.93

Utility Locator (Year 4)

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

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$21.54
Supplemental Benefit Rate per Hour: \$1.93

Utility Locator (Year 3)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$20.30
Supplemental Benefit Rate per Hour: \$1.93

Utility Locator (Year 2)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$19.13
Supplemental Benefit Rate per Hour: \$1.93

Utility Locator (Year 1)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$18.04
Supplemental Benefit Rate per Hour: \$1.93

Utility Locator (Up to 1 year)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$17.00
Supplemental Benefit Rate per Hour: \$1.93
Supplemental Note: No benefits for the first 90 days of employment.

Overtime

Time and one half the regular rate for work on the following Paid Holiday(s).
Time and one half the regular hourly rate after 40 hours in any work week.

Paid Holidays

New Year's Day
Memorial Day
Independence Day
Thanksgiving Day
Christmas Day

Shift Rates

10% shift differential to employees working any shift starting between noon and 5 AM.

Vacation

For up to 1 year 0 hours
For year 1 - 2 48 hours per year
For year 3 - 9 96 hours per year
For year 10 or more 144 hours per year

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

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.**

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

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.

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 Journeyman: 1 to 1, 1 to 3)

Boilermaker (First Year)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate Per Hour: 65% of Journeyman's rate
Supplemental Benefit Rate Per Hour: \$31.76

Boilermaker (Second Year: 1st Six Months)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate Per Hour: 70% of Journeyman's rate
Supplemental Benefit Rate Per Hour: \$33.59

Boilermaker (Second Year: 2nd Six Months)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate Per Hour: 75% of Journeyman's rate
Supplemental Benefit Rate Per Hour: \$35.43

Boilermaker (Third Year: 1st Six Months)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate Per Hour: 80% of Journeyman's rate
Supplemental Benefit Rate Per Hour: \$37.25

Boilermaker (Third Year: 2nd Six Months)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate Per Hour: 85% of Journeyman's rate
Supplemental Benefit Rate Per Hour: \$39.08

Boilermaker (Fourth Year: 1st Six Months)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate Per Hour: 90% of Journeyman's rate
Supplemental Benefit Rate Per Hour: \$40.93

Boilermaker (Fourth Year: 2nd Six Months)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate Per Hour: 95% of Journeyman's rate
Supplemental Benefit Rate Per Hour: \$42.75

(Local #5)

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

BRICKLAYER

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

Bricklayer (First 750 Hours)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate Per Hour: 50% of Journeyman's rate
Supplemental Benefit Rate Per Hour: \$20.61

Bricklayer (Second 750 Hours)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate Per Hour: 60% of Journeyman's rate
Supplemental Benefit Rate Per Hour: \$20.61

Bricklayer (Third 750 Hours)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate Per Hour: 70% of Journeyman's rate
Supplemental Benefit Rate Per Hour: \$20.61

Bricklayer (Fourth 750 Hours)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate Per Hour: 80% of Journeyman's rate
Supplemental Benefit Rate Per Hour: \$20.61

Bricklayer (Fifth 750 Hours)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate Per Hour: 90% of Journeyman's rate
Supplemental Benefit Rate Per Hour: \$20.61

Bricklayer (Sixth 750 Hours)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate Per Hour: 95% of Journeyman's rate
Supplemental Benefit Rate Per Hour: \$20.61

(Bricklayer District Council)

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

CARPENTER

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

Carpenter (First Year)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate Per Hour: 40% of Journeyman's rate
Supplemental Benefit Rate Per Hour For Building Apprentice: \$31.44
Supplemental Benefit Rate Per Hour For Heavy Apprentice: \$33.49

Carpenter (Second Year)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate Per Hour: 50% of Journeyman's rate
Supplemental Benefit Rate Per Hour For Building Apprentice: \$31.44
Supplemental Benefit Rate Per Hour For Heavy Apprentice: \$33.49

Carpenter (Third Year)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate Per Hour: 65% of Journeyman's rate
Supplemental Benefit Rate Per Hour For Building Apprentice: \$31.44
Supplemental Benefit Rate Per Hour For Heavy Apprentice: \$33.49

Carpenter (Fourth Year)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate Per Hour: 80% of Journeyman's rate
Supplemental Benefit Rate Per Hour For Building Apprentice: \$31.44
Supplemental Benefit Rate Per Hour For Heavy Apprentice: \$33.49

(Carpenters District Council)

CARPENTER - HIGH RISE CONCRETE FORMS

(Ratio of Apprentice to Journeyman: 1 to 1, 2 to 5)

Carpenter - High Rise (First Year)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$17.52
Supplemental Benefit Rate per Hour: \$16.30

Carpenter - High Rise (Second Year)

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

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$23.95
Supplemental Benefit Rate per Hour: \$16.43

Carpenter - High Rise (Third Year)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$30.53
Supplemental Benefit Rate per Hour: \$16.56

Carpenter - High Rise (Fourth Year)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$38.15
Supplemental Benefit Rate per Hour: \$16.71

(Carpenters District Council)

CEMENT MASON

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

Cement Mason (First Year)

Effective Period: 7/1/2019 - 6/30/2020
Wage and Supplemental Rate Per Hour: 50% of Journeyman's Rate

Cement Mason (Second Year)

Effective Period: 7/1/2019 - 6/30/2020
Wage and Supplemental Rate Per Hour: 60% of Journeyman's Rate

Cement Mason (Third Year)

Effective Period: 7/1/2019 - 6/30/2020
Wage and Supplemental Rate Per Hour: 70% of Journeyman's Rate

(Local #780)

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

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

Cement & Concrete Worker (First 1333 hours)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate Per Hour: 50% of Journeyman's rate
Supplemental Benefit Rate Per Hour: \$20.00

Cement & Concrete Worker (Second 1333 hours)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate Per Hour: 65% of Journeyman's rate
Supplemental Benefit Rate Per Hour: \$25.45

Cement & Concrete Worker (Last 1334 hours)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate Per Hour: 80% of Journeyman's rate
Supplemental Benefit Rate Per Hour: \$26.95

Cement & Concrete Worker (Hired after 2/6/2016 - First 1334 hours)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate Per Hour: 53% of Journeyman's rate
Supplemental Benefit Rate Per Hour: \$14.04

Cement & Concrete Worker (Hired after 2/6/2016 - Second 1334 hours)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate Per Hour: 69% of Journeyman's rate
Supplemental Benefit Rate Per Hour: \$18.97

Cement & Concrete Worker (Hired after 2/6/2016 - Last 1334 hours)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate Per Hour: 85% of Journeyman's rate
Supplemental Benefit Rate Per Hour: \$20.05

(Cement Concrete Workers District Council)

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

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

Derrickperson & Rigger (stone) - First Year

Effective Period: 7/1/2019 - 6/30/2020
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: 7/1/2019 - 6/30/2020
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: 7/1/2019 - 6/30/2020
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: 7/1/2019 - 6/30/2020
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: 7/1/2019 - 6/30/2020
Wage Rate Per Hour: 40% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: \$34.12

Dockbuilder/Pile Driver (Second Year)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate Per Hour: 50% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: \$34.12

Dockbuilder/Pile Driver (Third Year)

Effective Period: 7/1/2019 - 6/30/2020

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

Wage Rate Per Hour: 65% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: \$34.12

Dockbuilder/Pile Driver (Fourth Year)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate Per Hour: 80% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: \$34.12

(Carpenters District Council)

ELECTRICIAN

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

Electrician (First Term: 0-6 Months)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$15.75
Supplemental Benefit Rate per Hour: \$14.03
Overtime Supplemental Rate Per Hour: \$15.07

Electrician (First Term: 7-12 Months)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$16.25
Supplemental Benefit Rate per Hour: \$14.28
Overtime Supplemental Rate Per Hour: \$15.36

Electrician (Second Term: 0-6 Months)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$17.25
Supplemental Benefit Rate per Hour: \$14.79
Overtime Supplemental Rate Per Hour: \$15.94

Electrician (Second Term: 7-12 Months)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$18.25
Supplemental Benefit Rate per Hour: \$15.30
Overtime Supplemental Rate Per Hour: \$16.51

Electrician (Third Term: 0-6 Months)

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

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$19.25
Supplemental Benefit Rate per Hour: \$15.81
Overtime Supplemental Rate Per Hour: \$17.09

Electrician (Third Term: 7-12 Months)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$20.25
Supplemental Benefit Rate per Hour: \$16.32
Overtime Supplemental Rate Per Hour: \$17.67

Electrician (Fourth Term: 0-6 Months)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$21.25
Supplemental Benefit Rate per Hour: \$16.83
Overtime Supplemental Rate Per Hour: \$18.24

Electrician (Fourth Term: 7-12 Months)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$23.25
Supplemental Benefit Rate per Hour: \$17.85
Overtime Supplemental Rate Per Hour: \$19.39

Electrician (Fifth Term: 0-12 Months)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$24.50
Supplemental Benefit Rate per Hour: \$21.07
Overtime Supplemental Rate Per Hour: \$22.62

Electrician (Fifth Term: 13-18 Months)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$29.00
Supplemental Benefit Rate per Hour: \$23.43
Overtime Supplemental Rate Per Hour: \$25.26

Overtime Description

Overtime Wage paid at time and one half the regular rate

(Local #3)

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

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

Elevator (Constructor) - First Year

Effective Period: 7/1/2019 - 3/16/2020
Wage Rate Per Hour: 50% of Journeyman's rate
Supplemental Rate Per Hour: \$31.52

Effective Period: 3/17/2020 - 6/30/2020
Wage Rate Per Hour: 50% of Journeyman's rate
Supplemental Rate Per Hour: \$32.14

Elevator (Constructor) - Second Year

Effective Period: 7/1/2019 - 3/16/2020
Wage Rate Per Hour: 55% of Journeyman's rate
Supplemental Rate Per Hour: \$32.03

Effective Period: 3/17/2020 - 6/30/2020
Wage Rate Per Hour: 55% of Journeyman's rate
Supplemental Rate Per Hour: \$32.67

Elevator (Constructor) - Third Year

Effective Period: 7/1/2019 - 3/16/2020
Wage Rate Per Hour: 65% of Journeyman's rate
Supplemental Rate Per Hour: \$33.06

Effective Period: 3/17/2020 - 6/30/2020
Wage Rate Per Hour: 65% of Journeyman's rate
Supplemental Rate Per Hour: \$33.74

Elevator (Constructor) - Fourth Year

Effective Period: 7/1/2019 - 3/16/2020
Wage Rate Per Hour: 75% of Journeyman's rate
Supplemental Rate Per Hour: \$34.08

Effective Period: 3/17/2020 - 6/30/2020
Wage Rate Per Hour: 75% of Journeyman's rate
Supplemental Rate Per Hour: \$34.80

(Local #1)

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

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

Elevator Service/Modernization Mechanic (First Year)

Effective Period: 7/1/2019 - 3/16/2020
Wage Rate Per Hour: 50% of Journeyman's rate
Supplemental Benefit Per Hour: \$31.47

Effective Period: 3/17/2020 - 6/30/2020
Wage Rate Per Hour: 50% of Journeyman's rate
Supplemental Benefit Per Hour: \$32.09

Elevator Service/Modernization Mechanic (Second Year)

Effective Period: 7/1/2019 - 3/16/2020
Wage Rate Per Hour: 55% of Journeyman's rate
Supplemental Benefit Per Hour: \$31.98

Effective Period: 3/17/2020 - 6/30/2020
Wage Rate Per Hour: 55% of Journeyman's rate
Supplemental Benefit Per Hour: \$32.62

Elevator Service/Modernization Mechanic (Third Year)

Effective Period: 7/1/2019 - 3/16/2020
Wage Rate Per Hour: 65% of Journeyman's rate
Supplemental Benefit Per Hour: \$32.99

Effective Period: 3/17/2020 - 6/30/2020
Wage Rate Per Hour: 65% of Journeyman's rate
Supplemental Benefit Per Hour: \$33.67

Elevator Service/Modernization Mechanic (Fourth Year)

Effective Period: 7/1/2019 - 3/16/2020
Wage Rate Per Hour: 75% of Journeyman's rate
Supplemental Benefit Per Hour: \$34.01

Effective Period: 3/17/2020 - 6/30/2020
Wage Rate Per Hour: 75% of Journeyman's rate
Supplemental Benefit Per Hour: \$34.73

(Local #1)

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

ENGINEER

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

Engineer - First Year

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$25.38
Supplemental Benefit Rate per Hour: \$26.69

Engineer - Second Year

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$31.72
Supplemental Benefit Rate per Hour: \$26.69

Engineer - Third Year

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$34.89
Supplemental Benefit Rate per Hour: \$26.69

Engineer - Fourth Year

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$38.06
Supplemental Benefit Rate per Hour: \$26.69

(Local #15)

ENGINEER - OPERATING

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

Operating Engineer - First Year

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate Per Hour 40% of Journeyperson's Rate
Supplemental Benefit Per Hour: \$22.45

Operating Engineer - Second Year

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate Per Hour: 50% of Journeyperson's Rate

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

Supplemental Benefit Per Hour: \$22.45

Operating Engineer - Third Year

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate Per Hour: 60% of Journeyman's Rate
Supplemental Benefit Per Hour: \$22.45

(Local #14)

FLOOR COVERER

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

Floor Coverer (First Year)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate Per Hour: 40% of Journeyman's rate
Supplemental Rate Per Hour: \$31.24

Floor Coverer (Second Year)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate Per Hour: 50% of Journeyman's rate
Supplemental Rate Per Hour: \$31.24

Floor Coverer (Third Year)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate Per Hour: 65% of Journeyman's rate
Supplemental Rate Per Hour: \$31.24

Floor Coverer (Fourth Year)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate Per Hour: 80% of Journeyman's rate
Supplemental Rate Per Hour: \$31.24

(Carpenters District Council)

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

GLAZIER

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

Glazier (First Year)

Effective Period: 7/1/2019 - 6/30/2020

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

Glazier (Second Year)

Effective Period: 7/1/2019 - 6/30/2020

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

Glazier (Third Year)

Effective Period: 7/1/2019 - 6/30/2020

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

Glazier (Fourth Year)

Effective Period: 7/1/2019 - 6/30/2020

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

(Local #1281)

HAZARDOUS MATERIAL HANDLER

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

Handler (First 1000 Hours)

Effective Period: 7/1/2019 - 6/30/2020

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

Supplemental Benefit Rate Per Hour: \$14.25

Handler (Second 1000 Hours)

Effective Period: 7/1/2019 - 6/30/2020

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

Supplemental Benefit Rate Per Hour: \$14.25

Handler (Third 1000 Hours)

Effective Period: 7/1/2019 - 6/30/2020

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

Wage Rate Per Hour: 83% of Journeyman's rate
Supplemental Benefit Rate Per Hour: \$14.25

Handler (Fourth 1000 Hours)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate Per Hour: 89% of Journeyman'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: 7/1/2019 - 6/30/2020
Wage and Supplemental Rate Per Hour: 35% of Journeyman's rate

Heat & Frost Insulator (Second Year)

Effective Period: 7/1/2019 - 6/30/2020
Wage and Supplemental Rate Per Hour: 45% of Journeyman's rate

Heat & Frost Insulator (Third Year)

Effective Period: 7/1/2019 - 6/30/2020
Wage and Supplemental Rate Per Hour: 55% of Journeyman's rate

Heat & Frost Insulator (Fourth Year)

Effective Period: 7/1/2019 - 6/30/2020
Wage and Supplemental Rate Per Hour: 65% of Journeyman's rate

(Local #12)

HOUSE WRECKER
(TOTAL DEMOLITION)
(Ratio of Apprentice to Journeyman: 1 to 1, 1 to 3)

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

House Wrecker - First Year

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$21.17
Supplemental Benefit Rate per Hour: \$19.09

House Wrecker - Second Year

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$22.32
Supplemental Benefit Rate per Hour: \$19.09

House Wrecker - Third Year

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$23.97
Supplemental Benefit Rate per Hour: \$19.09

House Wrecker - Fourth Year

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$26.53
Supplemental Benefit Rate per Hour: \$19.09

(Mason Tenders District Council)

IRON WORKER - ORNAMENTAL
(Ratio of Apprentice to Journeyman: 1 to 1, 1 to 4)

Iron Worker (Ornamental) - 1st Ten Months

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate Per Hour: 50% of Journeyman's rate
Supplemental Rate Per Hour: \$40.20

Iron Worker (Ornamental) - 11 -16 Months

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate Per Hour: 55% of Journeyman's rate
Supplemental Rate Per Hour: \$41.44

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

Iron Worker (Ornamental) - 17 - 22 Months

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate Per Hour: 60% of Journeyperson's rate
Supplemental Rate Per Hour: \$42.68

Iron Worker (Ornamental) - 23 - 28 Months

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate Per Hour: 70% of Journeyperson's rate
Supplemental Rate Per Hour: \$45.17

Iron Worker (Ornamental) - 29 - 36 Months

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate Per Hour: 80% of Journeyperson's rate
Supplemental Rate Per Hour: \$47.65

(Local #580)

IRON WORKER - STRUCTURAL
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 6)

Iron Worker (Structural) - 1st Six Months

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$26.62
Supplemental Benefit Rate per Hour: \$53.09

Iron Worker (Structural) - 7- 18 Months

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$27.22
Supplemental Benefit Rate per Hour: \$53.09

Iron Worker (Structural) - 19 - 36 months

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$27.83
Supplemental Benefit Rate per Hour: \$53.09

(Local #40 and #361)

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

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

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

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

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate Per Hour: 50% of Journeyman's rate
Supplemental Rate Per Hour: \$44.48

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

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate Per Hour: 60% of Journeyman's rate
Supplemental Rate Per Hour: \$44.48

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

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate Per Hour: 75% of Journeyman's rate
Supplemental Rate Per Hour: \$44.48

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

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate Per Hour: 90% of Journeyman's rate
Supplemental Rate Per Hour: \$44.48

(Local #731)

MARBLE MECHANICS

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

Cutters & Setters - First 750 Hours

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

Effective Period: 7/1/2019 - 6/30/2020

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: 7/1/2019 - 6/30/2020

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

Cutters & Setters - Third 750 Hours

Effective Period: 7/1/2019 - 6/30/2020

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

Cutters & Setters - Fourth 750 Hours

Effective Period: 7/1/2019 - 6/30/2020

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

Cutters & Setters - Fifth 750 Hours

Effective Period: 7/1/2019 - 6/30/2020

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

Cutters & Setters - Sixth 750 Hours

Effective Period: 7/1/2019 - 6/30/2020

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

Cutters & Setters - Seventh 750 Hours

Effective Period: 7/1/2019 - 6/30/2020

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

Cutters & Setters - Eighth 750 Hours

Effective Period: 7/1/2019 - 6/30/2020

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

Cutters & Setters - Ninth 750 Hours

Effective Period: 7/1/2019 - 6/30/2020

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

Cutters & Setters - Tenth 750 Hours

Effective Period: 7/1/2019 - 6/30/2020

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

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

Polishers & Finishers - First 900 Hours

Effective Period: 7/1/2019 - 6/30/2020

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: 7/1/2019 - 6/30/2020

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

Polishers & Finishers - Third 900 Hours

Effective Period: 7/1/2019 - 6/30/2020

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: 7/1/2019 - 6/30/2020

Wage Rate per Hour: \$21.39

Supplemental Benefit Rate per Hour: \$19.90

Mason Tender - Second Year

Effective Period: 7/1/2019 - 6/30/2020

Wage Rate per Hour: \$22.54

Supplemental Benefit Rate per Hour: \$19.90

Mason Tender - Third Year

Effective Period: 7/1/2019 - 6/30/2020

Wage Rate per Hour: \$24.29

Supplemental Benefit Rate per Hour: \$19.90

Mason Tender - Fourth Year

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

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$26.95
Supplemental Benefit Rate per Hour: \$19.90

(Local #79)

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

Metallic Lather (First Year)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$23.04
Supplemental Benefit Rate per Hour: \$20.00

Metallic Lather (Second Year)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$28.38
Supplemental Benefit Rate per Hour: \$20.66

Metallic Lather (Third Year)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$34.68
Supplemental Benefit Rate per Hour: \$21.32

Metallic Lather (Fourth Year)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$37.18
Supplemental Benefit Rate per Hour: \$21.82

(Local #46)

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

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

Millwright (First Year)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$29.16
Supplemental Benefit Rate per Hour: \$34.66

Millwright (Second Year)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$34.46
Supplemental Benefit Rate per Hour: \$38.31

Millwright (Third Year)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$39.76
Supplemental Benefit Rate per Hour: \$42.61

Millwright (Fourth Year)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$50.36
Supplemental Benefit Rate per Hour: \$49.27

(Local #740)

PAINTER

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

Painter - Brush & Roller - First Year

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$17.20
Supplemental Benefit Rate per Hour: \$15.05

Painter - Brush & Roller - Second Year

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$21.50
Supplemental Benefit Rate per Hour: \$19.39

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

Painter - Brush & Roller - Third Year

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$25.80
Supplemental Benefit Rate per Hour: \$22.79

Painter - Brush & Roller - Fourth Year

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$34.40
Supplemental Benefit Rate per Hour: \$29.16

(District Council of Painters)

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

Metal Polisher (First Year)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$13.00
Supplemental Benefit Rate per Hour: \$5.13

Metal Polisher (Second Year)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$13.00
Supplemental Benefit Rate per Hour: \$5.13

Metal Polisher (Third Year)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$15.75
Supplemental Benefit Rate per Hour: \$5.13

(Local 8A-28)

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

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

Painters - Structural Steel (First Year)

Effective Period: 7/1/2019 - 6/30/2020
Wage and Supplemental Rate Per Hour: 40% of Journeyman's rate

Painters - Structural Steel (Second Year)

Effective Period: 7/1/2019 - 6/30/2020
Wage and Supplemental Rate Per Hour: 60% of Journeyman's rate

Painters - Structural Steel (Third Year)

Effective Period: 7/1/2019 - 6/30/2020
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)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$28.86
Supplemental Benefit Rate per Hour: \$21.40

Paver and Roadbuilder - Second Year (Minimum 1000 hours)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$30.50
Supplemental Benefit Rate per Hour: \$21.40

(Local #1010)

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

PLASTERER

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

Plasterer - First Year: 1st Six Months

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate Per Hour: 40% of Journeyman's rate
Supplemental Rate Per Hour: \$13.88

Plasterer - First Year: 2nd Six Months

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate Per Hour: 45% of Journeyman's rate
Supplemental Rate Per Hour: \$14.36

Plasterer - Second Year: 1st Six Months

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate Per Hour: 55% of Journeyman's rate
Supplemental Rate Per Hour: \$16.44

Plasterer - Second Year: 2nd Six Months

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate Per Hour: 60% of Journeyman's rate
Supplemental Rate Per Hour: \$17.53

Plasterer - Third Year: 1st Six Months

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate Per Hour: 70% of Journeyman's rate
Supplemental Rate Per Hour: \$19.72

Plasterer - Third Year: 2nd Six Months

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate Per Hour: 75% of Journeyman's rate
Supplemental Rate Per Hour: \$20.81

(Local #530)

PLASTERER - TENDER

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

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

Plasterer Tender - First Year

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$21.39
Supplemental Benefit Rate per Hour: \$19.90

Plasterer Tender - Second Year

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$22.54
Supplemental Benefit Rate per Hour: \$19.90

Plasterer Tender - Third Year

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$24.29
Supplemental Benefit Rate per Hour: \$19.90

Plasterer Tender - Fourth Year

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$26.95
Supplemental Benefit Rate per Hour: \$19.90

(Local #79)

PLUMBER

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

Plumber - First Year: 1st Six Months

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$16.28
Supplemental Benefit Rate per Hour: \$5.43

Plumber - First Year: 2nd Six Months

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$19.28
Supplemental Benefit Rate per Hour: \$6.43

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

Plumber - Second Year

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$27.23
Supplemental Benefit Rate per Hour: \$19.80

Plumber - Third Year

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$29.33
Supplemental Benefit Rate per Hour: \$19.80

Plumber - Fourth Year

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$32.18
Supplemental Benefit Rate per Hour: \$19.80

Plumber - Fifth Year: 1st Six Months

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$33.58
Supplemental Benefit Rate per Hour: \$19.80

Plumber - Fifth Year: 2nd Six Months

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$45.65
Supplemental Benefit Rate per Hour: \$19.80

(Plumbers Local #1)

**POINTER, WATERPROOFER, CAULKER, SANDBLASTER,
STEAMBLASTER
(Exterior Building Renovation)
(Ratio of Apprentice to Journey person: 1 to 1, 1 to 4)**

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

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$26.36
Supplemental Benefit Rate per Hour: \$14.00

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

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

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$29.42
Supplemental Benefit Rate per Hour: \$18.97

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

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$34.80
Supplemental Benefit Rate per Hour: \$21.72

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

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate per Hour: \$41.93
Supplemental Benefit Rate per Hour: \$22.72

(Bricklayer District Council)

ROOFER

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

Roofers - First Year

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate Per Hour: 35% of Journeyman's rate
Supplemental Benefit Rate Per Hour: \$3.36

Roofers - Second Year

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate Per Hour: 50% of Journeyman's rate
Supplemental Benefit Rate Per Hour: \$16.92

Roofers - Third Year

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate Per Hour: 60% of Journeyman's rate
Supplemental Benefit Rate Per Hour: \$20.29

Roofers - Fourth Year

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

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate Per Hour: 75% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: \$25.37

(Local #8)

SHEET METAL WORKER
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Sheet Metal Worker (0-6 Months)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate Per Hour: 25% of Journeyperson's rate
Supplemental Rate Per Hour: \$6.51

Sheet Metal Worker (7-18 Months)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate Per Hour: 35% of Journeyperson's rate
Supplemental Rate Per Hour: \$18.57

Sheet Metal Worker (19-30 Months)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate Per Hour: 45% of Journeyperson's rate
Supplemental Rate Per Hour: \$25.40

Sheet Metal Worker (31-36 Months)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate Per Hour: 55% of Journeyperson's rate
Supplemental Rate Per Hour: \$29.95

Sheet Metal Worker (37-42 Months)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate Per Hour: 55% of Journeyperson's rate
Supplemental Rate Per Hour: \$29.95

Sheet Metal Worker (43-48 Months)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate Per Hour: 70% of Journeyperson's rate
Supplemental Rate Per Hour: \$36.83

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

Sheet Metal Worker (49-54 Months)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate Per Hour: 70% of Journeyperson's rate
Supplemental Rate Per Hour: \$36.83

Sheet Metal Worker (55-60 Months)

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate Per Hour: 80% of Journeyperson's rate
Supplemental Rate Per Hour: \$41.42

(Local #28)

SIGN ERECTOR

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

Sign Erector - First Year: 1st Six Months

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate Per Hour: 35% of Journeyperson's rate
Supplemental Rate Per Hour: \$15.75

Sign Erector - First Year: 2nd Six Months

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate Per Hour: 40% of Journeyperson's rate
Supplemental Rate Per Hour: \$17.86

Sign Erector - Second Year: 1st Six Months

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate Per Hour: 45% of Journeyperson's rate
Supplemental Rate Per Hour: \$19.98

Sign Erector - Second Year: 2nd Six Months

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate Per Hour: 50% of Journeyperson's rate
Supplemental Rate Per Hour: \$22.12

Sign Erector - Third Year: 1st Six Months

Effective Period: 7/1/2019 - 6/30/2020

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

Wage Rate Per Hour: 55% of Journeyman's rate
Supplemental Rate Per Hour: \$29.92

Sign Erector - Third Year: 2nd Six Months

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate Per Hour: 60% of Journeyman's rate
Supplemental Rate Per Hour: \$32.56

Sign Erector - Fourth Year: 1st Six Months

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate Per Hour: 65% of Journeyman's rate
Supplemental Rate Per Hour: \$35.92

Sign Erector - Fourth Year: 2nd Six Months

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate Per Hour: 70% of Journeyman's rate
Supplemental Rate Per Hour: \$38.65

Sign Erector - Fifth Year

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate Per Hour: 75% of Journeyman's rate
Supplemental Rate Per Hour: \$41.33

Sign Erector - Sixth Year

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate Per Hour: 80% of Journeyman's rate
Supplemental Rate Per Hour: \$44.01

(Local #137)

STEAMFITTER

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

Steamfitter - First Year

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate and Supplemental Per Hour: 40% of Journeyman's rate

Steamfitter - Second Year

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

Effective Period: 7/1/2019 - 6/30/2020

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

Steamfitter - Third Year

Effective Period: 7/1/2019 - 6/30/2020

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

Steamfitter - Fourth Year

Effective Period: 7/1/2019 - 6/30/2020

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

Steamfitter - Fifth Year

Effective Period: 7/1/2019 - 6/30/2020

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

(Local #638)

STONE MASON - SETTER

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

Stone Mason - Setters - First 750 Hours

Effective Period: 7/1/2019 - 6/30/2020

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

Stone Mason - Setters - Second 750 Hours

Effective Period: 7/1/2019 - 6/30/2020

Wage Rate Per Hour: 60% of Journeyperson's rate
Supplemental Rate Per Hour: 50% of Journeyperson's rate

Stone Mason - Setters - Third 750 Hours

Effective Period: 7/1/2019 - 6/30/2020

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: 7/1/2019 - 6/30/2020

Wage Rate Per Hour: 80% of Journeyperson's rate
Supplemental Rate Per Hour: 50% of Journeyperson's rate

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

Stone Mason - Setters - Fifth 750 Hours

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate Per Hour: 90% of Journeyman's rate
Supplemental Rate Per Hour: 50% of Journeyman's rate

Stone Mason - Setters - Sixth 750 Hours

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate Per Hour: 100% of Journeyman's rate
Supplemental Rate Per Hour: 50% of Journeyman's rate

(Bricklayers District Council)

TAPER

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

Drywall Taper - First Year

Effective Period: 7/1/2019 - 6/30/2020
Wage and Supplemental Rate Per Hour: 40% of Journeyman's rate

Drywall Taper - Second Year

Effective Period: 7/1/2019 - 6/30/2020
Wage and Supplemental Rate Per Hour: 60% of Journeyman's rate

Drywall Taper - Third Year

Effective Period: 7/1/2019 - 6/30/2020
Wage and Supplemental Rate Per Hour: 80% of Journeyman's rate

(Local #1974)

TILE LAYER - SETTER

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

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

Tile Layer - Setter - First 750 Hours

Effective Period: 7/1/2019 - 6/30/2020
Wage and Supplemental Rate Per Hour: 50% of Journeyperson's rate

Tile Layer - Setter - Second 750 Hours

Effective Period: 7/1/2019 - 6/30/2020
Wage and Supplemental Rate Per Hour: 55% of Journeyperson's rate

Tile Layer - Setter - Third 750 Hours

Effective Period: 7/1/2019 - 6/30/2020
Wage and Supplemental Rate Per Hour: 65% of Journeyperson's rate

Tile Layer - Setter - Fourth 750 Hours

Effective Period: 7/1/2019 - 6/30/2020
Wage and Supplemental Rate Per Hour: 75% of Journeyperson's rate

Tile Layer - Setter - Fifth 750 Hours

Effective Period: 7/1/2019 - 6/30/2020
Wage and Supplemental Rate Per Hour: 85% of Journeyperson's rate

Tile Layer - Setter - Sixth 750 Hours

Effective Period: 7/1/2019 - 6/30/2020
Wage and Supplemental Rate Per Hour: 95% of Journeyperson's rate

(Local #7)

TIMBERPERSON

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

Timberperson - First Year

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate Per Hour: 40% of Journeyperson's rate
Supplemental Rate Per Hour: \$33.76

Timberperson - Second Year

Effective Period: 7/1/2019 - 6/30/2020

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

Wage Rate Per Hour: 50% of Journeyman's rate
Supplemental Rate Per Hour: \$33.76

Timberperson - Third Year

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate Per Hour: 65% of Journeyman's rate
Supplemental Rate Per Hour: \$33.76

Timberperson - Fourth Year

Effective Period: 7/1/2019 - 6/30/2020
Wage Rate Per Hour: 80% of Journeyman's rate
Supplemental Rate Per Hour: \$33.76

(Local #1536)



Leonard A. Mancusi
SENIOR ASSISTANT COMPTROLLER

THE CITY OF NEW YORK
OFFICE OF THE COMPTROLLER
1 CENTRE STREET ROOM 1120
NEW YORK, N.Y. 10007-2341

TELEPHONE: (212) 800-3822
FAX NUMBER: (212) 899-8499

ALAN G. HEVESI
COMPTROLLER

MEMORANDUM

November 6, 2000

To: Agency Chief Contracting Officers

From: Leonard A. Mancusi 

Re: Security at Construction Sites

Prior to the enactment of Administrative Code §6-109, security guards on construction sites were not subject to prevailing wages. Security guards under the New York State labor law are covered under §230 which provides that prevailing wages are to be paid for security guards in existing buildings. §6-109 of the Administrative Code which was enacted in 1996 closed this loophole by including all security guards working pursuant to a city contract as a prevailing wage trade.

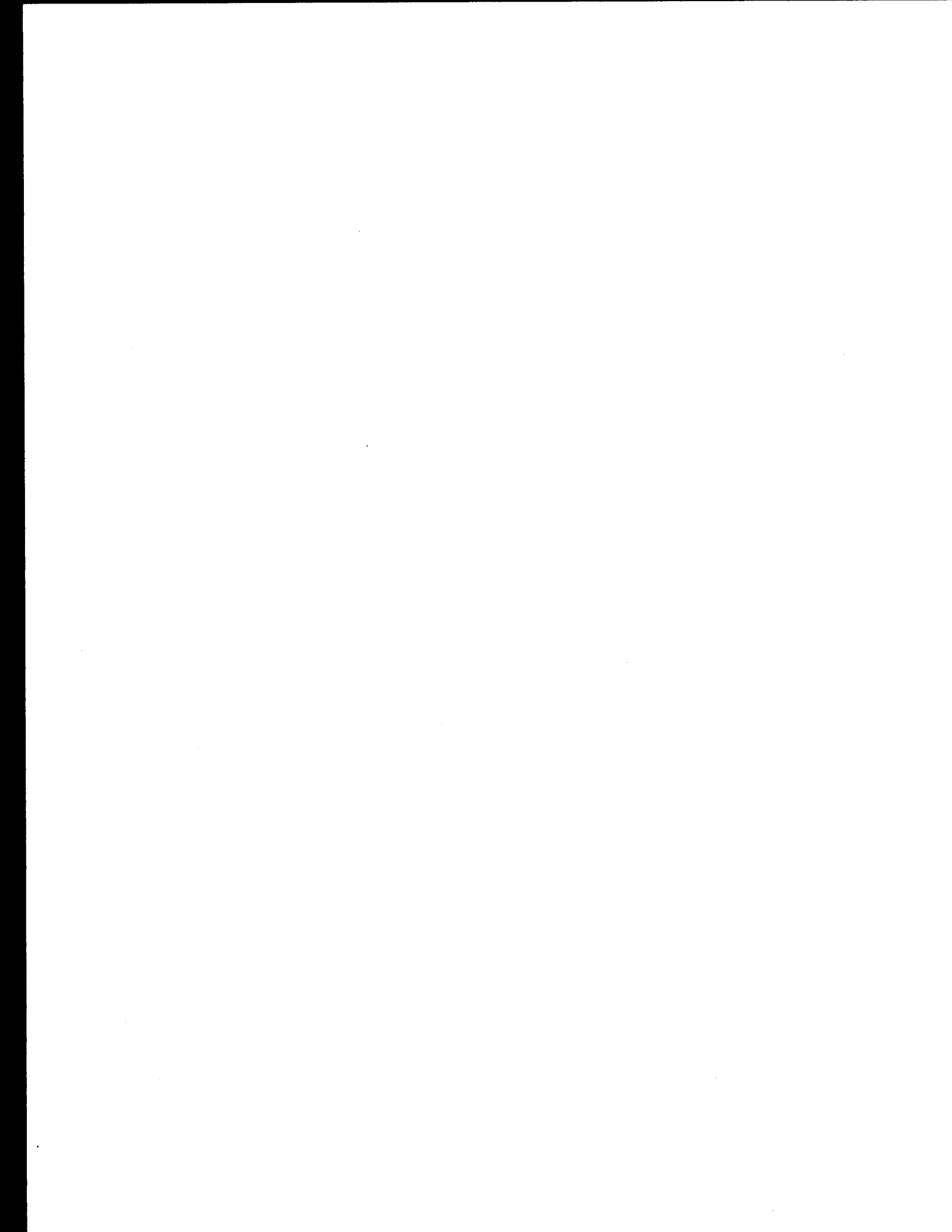
Although some construction contract boilerplate language has been amended to include §6-109, sub-contractors performing security services have advised us that they were not aware of this provision and, since traditionally, security guards were not a covered trade on construction sites, and they were not advised by a prime contractor that they would have to pay prevailing wages, they have not been doing so.

To avoid the possibility of issuing stop payments against prime contractors for the failure of their security service sub-contractors to pay

prevailing wages, we suggest that you write to all your existing security guard sub-contractors and their primes and in the future, upon approval of a security guard sub-contractor, advise the contractors of their obligation to pay prevailing wages under §6-109 of the Administrative Code.

As always, your cooperation is appreciated.

**LAM:er
ACCO.SECURITY AT SITES**





**Department of
Design and
Construction**

**DIVISION OF INFRASTRUCTURE
BUREAU OF DESIGN**

VOLUME 2 OF 3

Contractor

Dated _____, 20__

**APPROVED AS TO FORM
CERTIFIED AS TO LEGAL AUTHORITY**

Acting Corporation Counsel

Dated _____, 20__



**Department of
Design and
Construction**

**DIVISION OF INFRASTRUCTURE
BUREAU OF DESIGN**

VOLUME 2 OF 3

PROJECT ID: BED776

48" TRUNK WATER MAIN AND 20", 12", 8" DISTRIBUTION WATER MAIN REPLACEMENT IN
EAST NEW YORK AVENUE AND JAMAICA AVENUE BETWEEN TAPSCOTT STREET TO
VERMONT STREET, IN ATLANTIC AVENUE BETWEEN VAN SINDEREN AVENUE AND
PENNSYLVANIA AVENUE, ETC.


Together With All Work Incidental Thereto

BOROUGH OF BROOKLYN
CITY OF NEW YORK

Contractor

Dated _____, 20____

APPROVED AS TO FORM
CERTIFIED AS TO LEGAL AUTHORITY



Acting Corporation Counsel *a.m.* *12/23/2019.*

Dated *December 23*, 20*19*



**Department of
Design and
Construction**

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

TO BE FILLED IN BY THE BIDDER:

BIDDER'S NAME:

BID SECURITY (CIRCLE ONE):

BID BOND / CERTIFIED CHECK

NUMBER OF ADDENDUMS RECEIVED
AND ATTACHED TO BID: ...

____ ADDENDUMS

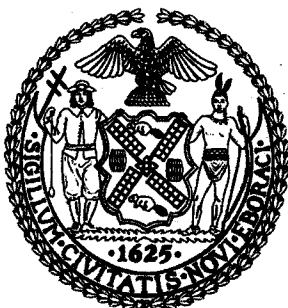
DDC CLIENT AGENCY:
**THE DEPARTMENT OF
ENVIRONMENTAL PROTECTION**

PREPARED BY:

IN-HOUSE DESIGN

DATE PREPARED:

November 12, 2019



VOLUME 3 OF 3

FOR FURNISHING ALL LABOR AND MATERIALS
NECESSARY AND REQUIRED FOR:

PROJECT ID: BED776

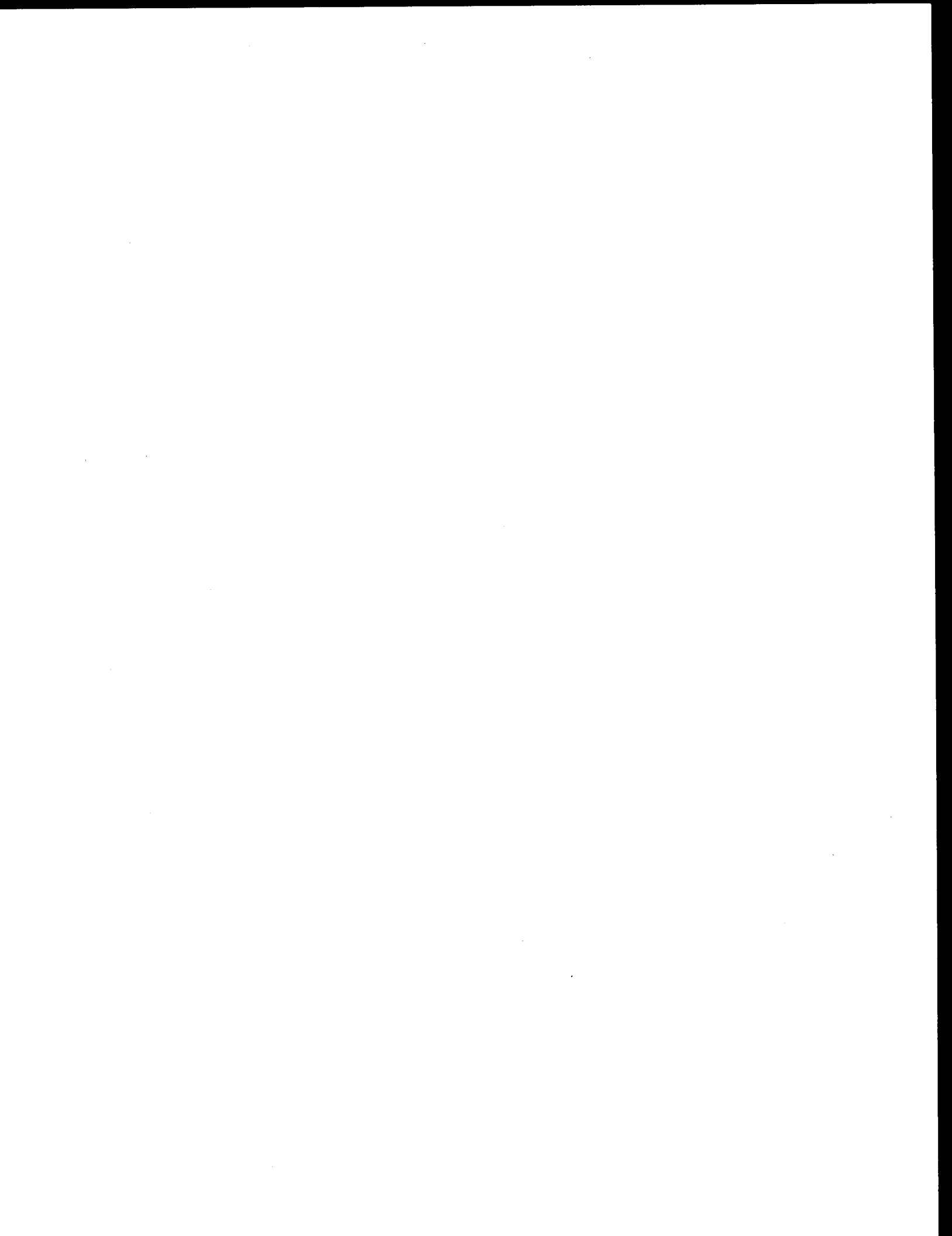
**SCHEDULE A
SPECIFICATIONS AND
REVISIONS TO STANDARD
SPECIFICATIONS**

**48" TRUNK WATER MAIN AND 20", 12", 8"
DISTRIBUTION WATER MAIN REPLACEMENT IN EAST
NEW YORK AVENUE AND JAMAICA AVENUE BETWEEN
TAPSCOTT STREET TO VERMONT STREET, IN
ATLANTIC AVENUE BETWEEN VAN SINDEREN
AVENUE AND PENNSYLVANIA AVENUE, ETC.**

**INCLUDING SEWER, STREET LIGHTING, AND TRAFFIC
SIGNAL WORK**

TOGETHER WITH ALL WORK INCIDENTAL THERETO

**BOROUGH OF BROOKLYN
CITY OF NEW YORK**



VOLUME 3 OF 3
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Project ID: BED776

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SPECIFICATIONS AND STANDARDS OF NEW YORK CITY

The following New York City Department of Transportation (NYCDOT) reference documents are available online at: <http://www1.nyc.gov/site/ddc/resources/publications.page> and <https://www1.nyc.gov/html/dot/html/about/dotlibrary.shtml#spec> or for purchase between 9:00 A.M. and 3:00 P.M. Bid Window, at 55 Water St., Ground Floor, NYC, N.Y. 10041. Tel. (212) 839-9435.

1. NYCDOT Standard Highway Specifications, August 1, 2015
2. NYC DOT Standard Details of Construction, July 2010 (Revised March 15, 2016)
3. NYCDOT Division of Street Lighting Specifications
4. NYCDOT Division of Street Lighting Standard Drawings
5. NYCDOT Standard Specifications for Traffic Signals
6. NYCDOT Standard Drawings for Traffic Signals

The following reference documents for New York City Department of Environmental Protection (NYCDEP) are available online at: <http://www1.nyc.gov/site/ddc/resources/publications.page> or for pick up between 8:00 A.M. and 4:00 P.M. at 30-30 Thomson Avenue, 3rd Floor, Division of Infrastructure, Long Island City, N.Y. 11101.

Contact: Mr. Nader Soliman, Tel. (718) 391-1179

1. NYCDEP Standard Sewer and Water Main Specifications, July 1, 2014
2. NYCDEP Instructions for Concrete Specifications, Jan. 92
3. NYCDEP General Specification 11-Concrete, November 1991
4. NYCDEP Sewer Design Standards, (September 2007) Revised August 2018

The following reference documents for New York City Department of Environmental Protection (NYCDEP) are available online at: <https://www1.nyc.gov/site/dep/water/green-infrastructure.page> or for pick up between 8:00 A.M. and 4:00 P.M. at 30-30 Thomson Avenue, 3rd Floor, Division of Infrastructure, Long Island City, N.Y. 11101.

Contact: Mr. Robert Kuhlmann, Tel. (718) 391-2145

1. NYCDEP Water Main Standard Drawings, November 2010
2. Specifications for Trunk Main Work, July 2014
3. Standard Design and Guidelines for Green Infrastructure Practices, latest version, available only online at: <https://www1.nyc.gov/assets/dep/downloads/pdf/water/stormwater/green-infrastructure/green-infrastructure-standard-designs.pdf>

Water main work material specifications are available at the Department of Environmental Protection, 59-17 Junction Boulevard, 3rd Floor Low-Rise Building, Flushing, N.Y. 11373-5108.

Contact: Mr. Tarlock Sahansra, P.E., Tel. (718) 595-5302

E-mail: TSAHANSRA@DEP.NYC.GOV

Standard Specifications and Drawings for New York City Fire Department Communications facilities of New York City are available online at <https://www1.nyc.gov/assets/fdny/downloads/pdf/about/fdny-plant-operations-standard-drawings-specifications.pdf> or for pick up from the FDNY Facilities Management Bureau, Plant Operations Engineering, 316 Sgt. Beers Avenue Cluster 1 Box 16, Fort Totten, N.Y. 11359.

Contact: Mr. Ed Durkin, Tel. (718) 281-3933

Tree Planting Standards of the City of New York Parks & Recreation are available at the following Department of Parks & Recreation website:

<http://www.nycgovparks.org/pagefiles/53/Tree-Planting-Standards.pdf>

SPECIFICATIONS AND STANDARDS OF PRIVATE UTILITIES

The Following reference document for Private Utility Work is available for pick up between 8:30 A.M. and 4:00 P.M. at 30-30 Thomson Avenue, First Floor Bid Procurement Room, L.I.C., N.Y. 11101.

1. CET SPECIFICATIONS AND SKETCHES dated November 2010.

SCHEDULE A**(GENERAL CONDITIONS TO CONSTRUCTION CONTRACT
(INCLUDING GENERAL CONDITIONS RELATED TO ARTICLE 22 – INSURANCE)****PART I. REQUIRED INFORMATION**

<p align="center"><u>INFORMATION FOR BIDDERS SECTION 26 BID SECURITY</u></p> <p>The Contractor shall obtain a bid security in the amount indicated to the right.</p>	<p>Required provided the TOTAL BID PRICE set forth on the Bid Form is \$1,000,000. or more.</p> <p>Certified Check: 2% of Bid Amount or Bond: 10% of Bid Amount</p>
<p align="center"><u>INFORMATION FOR BIDDERS SECTION 26 PERFORMANCE AND PAYMENT BONDS</u></p> <p>The Contractor shall obtain performance and payment bonds in the amount indicated to the right.</p>	<p>Required for contracts in the amount of \$1,000,000 or more.</p> <p>Performance Security and Payment Security shall each be in an amount equal to 100% of the Contract Price.</p>
<p align="center"><u>INFORMATION FOR BIDDERS DEPARTMENT OF DESIGN AND CONSTRUCTION SAFETY REQUIREMENTS</u></p> <p>The Contractor shall provide the safety personnel as indicated to the right.</p>	<ul style="list-style-type: none"> ■ Project Safety Representative ■ Dedicated, full-time Project Safety Manager
<p align="center"><u>CONTRACT ARTICLE 14 DATE FOR SUBSTANTIAL COMPLETION</u></p> <p>The Contractor shall substantially complete the Work in the number of calendar days indicated to the right.</p>	<p>See Page SA-4</p>
<p align="center"><u>CONTRACT ARTICLE 15 LIQUIDATED DAMAGES</u></p> <p>If the Contractor fails to substantially complete the Work within the time fixed for substantial completion plus authorized time extensions or if the Contractor, in the sole determination of the Commissioner, has abandoned the Work, the Contractor shall pay to the City the amount indicated to the right.</p>	<p><u>\$7,000.00</u> for each consecutive calendar day over substantial completion time</p>
<p align="center"><u>CONTRACT ARTICLE 17. SUB-CONTRACTOR</u></p> <p>The Contractor shall not make subcontracts totaling an amount more than the percentage of the total Contract price indicated to the right.</p>	<p>Not to exceed <u>35</u> % of the Contract price</p>

<p align="center"><u>CONTRACT ARTICLE 21.</u> <u>RETAINAGE</u></p> <p>The Commissioner shall deduct and retain until the substantial completion of the Work the percent value of the Work indicated to the right.</p>	<p align="center"><u>5 %</u> of the value of the Work</p>
<p align="center"><u>CONTRACT ARTICLE 22.</u> <u>(Per Directions Below)</u></p>	<p align="center">See pages SA-5 through SA-13</p>
<p align="center"><u>CONTRACT ARTICLE 24.</u> <u>DEPOSIT GUARANTEE</u></p> <p>As security for the faithful performance of its obligations, the Contractor, upon filing its requisition for payment on Substantial Completion, shall deposit with the Commissioner a sum equal to the percentage of the Contract price indicated to the right.</p>	<p align="center">1% of Contract price</p>
<p align="center"><u>CONTRACT ARTICLE 24.</u> <u>PERIOD OF GUARANTEE</u></p> <p>Periods of maintenance and guarantee other than the period set forth in Article 24.1 are indicated to the right.</p>	<p align="center">Eighteen (18) Months, excluding Trees</p> <p align="center">Twenty-four (24) Months for Plants and Tree Planting</p>
<p align="center"><u>CONTRACT ARTICLE 74.</u> <u>STATEMENT OF WORK</u></p> <p>The Contractor shall furnish all labor and materials and perform all Work in strict accordance with the Contract Drawings, Specifications, and all Addenda thereto, as shown in the column to the right.</p>	<p align="center">Addenda, numbered:</p> <hr/>
<p align="center"><u>CONTRACT ARTICLE 75.</u> <u>COMPENSATION TO BE PAID TO CONTRACTOR</u></p> <p>The City shall pay and the Contractor shall accept in full consideration for the performance of the Contract, subject to additions and deductions as provided herein, the total sum shown in the column to the right, being the amount at which the Contract was awarded to the Contractor at a public letting thereof, based upon the Contractor's bid for the Contract.</p>	<p align="center">Amount for which the Contract was Awarded:</p> <hr/> <p align="right">Dollars</p> <p align="center">(\$ _____)</p>
<p align="center"><u>CONTRACT ARTICLE 79.</u> <u>PARTICIPATION BY MINORITY-OWNED AND WOMEN-OWNED BUSINESS ENTERPRISES IN CITY PROCUREMENT</u></p>	<p align="center">See M/WBE Utilization Plan in the Bid Booklet</p>

<p align="center"><u>STANDARD HIGHWAY SPECIFICATIONS</u> <u>SECTION 6.40</u> <u>LIQUIDATED DAMAGES FOR ENGINEER'S FIELD OFFICE</u></p> <p>If the Contractor fails to satisfactorily provide the field office and all equipment specified in Section 6.40 - Engineer's Field Office, and/or if a cited deficiency exceed seventy two (72) hours after notice from the Engineer in writing, or is permitted to recur, liquidated damages will be assessed in the amount specified herein for each subsequent calendar day or part thereof that a cited deficiency resulting in nonpayment, as described in Section 6.40.5, is not corrected.</p>	<p>\$ <u>500.00</u> for each calendar day of deficiency</p>
<p align="center"><u>STANDARD HIGHWAY SPECIFICATIONS</u> <u>SECTION 6.70</u> <u>LIQUIDATED DAMAGES FOR MAINTENANCE AND PROTECTION OF TRAFFIC</u></p>	<p>\$ <u>250.00</u> for each instance of failure to comply with the Maintenance and Protection of Traffic requirements within three (3) hours after written notice from the Engineer.</p> <p>\$ <u>500.00</u> for each and every hour of failing to open the entire width of roadway to traffic the morning following a night/weekend work operation.</p>
<p align="center"><u>STANDARD HIGHWAY SPECIFICATIONS</u> <u>SECTION 7.13</u> <u>LIQUIDATED DAMAGES FOR MAINTENANCE OF SITE</u></p> <p>If the Contractor fails to comply, within three (3) consecutive hours after written notice from the Engineer, with the requirements of Section 7.13 - Maintenance of Site, the Contractor shall pay to the City of New York, until such notice has been complied with or rescinded, the sum specified above per calendar day, for each instance of such failure, as liquidated damages and not as a penalty, for such default.</p>	<p>\$ <u>500.00</u> for each calendar day, for each occurrence</p>

Date for Substantial Completion (Reference: Article 14)

The Contractor shall substantially complete the Work within the Final Contract Duration determined in accordance with the terms and conditions set forth herein.

The Base Contract Duration for this project is 1275 consecutive calendar days ("ccds").

The Final Contract Duration shall be the Base Contract Duration when a check mark is indicated before the word "NO", below, and shall be the Base Contract Duration adjusted by the table set forth below when a check mark is indicated before the word "YES", below.

YES NO

When the Final Contract Duration is indicated above to be adjusted by the table below, the table may increase the Base Contract Duration depending on the date of scheduled substantial completion to avoid a scheduled substantial completion of the Work during the winter months. The date of scheduled substantial completion shall be determined by adding the Base Contract Duration to the date specified to commence work in the written Notice to Proceed. The Final Contract Duration shall then be determined as follows:

- (a) Find the row that corresponds to the month of substantial completion based on the Base Contract Duration added to the date specified to commence work in the written Notice to Proceed.
- (b) Find the number of days to be added to the Base Contract Duration in the table below. Add that number of days to the Base Contract Duration to obtain the Final Contract Duration in consecutive calendar days.

Month of Substantial Completion based on the Base Contract Duration	Number of Days of adjustment
January	150
February	120
March	90
April	60
May	30
June	0
July	0
August	0
September	0
October	0
November –December 15	0
December 16 – December 31	180

In addition, should Item No. 9.30, "Storm Water Pollution Prevention," exist in the Contract and the required Storm Water Pollution Prevention Plan (SWPPP) does not conform to NYSDEC's recommended Standards, an additional 60 ccd shall be added to the above Final Contract Duration.

(GENERAL CONDITIONS RELATING TO ARTICLE 22 – INSURANCE)

PART II. TYPES OF INSURANCE, MINIMUM LIMITS AND SPECIAL CONDITIONS

Note: All certificate(s) of insurance submitted pursuant to Contract Article 22.3. 3 must be accompanied by a Certification by Broker consistent with Part III below and include the following information:

- For each insurance policy, the name and NAIC number of issuing company, number of policy, and effective dates;
- Policy limits consistent with the requirements listed below;
- Additional insureds or loss payees consistent with the requirements listed below; and
- The number assigned to the Contract by the City (in the “Description of Operations” field).

Insurance indicated by a blackened box (■) or by X in a to left will be required under this contract

Types of Insurance (per Article 22 in its entirety, including listed paragraph)	Minimum Limits and Special Conditions
--	---------------------------------------

■ Commercial General Liability Art. 22.1.1

The minimum limits shall be \$ 3,000,000 per occurrence and \$ 6,000,000 per project aggregate applicable to this **Contract**.

Additional Insureds:

1. City of New York, including its officials and employees, with coverage at least as broad as ISO Form CG 20 10 and CG 20 37,
2. All person(s) or organization(s), if any, that Article 22.1.1(b) of the **Contract** requires to be named as Additional Insured(s), with coverage at least as broad as ISO Form CG 20 26. The Additional Insured endorsement shall either specify the entity's name, if known, or the entity's title (e.g., Project Manager),
3. The Long Island Railroad (LIRR), Metropolitan Transportation Authority (MTA), its subsidiaries and affiliated companies. The Contractor shall furnish two (2) certificates of insurance (see pages SA-11 and SA-12) to the LIRR, Attention: MTA Risk and Insurance Management, Long Island Rail Road, 2 Broadway, New York, New York 10004.
4. The New York City Transit Authority (NYCTA), Manhattan and Bronx Surface Transit Operation Authority (MaBSTOA), Staten Island Rapid Transit Operation Authority (SIRTOA), Metropolitan Transportation Authority (MTA), its subsidiaries and affiliated companies. The Contractor shall furnish two (2) certificates of insurance to and the policy shall be endorsed to provide thirty (30) days advance notice to the Director, Risk Management, MTA Risk and Insurance Management Standards, Enforcement and Claims Unit, 2 Broadway, 21st Floor, New York, NY 10004, of any material change and/or cancellation.
5. National Grid

<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Workers' Compensation Art. 22.1.2 <input checked="" type="checkbox"/> Disability Benefits Insurance Art. 22.1.2 <input checked="" type="checkbox"/> Employers' Liability Art. 22.1.2 <input type="checkbox"/> Jones Act Art. 22.1.3 <input type="checkbox"/> U.S. Longshoremen's and Harbor Workers Compensation Act Art. 22.1.3 	<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 (4) Request for WC/DB Exemption Form No. CE-200. The City will not accept an ACORD form as proof of Workers' Compensation or Disability Insurance.</p> <p>Jones Act and U.S. Longshoremen's and Harbor Workers' Compensation Act: Statutory per U.S. Law.</p> <p>Additional Requirements:</p> <p>(1) <u>NYCTA & LIRR "OUTSIDE CONTRACT" INSURANCE REQUIREMENTS: Workers' Compensation Insurance (including Employer's Liability Insurance) with limits of not less than \$2,000,000, which limit may be met by a combination of primary and excess insurance meeting the statutory limits of New York State.</u></p> <p>(2) <u>Two (2) certificates of such insurance (see pages SA-15 and SA-16) shall be furnished to the LIRR, Attention: MTA Risk and Insurance Management, Long Island Rail Road, 2 Broadway, New York, New York 10004.</u></p> <p>(3) <u>Two (2) certificates of such insurance shall be furnished to the Director, Risk Management, MTA Risk and Insurance Management Standards, Enforcement and Claims Unit, 2 Broadway, 21st Floor, New York, NY 10004.</u></p>
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<p><input type="checkbox"/> Builders' Risk</p> <p>Art. 22.1.4</p>	<p><input type="checkbox"/> Required: 100% of total bid amount</p> <p><input type="checkbox"/> Required: 100 % of total bid amount for Item(s):</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>
<p><input checked="" type="checkbox"/> Commercial Auto Liability</p> <p>Art. 22.1.5</p>	<p>\$ <u>2,000,000</u> 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> <p>Additional Insureds:</p> <ol style="list-style-type: none"> (1) City of New York, including its officials and employees. (2) The New York City Transit Authority (NYCTA), Manhattan and Bronx Surface Transit Operation Authority (MaBSTOA), Staten Island Rapid Transit Operation Authority (SIRTOA), Metropolitan Transportation Authority (MTA), its subsidiaries and affiliated companies. (3) The Long Island Railroad (LIRR), Metropolitan Transportation Authority (MTA), its subsidiaries and affiliated companies.

<input type="checkbox"/> Contractors Pollution Liability Art. 22.1.6	<p>\$ <u>5,000,000</u> per occurrence \$ <u>5,000,000</u> 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>\$ _____ each occurrence \$ _____ 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 \$ _____ 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>\$ <u>1,000,000</u> per occurrence \$ <u>1,000,000</u> aggregate</p> <p>Additional Insureds: 1. City of New York, including its officials and employees, and 2. _____ 3. _____</p>

[OTHER]
22.1.8

Art.

■ Railroad Protection Liability Policy

(ISO-RIMA or equivalent form) approved by Permitter covering the work to be performed at the designated site and affording protection for damages arising out of bodily injury or death, physical damage to or destruction of property, including damage to the Insured's own property and conforming to the following:

- Policy Endorsement CG 28 31 - Pollution Exclusion Amendment is required to be endorsed onto the policy when environmental-related work and/or exposures exist.
- Indicate the Name and address of the Contractor to perform the work, the Contract # and the name of the railroad property where the work is being performed and the Agency Permit.
- Evidence of Railroad Protective Liability Insurance, must be provided in the form of the Original Policy. A detailed Insurance Binder (ACORD or Manuscript Form) will be accepted pending issuance of the Original Policy, which must be provided within 30 days of the Binder Approval.

\$ 2,000,000 per occurrence

\$ 6,000,000 annual aggregate

Named Insureds:

1. New York City Transit Authority (NYCTA), the Manhattan and Bronx Surface Transit Operation Authority (MaBSTOA), the Staten Island Rapid Transit Operation Authority (SIRTOA), MTA Capital Construction Co., the Metropolitan Transportation Authority (MTA) including its subsidiaries and affiliates, and the City of New York (as Owner) and all other indemnified parties.
2. The Long Island Railroad (LIRR) Metropolitan Transportation Authority (MTA), its subsidiaries and affiliated companies, the City of New York and all other indemnified parties.

[OTHER]

Art. 22.1.8

■ Professional Liability

- A. The Contractor's Professional Engineer shall maintain and submit evidence of Professional Liability Insurance in the minimum amount of \$1,000,000 per claim. The policy or policies shall include an endorsement to cover the liability assumed by the Contractor under this Contract arising out of the negligent performance of professional services or caused by an error, omission or negligent act of the Contractor's Professional Engineer or anyone employed by the Contractor's Professional Engineer.
- B. Claims-made policies will be accepted for Professional Liability Insurance. All such policies shall have an extended reporting period option or automatic coverage of not less than two (2) years. If available as an option, the Contractor's Professional Engineer shall purchase extended reporting period coverage effective on cancellation or termination of such insurance unless a new policy is secured with a retroactive date, including at least the last policy year.

[OTHER]

Art. 22.1.8

■ Engineer's Field Office

Section 6.40, Standard Highway Specifications

Fire insurance, extended coverage and vandalism, malicious mischief and burglary, and theft insurance coverage in the amount of \$40,000

[OTHER]

Art. 22.1.8

- The Following Additional Insurance Must Be Provided:

Umbrella/Excess Liability Insurance - The Contractor shall provide Umbrella/Excess Liability Insurance in the minimum amount of \$10,000,000 per Occurrence and \$10,000,000 in Aggregate. The policy terms and condition should be at least as broad as the underlying policies. The underlying policies should comply with the insurance provision as outlined by the contract. Defense cost should be in addition to the limit of liability. The City of New York, including its officials and employees, should be included as additional insured as respects to the noted project.

Per Article 22.2.5 of the **Standard Construction Contract**: The Contractor may satisfy its insurance obligations as defined in this Schedule A through primary policies or a combination of primary and excess/umbrella policies, so long as all policies provide the scope of coverage required herein.

SCHEDULE A
(GENERAL CONDITIONS TO CONSTRUCTION CONTRACT)
(GENERAL CONDITIONS RELATING TO ARTICLE 22 – INSURANCE)

PART III. CERTIFICATES OF INSURANCE

All certificates of insurance (except certificates of insurance solely evidencing Workers' Compensation Insurance, Employer's Liability Insurance, and/or Disability Benefits Insurance) must be accompanied by one of the following:

- (1) the Certification by Insurance Broker or Agent on the following page setting forth the required information and signatures;

-- OR --

- (2) copies of all policies as certified by an authorized representative of the issuing insurance carrier that are referenced in such certificate of insurance. If any policy is not available at the time of submission, certified binders may be submitted until such time as the policy is available, at which time a certified copy of the policy shall be submitted.

CITY OF NEW YORK
CERTIFICATION BY INSURANCE BROKER OR AGENT

The undersigned insurance broker represents to the City of New York that the attached Certificate of Insurance is accurate in all material respects.

[Name of broker or agent (typewritten)]

[Address of broker or agent (typewritten)]

[Email address of broker or agent (typewritten)]

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

[Signature of authorized official, broker, or agent]

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

State of)
) ss.:
County of)

Sworn to before me this _____ day of _____, 20_____

NOTARY PUBLIC FOR THE STATE OF _____

SCHEDULE A

(GENERAL CONDITIONS TO CONSTRUCTION CONTRACT)

PART IV. ADDRESS OF COMMISSIONER

Wherever reference is made in Article 7 or Article 22 to documents to be sent to the **Commissioner** (e.g., notices, filings, or submissions), such documents 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**.

DDC Director, Insurance Risk Manager

30 – 30 Thomson Avenue, 4th Floor (IDCNY Building)

Long Island City, NY 11101

(NO FURTHER TEXT ON THIS PAGE)

- Capital Contract
- Operating Contract
- Entry Permits



Long Island Rail Road CERTIFICATE OF INSURANCE

AGREEMENT or CONTRACT #:		AGREEMENT or CONTRACT NAME/DESCRIPTION:			
INSURANCE PRODUCER:		CERTIFICATE ISSUANCE DATE:	DATE RECEIVED:	REFERENCE #:	
ADDRESS:					
PHONE #:					
INSURED:		CO LTR	COMPANIES AFFORDING COVERAGE		
ADDRESS:			A	NAIC #	
PHONE #:			B	NAIC #	
			C	NAIC #	
			D	NAIC #	
			E	NAIC #	
			F	NAIC #	
CERTIFICATE HOLDER: Long Island Railroad/MTA Attention: Risk & Insurance Management		G	NAIC #		
ADDRESS: 2 Broadway 21 st Floor New York, NY 10004					
PHONE #: (846) 252-1429					

COVERAGES (See Notes 1 and 2)

GO LTR	TYPE OF INSURANCE	POLICY NUMBER	EFFECTIVE DATE	EXPIRATION DATE	LIMITS	
	GENERAL LIABILITY <input type="checkbox"/> Commercial General Liability Form <input type="checkbox"/> Underground Expl. & Collapse Hazard <input type="checkbox"/> Products/Completed Operations <input type="checkbox"/> Contractual Liability <input type="checkbox"/> Independent Contractors <input type="checkbox"/> Fifty Foot Exclusion Removed <input type="checkbox"/> Personal & Advertising Injury <input type="checkbox"/> SIR/Deductible \$ _____				BI & PD COMBINED OCCURRENCE	\$
					GENERAL AGGREGATE	\$
					PRODUCTS/COMPLETED OPERATIONS AGGREGATE	\$
					OTHER	\$
	AUTOMOBILE LIABILITY <input type="checkbox"/> Any Auto <input type="checkbox"/> Owned Autos <input type="checkbox"/> Hired Autos <input type="checkbox"/> Non-Owned Autos				BODILY INJURY (Per Occurrence)	\$
					PROPERTY DAMAGE (Per Occurrence)	\$
					BODILY INJURY/PROPERTY DAMAGE COMBINED SINGLE LIMIT (Each Accident)	\$
	GARAGE LIABILITY <input type="checkbox"/> Any Auto				AUTO ONLY EACH ACCIDENT	\$
					OTHER THAN AUTO ONLY	EA ACC \$
						AGG \$
	EXCESS LIABILITY <input type="checkbox"/> Umbrella Form <input type="checkbox"/> Other Than Umbrella Form <input type="checkbox"/> SIR/Deductible \$ _____				EACH OCCURRENCE	\$
					AGGREGATE	\$
	WORKER'S COMPENSATION AND EMPLOYER'S LIABILITY <input type="checkbox"/> USLH <input type="checkbox"/> Jones Act <input type="checkbox"/> "All States" Coverage				<input type="checkbox"/> STATUTORY LIMITS	
					EMPLOYER'S LIABILITY	\$
	PROFESSIONAL LIABILITY <input type="checkbox"/> Includes Pollution Liability <input type="checkbox"/> Deductible \$ _____					\$
	OTHER: _____					\$
	OTHER: _____					\$
	OTHER: _____					\$

EVIDENCE OF RAILROAD PROTECTIVE LIABILITY AND/OR BUILDER'S RISK INSURANCE, WHEN APPLICABLE, REQUIRES SUBMISSION OF THE ORIGINAL POLICY.

THE ORIGINAL BINDER(S) WILL BE ACCEPTED, PENDING ISSUANCE OF THE ORIGINAL POLICY(S). *Revised 8/09*

LIABILITY COVERAGES:

ADDITIONAL INSUREDS (See Note 3) Check all that apply
Coverage: General Liability, Garage Liability, Excess/Umbrella Liability
Contractor's Pollution Liability, Pollution Legal Liability, etc.

For All Long Island Rail Road Agreements:

- Long Island Rail Road (LIRR), Metropolitan Transportation Authority (MTA), and its subsidiaries and affiliates and New York & Atlantic Railway Company (when applicable).

Additional Indemnities Required on Long Island Rail Road Agreements, depending on Location of Work:

- NJ Transit Corporation/NJ Transit Rail Operations, Inc.
National Railroad Passenger Corp. (Amtrak)
Consolidated Rail Corporation
CSX Transportation Inc.
Triborough Bridge & Tunnel Authority (B&T)
Port Authority of NY & NJ

Other

ADDITIONAL NAMED INSUREDS, when applicable

PROPERTY COVERAGES:

(See Note 3) Check all that apply

ADDITIONAL NAMED INSUREDS/LOSS PAYEE
Property, Builder's Risk, etc.

LOSS PAYEE
Coverage: Crime Insurance, Valuable Papers

For all Long Island Railroad Agreements

- Long Island Rail Road (LIRR), Metropolitan Transportation Authority (MTA), and its subsidiaries and affiliates and New York & Atlantic Railway Company (when applicable).

Additional Indemnities Required on Long Island Rail Road Agreements, depending on Location of Work:

- NJ Transit Corporation/NJ Transit Rail Operations, Inc.
National Railroad Passenger Corp. (Amtrak)
Consolidated Rail Corporation
CSX Transportation Inc.
Triborough Bridge & Tunnel Authority (B&T)
Port Authority of NY & NJ

Other

NOTE 1: The subscribing insurance company(s), authorized to do business in the State of New York, certifies that insurance of the kinds and types and for limits of liability herein stated, covering the Agreement/Contract herein designated, has been procured by and furnished on behalf of the Insured and is in full force and effect for the period listed on the front of this Certificate of Insurance. In addition, the subscribing insurance company(s) certifies that the insurance limits for General Liability Insurance are not amended by deductible clauses of any nature except as has been disclosed to and approved by the Long Island Rail Road; and that coverage is afforded for the Insured's obligations under that provision of the contract providing for indemnification of the Indemnified Parties, including the Long Island Rail Road, named therein. When applicable, the subscribing insurance company(s) certifies that: any exclusion applying to construction or demolition operations on or within fifty (50) feet of a railroad (stations, yards, tracks, etc.) has been removed; and any employer liability exclusion which may otherwise operate to exclude claims for bodily injury asserted by an employee of an additional insured has been removed.

NOTE 2: The subscribing insurance company(s) shall endeavor that no policy referred to herein shall be changed or canceled until thirty (30) days written notice has been sent to the following address: Long Island Rail Road c/o MTA Risk and Insurance Management Department, 2 Broadway, 21st Floor, New York, NY 10004.

NOTE 3: All references to Additional Named Insureds and Additional Insureds include those entities' directors, officers, employees, partners, agents, subsidiaries and affiliates.

NOTE 4: This certificate is issued to the Certificate Holder in consideration of the Agreement/Contract entered into with the named insured. It is understood and agreed that the certificate holder relies on the certificate as basis for continuing such Agreement/Contract with the named insured.

AUTHORIZED INSURER/PRODUCER

BY

(signature of authorized insurer/producer)

TITLE

STATE OF)
) s.s.
COUNTY OF)

On this ___ day of _____, 20___, before me personally came _____, to me known, who being duly sworn, did depose and say that he/she resides in _____, that he/she is the _____ of the corporation and described in and which executed the foregoing Certificate of Insurance, that he/she is fully authorized to execute the foregoing Certificate of Insurance.

(Notary Public)

CERTIFICATES OF INSURANCE MUST BE COMPLETED BY AUTHORIZED INSURANCE REPRESENTATIVES ONLY.

REVISIONS TO STANDARD SPECIFICATIONS**NOTICE**

The Specification Bulletin(s) ("SB(s)") referenced in this Section (R-Pages) may consist of revisions to the following Standard Specifications:

- New York City Department of Transportation ("NYC DOT") Standard Highway Specifications, dated 8/1/2015;
- New York City Department of Environmental Protection ("NYC DEP") Standard Sewer and Water Main Specifications, dated 7/1/2014; and
- NYC DEP Specifications for Trunk Main Work, dated 7/2014.

The SB(s) modify and supersede portions of the applicable Standard Specifications. The provisions contained in this Contract's I-Pages, S-Pages and SW-Pages may further modify the applicable Standard Specifications.

The following SB(s) are included as part of this contract:

- SB 16-001 – REVISIONS TO THE NYC DOT STANDARD HIGHWAY SPECIFICATIONS.
- SB 16-002 – REVISIONS TO THE NYC DEP STANDARD SEWER AND WATER MAIN SPECIFICATIONS.
- SB 17-001 – UV CURED-IN-PLACE-PIPE (CIPP) LINING METHOD
- *SB 17-002 – SUPERSEDED BY SB 18-001*
- SB 17-003 – ENGINEERS FIELD OFFICE
- SB 17-004 – FIRE DEPARTMENT FACILITIES
- SB 17-005 – DIGITAL PHOTOGRAPHS
- SB 17-006 – RECORDS OF SUBSURFACE STRUCTURES
- SB 17-007 – MOBILIZATION
- SB 17-008 – QUALIFICATION CARDS
- SB 17-009 – SALVAGEABLE MATERIALS
- SB 17-010 – MILLED ASPHALTIC CONCRETE AGGREGATE
- SB 17-011 – DETECTABLE WARNING UNIT COLOR

- SB 17-012 – TEMPORARY HOUSE CONNECTION MATERIAL
- SB 18-001 – RODENT AND WATERBUG PEST CONTROL
- SB 18-002 – COLOR SURFACE TREATMENT FOR PAVEMENTS
- SB 18-003 – WATER AND SEWER GENERAL PROVISIONS
- SB 18-004 – CUTTING DUCTILE IRON PIPE
- SB 18-005 – STOCKPILES
- SB 19-001 – RESTORATION OF PAVEMENT SURFACE

The SB(s) are available online at:

<http://www1.nyc.gov/site/ddc/resources/specification-bulletins.page> or for pickup between 8:00 AM and 4:00 PM at 30-30 Thomson Avenue, 3rd Floor, Division of Infrastructure, Long Island City, NY 11101. Contacts:

- Mr. Richard Jones, (718) 391-1417
- Mr. Salman Macktoom, (718) 391-2041

(NO FURTHER TEXT THIS PAGE)

NOTICE

The Standard Sewer And Water Main Specifications of the Department of Environmental Protection (dated July 1, 2014), Sewer Design Standards of the Department of Environmental Protection (dated(September 2007) Revised August, 2018), Water Main Standard Drawings of the Department of Environmental Protection (latest revisions), and Specifications For Trunk Main Work of the Department of Environmental Protection (dated July 2014) shall be included as part of the contract documents. These said specifications and standard drawings are hereby revised under the following section headings:

- A. NOTICE TO BIDDERS
- B. REVISIONS TO THE STANDARD HIGHWAY SPECIFICATIONS
- C. REVISIONS TO THE STANDARD SEWER AND WATER MAIN SPECIFICATIONS
- D. REVISIONS TO THE SPECIFICATIONS FOR TRUNK MAIN WORK

(NO TEXT ON THIS PAGE)

A. NOTICE TO BIDDERS

- (1) The Contractor is notified that a Notice To Proceed (NTP) date will be issued for work to commence within twenty-one (21) to thirty (30) days of Contract Registration.
- (2) The Contractor shall furnish, install, maintain and subsequently remove temporary Protective Tree Barriers. Protective Tree Barriers shall be Type B, unless otherwise directed by the Engineer, and shall be constructed and installed as shown on the Protective Tree Barrier sketch in Department Of Transportation, Standard Highway Details of Construction, Drawing No. H-1046A, as directed by the Engineer, and in accordance with Department of Parks and Recreation requirements.
- (3) All utility locations and invert elevations are not guaranteed, nor is there any guarantee that all existing utilities, whether functional or abandoned within the project area are shown.
- (4) All existing house connections shall be maintained and supported during construction. The Contractor shall replace any existing house connection damaged as a result of the Contractor's construction operations as ordered by the Engineer at no cost to the City.
- (5) The Contractor is advised that any City owned light poles, traffic signals, street name signs, traffic signs and encumbrances including, but not limited to, underground conduit displaced as the result of the installation of the new sewers, water mains, catch basins, catch basin connections and appurtenances shall be replaced in kind and as directed by the Engineer. The cost of such work shall be deemed included in the prices bid for all items of work under this contract.
- (6) The Contractor is notified that Victaulic Style 77 Coupling is no longer acceptable for use in any steel water main work. All reference to Victaulic Style 77 Coupling within the Standard Sewer And Water Main Specifications of the Department of Environmental Protection (dated July 1, 2014), the Water Main Standard Drawings of the Department of Environmental Protection (latest revisions), the Specifications For Trunk Main Work (dated July 2014), and the contract drawings, shall be replaced with Bolted Split-Sleeve Restrained Coupling.
- (7) The Contractor is notified that wherever the Item No. "6.52" and words "flagger", "flagperson" and "flagman" are used in the contract documents and drawings it shall mean the Item No. "6.52 CG" and the words "Crossing Guard", respectively. The Contractor is advised that until the Comptroller of the City of New York sets a prevailing wage rate for crossing guards, there are no prevailing wage rates for crossing guards.
- (8) The Contractor is notified that the fuel cost per gallon used in the formula under **Sub-Article 26.2.8** of the Standard Construction Contract for **Extra Work** will be derived from the fuel price index for the United States East Coast published weekly by the United States Energy Information Administration ("USEIA"), and available on its website at <http://www.eia.gov/petroleum/gasdiesel/>. The USEIA published cost per gallon for the applicable fuel on the East Coast for the week in which the first day of each calendar quarter during the contract term occurs (i.e., January 1st, April 1st, July 1st and September 1st) will be used in the reimbursement formula for all **Extra Work** invoiced that was performed during that calendar quarter. Should the USEIA stop publishing this fuel price index, the fuel cost per gallon will be determined by reference to a substitute index to be agreed upon by the Contractor and the City.
- (9) The Contractor is responsible for any damage to the existing street and traffic signal equipment, including underground conduits and the safety of both pedestrian and vehicular traffic for the duration of the contract.

Should any conduits, cables or foundations need repair due to the Contractor's negligent operations during construction, all work shall be performed according to NYCDOT Bureau of Traffic's Standard Drawings and Specifications at the sole expense of the Contractor.

It is the Contractor's responsibility to secure an approved electrical contractor to perform all traffic signal work (if any). For list of approved electrical contractors, contact Mr. Michael R. LeFosse of New York City Department of Transportation at (212) 839-3799.

(10) The Contractor is advised that where the existing roadway pavement is designated to be replaced from curb to curb, then no full depth saw cutting of pavement for sewer and water main trenches will be required, except at the limits of full width pavement restoration. No separate or additional payment will be made for any saw cutting.

(11) The Contractor shall exercise extreme caution and take all necessary precautions in placing sheeting and excavating to prevent any damage to the existing NYC TRANSIT'S subway structures and its appurtenances during construction work throughout the project area. The Contractor shall take full responsibility to protect the said NYC TRANSIT'S subway structures and its appurtenances and any damage caused by the Contractor's operations shall be made good by the Contractor to the satisfaction of the Engineer at no additional cost to the City.

(12) **"As-Built" Drawings For Water Mains And Appurtenances 24-Inches (600-mm.) And Larger:**
Upon the completion of the work and as a condition precedent to obtaining the certificate for substantial completion for the project under **Article 44** of the Contract, the Contractor shall furnish **"As-Built"** drawings for water mains and appurtenances 24-inches and larger to the City. The Contractor shall prepare and submit the **"As-Built"** record drawings to the Engineer for approval. Approved **"As-Built"** drawings shall be delivered to the Department of Design and Construction, 30-30 Thomson Avenue, Long Island City, New York, 11101-3045. The following guideline is provided for the preparation of **"As-Built"** record drawings:

(A) The Contractor shall prepare the **"As-Built"** drawings on AutoCAD and shall provide to the City two (2) sets of Mylar and AutoCAD files on a CD. The drawings on CD's and the plotted Mylar's shall conform to the standard size of 22" x 36" (559-mm. x 914-mm.) using a 1"=30' (1:360) horizontal and 1"=10' (1:120) vertical scale. The Mylar shall be 3-mil in thickness.

(B) The **"As-Built"** drawings shall include but not be limited to the following guidelines summarized below:

- (1) Drawings shall consist of the same legend and layout of title boxes shown on the contract drawings.
- (2) Each plotted Mylar drawing shall contain the signature and stamp of the Contractor's NYS Professional Engineer/Registered Architect.
- (3) The drawings shall include:
 - (a) street name and crossing street(s) or distance from;
 - (b) north arrow;
 - (c) property lines and widths;
 - (d) legal and existing street widths, street alignment and grades;
 - (e) "new" curb lines and widths;
 - (f) water main center line measured off the "new" curb line;
 - (g) horizontal stationing for all valves, hydrants, outlets, blow-offs, house service connections, etc., measured on a horizontal line as established by the Borough Office Bureau of Topographic;
 - (h) alignment and appurtenance location stationing, and deflection angles;
 - (i) cover and elevations (Datum used shall be that of the Borough where work is located);
 - (j) location of pipe joints;
 - (k) profile of all piping;
 - (l) complete details of all outlet piping roundabouts;
 - (m) complete details of all blow-off connections to the sewer;
 - (n) complete details of all air cocks;
 - (o) location of taps and access manholes;
 - (p) location of all cathodic protection stations;
 - (q) Venturi sensing lines plans and profiles;
 - (r) all appropriate notes.

- (C) The cost of preparing and submitting "As-Built" approved drawings shall be deemed included in the prices bid for all scheduled bid items in the contract. No separate or additional payment will be made for this work.
- (13) The Contractor shall submit shop drawings to NYC Transit Authority showing all the details and methods of construction, such as, sheeting and bracing, including the Contractor's procedure and sequence of construction, supporting and/or protection of the existing TA's structures and its appurtenances, with necessary design calculations for approval prior to starting of the construction. The design shall be made by a New York State Licensed Professional Engineer skilled in this type of construction and as further evidenced by the imprint of Professional Engineer's seal and signature on all drawings. The cost of this work shall be deemed included in the price bid for all items of work under this contract.
- (14) The contractor is notified that at some locations, existing sewers, manholes, water mains, etc. which are to remain undisturbed are in close proximity to the line of the proposed work. The contractor shall exercise extreme care, minimize the trench width of the proposed water main and take all necessary precautions in placing sheeting and during excavation of the trenches to prevent damage to the existing city-owned structures that are to remain undisturbed. Any damage to existing city-owned structures caused by the Contractor's construction operations shall be repaired or replaced as directed by the engineer. The cost of such repair or replacement shall be born solely at the Contractor's own expense.
- (15) The Contractor is notified that as part of this contract a "Cathodic Protection (CP) System Survey and Engineering Study of Soil and Stray Currents and Cathodic Protection System Design" has been prepared by the firm of CorrTech, Inc.. The Contractor's attention is directed to the Cathodic Protection Design drawings consisting of twelve (12) sheets that are included as part of the contract drawings; to the Cathodic Protection (CP) System Survey and Engineering Study of Soil and Stray Currents and Cathodic Protection System Design report that consists of thirty five (35) pages that is attached to the end of this addendum, and the quantity and cost estimating report consisting of one (1) page that is attached to the end of this addendum.
- (16) The Contractor is informed that in the following streets (the intersection of East New York Avenue, Howard Avenue and Pitkin Avenue; and, East New York Avenue from the northeast curb line of Howard Avenue to a point approximately 220 LF. East of the northeast building line of Howard Avenue) the final lines and grades for the reconstruction of these streets including sidewalk, curb lines, grades, pavement markings plans and traffic signals work plans shall be furnished to the Contractor prior to construction. Payment for this street reconstruction work shall be made under the appropriate bid items of the contract. There will be no separate or additional payments made, nor any extension of time given for any changes to or alterations to the contractors means and methods of construction that may be required in order to accomplish this work. The contractor shall make no claim for extra work or changed condition due to the receiving of the line and grade specified above prior to construction.

B. REVISIONS TO THE STANDARD HIGHWAY SPECIFICATIONS

(1) Refer to Standard Highway Specifications Volume II (August 1, 2015), Page 372:

Add the following new Section 6.39 B:

6.39.1. DESCRIPTION. Under this section, the Contractor must set up all necessary general plant and facilities, including shops, storage areas, office and such sanitary and other facilities as are required by City, State or Federal law or regulation. Unless otherwise provided, the cost of required bonds and/or any other similar significant initial expenses required for the initiation of the contract work must also be included in this section. The determination of the adequacy of Contractor's facilities, except as noted above, will be made by the Engineer.

6.39.2. MATERIALS. Unless otherwise specified, materials required under this section are not part of the completed contract and may be as selected by the Contractor.

6.39.3. CONSTRUCTION METHODS. Such work as is done in providing the facilities and services under this section must be done in a safe and workmanlike manner and must conform with any pertinent City, State or Federal law, regulation or code. The Contractor must provide facilities and services under this section that are planned and executed to ensure the maintenance of safety and good housekeeping at the construction site.

6.39.4. PRICE TO COVER.

Payment will be made by lump sum. The amount bid will include the furnishing and maintaining of any plant, services or other facilities noted under "Description" to the extent and at the time the Contractor deems them necessary for the Contractor's operations, consistent with the requirements of this section and the contract. The amount bid for this lump sum item will be payable to the Contractor when the following items are submitted and approved by the Engineer:

1. The provision of a Field Office per Section 6.40 of the NYCDOT Standard Highway Specifications;
2. The Site Safety Plan per the Safety Requirements section of the Information for Bidders;
3. The Schedule of Operations (project baseline schedule) per Section 1.06.25 of the NYCDOT Standard

Highway Specifications;

4. The Progress Schedule per Standard Construction Contract Article 9;
5. Preconstruction Photographs per Section 6.43 of the NYCDOT Standard Highway Specifications are submitted to the Engineer; and
6. Construction Report per Item 76.11CR of the NYCDEP Standard Sewer and Water Main Specifications, if item is required as part of the Contract.

However, should the Contract be terminated, or its term expires prior to completion of at least fifty percent (50%) of the original price bid for the Contract, then the Contractor will be paid a proportionate amount of this item (hereinafter referred to as the "Adjusted Mobilization Payment") based on the following formula:

$$\text{Adjusted Mobilization Payment} = \text{As Bid Mobilization Cost} \times \frac{\text{Total Actual Payments to the Contractor approved by the Engineer}}{\text{Original Total Bid Price} + \text{Approved and Registered Change Orders}}$$

Where the Contractor has already received the original total payment for this item and the Contract has been terminated or expired prior to completion of at least fifty percent (50%) of the work covered under the original price bid for the Contract, then any monies owed by the City due to the above specified reduction in payment will be withheld from the monies the City owes to the Contractor and/or the City reserves a claim to such funds from the Contractor.

The amount bid for Mobilization must not exceed eight percent (8%) of the total contract price, excluding the price bid for Mobilization, and in no case will payment under this item exceed the original price bid for this item.

Payment will be made under:

Item No.	Item	Pay Unit
6.39 B	MOBILIZATION	L.S.

(2) Refer to Standard Highway Specifications Volume II (August 1, 2015), Page 553:

Add the following new Section 9.28:

Section 9.28 –EXPANDED WORK ALLOWANCE

9.28.1 PURPOSE

An Allowance has been established for the items set forth in sub-Section 9.28.3 below (“Expanded Work Allowance” or “EWA”). Payment for the items set forth in sub-section 9.28.3 (“Expanded Work Items”) may be made through the EWA, as directed by the Engineer. “Extra Work”, “overrun”, and “Allowance” are defined by the Standard Construction Contract (see Articles 2.1.16, 26.1, and 2.1.4, respectively) and nothing in this Section alters, or will be deemed to alter the interpretation or application of, the Standard Construction Contract, including but not limited to Articles 25, 26, 28, and 78 of the Standard Construction Contract.

9.28.2 PROCESS

(a) If the Engineer determines that use of the EWA is appropriate, in their sole discretion, the Engineer will prepare a written scope document for the Expanded Work Items for the Contractor’s execution (“EWA Scope Memo”). The EWA Scope Memo will set forth the maximum amount payable from the EWA prior to the execution of a final cost memorandum (“Maximum Amount”), in accordance with this Section. The Maximum Amount may be increased from time to time by the Engineer, in their sole discretion, except that the Maximum Amount may not exceed 80% of the Engineer’s estimated total cost for such Work (the “Estimated Cost”) unless and until a final cost is determined and a final cost memorandum (“Final Cost Memo”) executed in accordance with this Section.

(b) Neither the Maximum Amount nor the Estimated Cost will be deemed to be the final cost of the Expanded Work Items. The final cost for the Expanded Work Items will be determined in accordance with Article 26 of the Standard Construction Contract. The Contractor must submit its detailed price proposal for the Expanded Work Items, calculated in accordance with the Contract, within the time period set forth in the EWA Scope Memo or within 90 Days after the executed EWA Scope Memo is issued to the Contractor, whichever is sooner.

(c) Once the EWA Scope Memo is executed and the Contractor is directed to proceed with the Work, DDC will make progress payments, as provided in the Contract, up to the Maximum Amount or until the submission period has expired, whichever occurs sooner.

(d) DDC will not make any progress payments for the performance of the Expanded Work Items beyond the submission period set forth in sub-Section "c", above, unless and until a final cost has been determined and a Final Cost Memo executed in accordance with this Section. No amounts above the Maximum Amount set by the Engineer will be payable from the EWA, unless and until a final cost has been determined and a Final Cost Memo executed in accordance with this Section. In all events, the Contractor shall promptly and diligently comply with the Engineer's direction and perform all Work required by the Contract and the EWA Scope Memo.

(e) Upon receipt of the Contractor's cost detailed proposal, DDC will evaluate the proposal and initiate negotiations, as necessary, to determine the final cost of the Expanded Work Items in accordance with Article 26 of the Standard Construction Contract. The Contractor is responsible to furnish time and material records in accordance with Article 28 of the Standard Construction Contract until a Final Cost Memo is executed. If the parties cannot agree on a unit price or fixed price, the Contractor will be paid on the basis of time and material records in accordance with Article 26 the Standard Construction Contract.

(f) A Final Cost Memo will be prepared by the Engineer to be executed by the parties. The total net sum of the amounts added and/or credited under the EWA Scope Memo and payment of the finalized Final Cost Memo constitutes full accord and satisfaction for the costs resulting from the Expanded Work Items. In the event the EWA is insufficient to pay the full amount of the Final Cost Memo, the parties agree to execute change order documents for the remaining funds, subject to registration in accordance with the New York City Charter.

9.28.3 PRICE TO COVER

Expanded Work Items are those items set forth below. The EWA may be used, in the Engineer's discretion, for the following Expanded Work Items:

- (a) Non-material changes in the Work necessary to complete Contract Work due to site conditions that differ from those included in the Contract Documents and that could not have been anticipated by the Contractor.
- (b) Non-material changes in the Work directed by the Commissioner that result in a net change in the cost to the Contractor for the Work to be performed under this Contract, including but not limited to the following:
 - (i) Overruns of unit price items and quantity increases in portions of work within a lump sum item.
 - (ii) NYCDOT traffic stipulations or permit requirements that significantly differ from those included in the Contract Documents and that could not have been anticipated by the Contractor.
 - (iii) Changes to the sizes of materials or changes to specifications of materials.
 - (iv) Materials/structures not included in the Contract Documents that are necessary to complete Contract Work and that could not have been anticipated the Contractor.

9.28.4 BASIS OF PAYMENT

(a) The fixed sum must be considered the price bid for this item. The fixed sum is not to be altered in any manner by the bidder. Should the amount shown be altered, the new figures will be disregarded, and the original price will be used to determine the total amount bid for the contract.

(b) The payment(s) made under this item will be equal to the Final Cost Memo prepared by the Engineer and executed by the parties in accordance with 9.28.2(f) above as proof of work performed for this item as approved by the Engineer.

(c) The total estimated cost of this item is the "fixed sum" amount shown for this item in the Bid Schedule and shall not be varied in the bid. The "fixed sum" amount is included in the bid solely to ensure that sufficient monies will be available to pay the Contractor for this work, which may be more or less than the fixed sum amount.

(d) The price will cover the cost of all labor, materials, equipment, insurance and incidentals necessary to complete the work under this section in accordance with the Contract Drawings, the specifications and the directions of the Engineer.

Payment will be made under:

Item No.	Item	Pay Unit
9.28	EXPANDED WORK ALLOWANCE	F.S.

(3) **Refer** to Standard Highway Specification, Volume II of II (August 1, 2015) Page 562, **Add** the following new **Section HW-900H**:

ITEM HW-900H

ALLOWANCE FOR CITY WORK ACCELERATION

Under this Section, the Contractor will be paid for City work deemed necessary by DDC's Commissioner to accelerate the City work items in the project during critical periods but the use of this item will expire on the original contract substantial completion date. Such accelerated City work includes:

- A. 100% of the premium portions of overtime pay for working during non-scheduled work hours which shall be defined as those hours of work outside the permissible hours stated in the original contract OCMC Traffic Stipulations; or,
- B. The premium portion of overtime pay for overtime actually worked beyond the 40-hour work week but within the permissible hours of work stated in the original contract OCMC Traffic Stipulations; or,
- C. All other incidental expenditures caused by modifications of project site regulations or administrative requirements ordered by the Commissioner that result in additional costs to perform contract work as specified.

Such accelerated City work shall be paid for under this item in accordance with the requirements of **Articles 25 and 26** of the Standard Construction Contract.

Payment made under this Fixed Sum item shall cover the cost of all labor, materials, plant, equipment, insurance, and incidentals necessary to accelerate the City work as ordered by DDC's Commissioner.

No guarantee is given that this allowance item will in fact be required in this contract. The estimated "fixed sum" amount shown in the Bid Schedule is included in the total bid solely to insure a method of payment for any accelerated work performed by the Contractor, as directed by DDC's Commissioner.

Payment will be made under:

Item No.	Item	Pay Unit
HW-900H	ALLOWANCE FOR CITY WORK ACCELERATION	F.S.

C. REVISIONS TO THE STANDARD SEWER AND WATER MAIN SPECIFICATIONS

- (1) **Refer** to **Subsection 10.15 - Notice To Utility Companies, Etc., To Remove Structures Occupying Place Of Sewers, Water Mains Or Appurtenances**, Page I-11:
Add the following to **Subsection 10.15**:

(1) CONSOLIDATED EDISON COMPANY OF NEW YORK (CON EDISON)

There are CON EDISON facilities in the area of construction. The Contractor shall notify CON EDISON at least seventy-two (72) hours prior to the start of construction by contacting Mr. Dimitrios Karounis at (718) 275-4085.

(2) NATIONAL GRID

There are NATIONAL GRID facilities in the area of construction. The Contractor shall notify NATIONAL GRID at least seventy-two (72) hours prior to the start of construction by contacting Mr. Neville Jacobs Jr. at (718) 963-5612.

(3) CABLE VISION

There are CABLE VISION facilities in the area of construction. The contractor shall notify CABLE VISION at least seventy-two (72) hours prior to the start of construction by contacting Mr. Anthony Lazzaro at (917)-477-4711.

(4) VERIZON

There are VERIZON facilities in the area of construction. The Contractor shall notify VERIZON at least seventy-two (72) hours prior to the start of construction by contacting Mr. Rohan Eccles at (718)-977-8142.

(5) AT&T

There are AT&T facilities in the area of construction. The contractor shall notify AT&T at least seventy-two (72) hours prior to the start of construction by contacting Mr. William Mohr at (631)-855-2563

- (2) **Refer** to **Subsection 10.21 - Contractor To Notify City Departments**, Page I-13:
Add the following to **Subsection 10.21**:

(1) N.Y.C. D.E.P., BUREAU OF WATER AND SEWERS OPERATIONS

The Contractor shall notify Mr. Peter Gordon, P.E., Chief, Linear Capital Program Management Division at the Department of Environmental Protection, 59-17 Junction Blvd., 3rd floor low rise, Corona N.Y. 11368, at (718) 595-4347 at least thirty (30) days prior to the start of construction.

(2) NEW YORK CITY FIRE DEPARTMENT

The Contractor shall notify the Bureau of Fire Communications at least thirty (30) days prior to the start of construction by contacting Mr. Ed Durkin at (718) 624-4194 or (718) 624-3752.

(3) N.Y.C. DEPARTMENT OF TRANSPORTATION

The Contractor shall notify Mr. Michael Lofesse/Ghanshyam Patel - Signal/Street Lighting Operations, 34-02 Queens Blvd., Long Island City, N.Y. 11101 at (212) 839-3799/ (212) 839-3359, at least seventy-two (72) hours prior to the start of construction.

(4) N.Y.C. DEPARTMENT OF PARKS AND RECREATION

The Contractor shall notify the Parks Department at least seventy-two (72) hours prior to the start of construction by contacting Mr. Jason Conheeny at (718) 965-7740.

(5) N.Y.C. TRANSIT AUTHORITY

- (a) The Contractor shall notify Outside Projects at least seven (7) days prior to the start of construction.

The Contractor shall contact:

Mr. Mohamed Adam, P.E.
Project Engineer-Outside Projects
New York City Transit
2 Broadway, 7th Floor
New York, N.Y. 10004
Attention Ms. Alina Avadanei
Telephone No. (646) 252-3641

- (b) The Contractor is advised that bus routes as well as bus stops, within the scope of this project may be affected during construction operations. The Contractor shall notify the Transit Authority at least two (2) weeks prior to the start of construction, in order to make the necessary arrangements as required under the NYC TRANSIT GENERAL NOTES included in **Section 10.25, paragraph (A), Section 10.25 paragraph (B), and Section 10.25 paragraph (C)** of this section.

Arrangements shall be made through:

Ms. Sarah Wyss
Director Of Short Range, Bus Service Planning (SRB)
New York City Transit
2 Broadway, 17th Floor
New York, N.Y. 10004
Telephone No. (646) 252-5517
sarah.wyss@nyct.com

Ms. Ortiz Brennan
Assistant Transportation Planner, Operations Planning
New York City Transit
2 Broadway, 17th Floor
New York, N.Y. 10004
Telephone No. (646) 252-5188
brennan.ortiz@nyct.com

- (c) In addition, the Contractor is advised that construction operations might affect subway lines and stations; and NYCT facilities (i.e. manholes, ducts, etc.). The Contractor shall notify the Transit Authority as required and specified in **Section 10.25 paragraph (A), Section 10.25 paragraph (B), and Section 10.25 paragraph (C)** of this section.

(6) LONG ISLAND RAIL ROAD (LIRR)

There are LIRR facilities in the area of construction. The Contractor shall notify LIRR at least thirty days (30) prior to the start of construction by contacting Mr. Timothy Raichel, P.E. at (718) 558-3218. The Contractor shall comply with the requirements as specified in **Section 10.25, paragraph (D) and Section 10.25 paragraph (E)** of this section.

- (3) **Refer to Subsection 10.24 – Damaged Water Service Pipes To Be Repaired By A Licensed Plumber, Page I-14:**

Add the following to **Subsection 10.24:**

If the damaged or cut water service pipe is lead, galvanized steel, or galvanized iron, the service pipe must not be partially replaced, but fully replaced from the main to the house control valve. If the service pipe was damaged, cut, or otherwise interrupted due to the Contractor's actions or means & methods (including selection of shoring systems), the water service pipe will be replaced at the Contractor's own cost.

- (4) **Refer to Subsection 10.25 - Contractor To Carry Out Agreement Between City And Railroad Company Or Property Owner(s), Page I-14:**

Add the following to **Subsection 10.25:**

(A) NYC TRANSIT GENERAL NOTES

For NYC TRANSIT notes see the contract drawings.

(B) NYC TRANSIT INSURANCE REQUIREMENTS

N.Y.C. TRANSIT INSURANCE: The Contractor (Permittee) shall indemnify and save harmless the City of New York and the New York City Transit (Permitter) in accordance with the following "Insurance Requirements" and proof that the necessary insurance is in effect will be required before work can commence:

NYCT "OUTSIDE CONTRACT" INSURANCE REQUIREMENTS

(1) The Permittee at its sole cost and expense shall carry or cause to be carried and shall maintain at all times during the period of performance under this Agreement policies of insurance as herein below set forth below:

(A) **Workers' Compensation Insurance** - (including Employer's Liability Insurance) with limits as specified in Schedule "A", which limit may be met by a combination of primary and excess insurance meeting the statutory limits of New York State. The policy shall be endorsed to include Longshoreman's and Harbor Workers' Compensation Act/Maritime Coverage Endorsement and/or Jones Act Endorsement when applicable.

(B) **Commercial General Liability Insurance** - (I.S.O. 2001 Form or equivalent) approved by Permitter in the Permittee's name with limits of liability as specified in Schedule "A" for each occurrence on a combined single limit basis for injuries to persons (including death) and damages to property. The limits may be provided in the form of a primary policy or combination of primary and umbrella/excess policy. When the minimum contract amounts can only be met when applying the umbrella/excess policy; the Umbrella/Excess Policy must follow form of the underlying policy and be extended to "drop down" to become primary in the event primary limits are reduced or aggregate limits are exhausted. Such insurance shall be primary and non-contributory to any other valid and collectable insurance and must be exhausted before implicating any Permitter/MTA policy available.

Such policy should be written on an occurrence form; and shall include:

- Contractual coverage for liability assumed by the Permittee under this agreement;
- Personal and Advertising Injury Coverage;
- Products-Completed. Operations;

- Independent Contractors Coverage;
- "XCU" coverage (Explosion, Collapse, and Underground Hazards) where necessary;
- Contractual Liability Exclusion, applicable to construction or demolition operations to be performed within 50 feet of railroad tracks, must be voided, where necessary; and,
- Additional Insured Endorsement (I.S.O. Form CG 20 26 07/04 version or equivalent) approved the Permitter naming:

New York City Transit Authority (NYCTA), the Manhattan and Bronx Surface Transit Operating Authority (MaBSTOA), the Staten Island Rapid Transit Operating Authority (SIRTOA), MTA Capital Construction Co., the Metropolitan Transportation Authority (MTA) including its subsidiaries and affiliates, and the City of New York (as Owner).

(C) Business Automobile Liability Insurance Policy - (I.S.O. Form CA 00 01 10 01 or equivalent) approved by the Permitter is required if Permittee's vehicle enters Permitter property. The insurance must be in the name of the Permittee or its contractor entering the Permitter property with limits of liability in the amount specified in Schedule "A" for claims for bodily injuries (including death) to persons and for damage to property arising out of the ownership, maintenance or use of any owned, hired or non-owned motor vehicle.

(D) Railroad Protective Liability Insurance policy shall be required as specified in Schedule "A".

(E) Environmental/Pollution Exposures:

In the event environmental or pollution exposures exist, the Permittee shall require the environmental contractor or sub-contractor to provide the applicable insurance covering such exposure. The limits and type of insurance provided shall be satisfactory to the Permitter and will be confirmed to the parties prior to the start of the work.

(2) General Requirements Applicable To Insurance Policies:

- (a) All of the insurance required by this Article shall be with Companies licensed or authorized to do business in the State of New York with an A.M. Best Company rating of not less than A-/VII or better and reasonably approved by the Permitter/MTA and shall deliver evidence of such policies.
- (b) Except for Workers Compensation, all references to forms and coverages referred to above shall be the most recent used by the Insurance Services Office, Inc. (ISO") or equivalent forms approved by the Insurance Department of the State of New York, provided, however, that excess coverages may be written on forms reasonably acceptable to Permitter containing provisions other than those contained in ISO forms but otherwise conforming in substance to the requirements of this Article.
- (c) The Permittee or its Contractor performing the work shall furnish evidence of all policies before any work is started to the permitter:

For NYCT Contract Inspection
C/O Mr. John Malvasio
Director, MOW Engineering
130 Livingston Street, Room 8044F
Brooklyn, NY 11201
Telephone: (718) 694-1358

These policies must: (i) be written in accordance with the requirements of the paragraphs above, as applicable; (ii) be endorsed in form acceptable to include a provision that the policy will not be canceled, materially changed, or not renewed, unless otherwise indicated herein, at least thirty (30) days prior written notice to the Permitter c/o MTA Risk and Insurance

Management (MTA RIM) Department - Standards, Enforcement & Claims Unit, 2 Broadway - 21st floor, New York, NY 10004; and (iii) state or be endorsed to provide that the coverage afforded under the contractor's policies shall apply on a primary and not on an excess or contributing basis with any policies which may be available to the Permittor/MTA, and also that the contractor's policies, primary and excess, must be exhausted before implicating any Permittor/MTA policy available. (iv) In addition, contractor's policies shall state or be endorsed to provide that, if a subcontractor's policy contains any provision that may adversely affect whether contractor's policies are primary and must be exhausted before implicating any Permittor/MTA policy available, contractor's and subcontractor's policies shall nevertheless be primary and must be exhausted before implicating any Permittor/MTA policy available. Except for Professional Liability, policies written on claims made basis are not acceptable. At least two (2) weeks prior to the expiration of the policies, contractor shall endeavor to provide evidence of renewal or replacement policies of insurance, with terms and limits no less favorable than the expiring policies. Except as otherwise indicated in the detailed coverage paragraphs below, self insured retentions and policy deductibles shall not exceed \$100,000, unless such increased deductible or retention is approved by Permittor/MTA. The Permittee shall be responsible for all claim expense and loss payments within the deductible or self-insured retention. The insurance monetary limits required herein may be met through the combined use of the insured's primary and umbrella/excess policies.

- (d) Certificates of Insurance may be supplied as evidence of policies of the above policies, except for Policy (D) Railroad Protective Liability Insurance Policy. However, if requested by the Permittor, the Permittee shall deliver to the Authority, within forty-five (45) days of be request, a copy of such policies, certified by the insurance carrier as being true and complete. The Railroad Protective Liability Insurance Policy must be provided in the form of the Original Policy. A detailed Insurance Binder may be provided, ACORD or Manuscript Form, pending issuance of the Original Policy. The Original Policy must be submitted to MTA RIM within thirty (30) days of the Binder Approval.
- (e) If a Certificate of Insurance is submitted, it must: (1) be provided on the Permittor Certificate of Insurance Form or MTA Certificate of Insurance Form for Joint Agency Agreements; (2) be signed by an authorized representative of the insurance carrier or producer and notarized; (3) disclose any deductible, self-insured retention, sub-limit, aggregate limit or any exclusions to the policy that materially change the coverage; (4) indicate the Additional Insureds and Named Insureds as required herein, along with a physical copy of the Additional Insured Endorsement (I.S.O. Form CG 20 26 07/04 version or equivalent), as applicable and the endorsement(s) must include policy number(s); (5) reference the Contract by number on the face of the certificate; and (6) expressly reference the inclusion of all required endorsements.
- (f) The minimum amounts of insurance required in the detail description of policies (A), (B), (C), and (D) above shall not be construed to limit the extent of the Permittee's liability under this Agreement.
- (g) If, at any time during the period of this Agreement, insurance as required is not in effect, or proof thereof is not provided to the Permittor, the Permittor shall have the options to: (i) direct the Permittee to suspend work or operation with no additional cost or extension of time due on account thereof; or (ii) treat such failure as an Event of Default.

(C) NYC TRANSIT CURRENT AND FUTURE PROJECTS

The Contractor is notified of the following:

- (1) **The BMT Canarsie Line L train and the BMT Jamaica Line J and the IND Fulton Street Line A train** are running within the area of this Project.
- (2) NYC transit Structural Drawings can be obtained by contacting Mr. Chenthitta Gopalakrishnan at (646) 252-3614

(3) The contractor is notified that the following drawings showing Power Engineering activities for the area of this project:

- P-572-Duct Assignment-Vicinity of Livonia Avenue Station 14th Street Canarsie Line-BMT- and Junius Street Station- Eastern Parkway Line-IRT Brooklyn -The Bronx
- P-607-Duct Assignment-Vicinity of Liberty Avenue Station Fulton Street Line-IND-Brooklyn
- P-445-Duct Assignment-Vicinity of Van Siclen Station Broadway EL Line-BMT-Brooklyn

(4) This project might have an impact at the **Atlantic Ave. Station** for the BMT Canarsie Line L train and **Alabama Avenue Station** for BMT Jamaica Line J train.

Should become necessary to close any of the above entrances for the stations, see Note No. 35 from the General Notes that are made part of the contract drawings.

(5) The following tables showing NYC Transit's current and planned projects that may impact and/or interfere with this project might require the Contractor to coordinate construction work with NYCT contractors. These tables are for information only:

**PROJECT COORDINATION GUIDE
ATLANTIC AVE. STATION/CANARSIE LINE-BMT/BROOKLYN**

Contract	Project Title	Design Manager/ Telephone No.	Constr. Manager/ Telephone No.	Resident Engineer/ Telephone No.
MW62-7005 C33600	Struct Overcoat OC: ENY Leads & Loops	L. Powerman/ (646) 252-4569	C. Velenovsky/ (718) 064-1954	
ST01-1460 A37628	Stations Sandy Resiliency: EBCS	S. Ragheb/ (646) 252-3427	J. Singh/ (718) 813-0027	
ST01-1615 A37668	Stations HP.39 Stations (I/H)	D. Wesley/ (646) 252-3061	M. Yu/ (646) 252-3487	G. Lau/ (718) 613-0204
MW627- 6044 C33131	Struct Overcoat OC: Bway Jct- CyprsHills/JAM	L. Powerman/ (646) 252-4569	K. Patel/ 212) 840-0752	R. Mangaluz/ (646) 252-4020
CB01-1251 D6114	Sandy Mitigation Studies-EBCS	Undesignated	Undesignated	
ST01-0868 375774	Station Components Comp: 2 Loc/4 Av	D. Wesley/ (646) 252-3061	M. Yu/ (646) 252-3487	

**PROJECT COORDINATION GUIDE
ALABAMA AVE. STATION/JAMAICA LINE-BMT/BROOKLYN**

Contract	Project Title	Design Manager/ Telephone No.	Constr. Manager/ Telephone No.	Resident Engineer/ Telephone No.
ST21-3348	Stat Components Mezz Columns: Atlantic Ave	R. Dean/ (535) 252-4324	Undesignated	
ST01-1460 A37628	Stat Compon Elevated St Strs: Atlantic Av	R. Dean/ (535) 252-4324	Undesignated	
ST01-1460 A37628	Stations Sandy Resiliency: EBCS	S. Ragheb/ (646) 252-3061	J. Singh/ (718) 613-0027	
ST12-2718 W32799	Public Addr/Cust InfoPA/CIS Electro Rplc-CNrs	D. Devoti/ (646) 252-6785	J. Singh/ (718) 613-0027	

ST21-0608 A37656	Station Compon Station Comp: 2 Loc/CNR	B. Shah/ (646) 252-3452	A. Dias/ (646)-252-3090	
ST01-3787 A37656	Station HP. 14 St (JACOBS Pkg ¾)	D. Wesley/ (646) 252-3061	M. Yu/ (646) 252-3487	
MW38-5775 S32244	Signal Systems Signals. Eqpt: Bway June CO	T. Basu/ (646) 252-3192	Undesignated	
MW56771 S32703	Comm-Based Train Control	S. Kwa/ (646) 252-3189	C. Fraser/ (646) 723-9950	
ST-0868 A37574	Stations HP: Systemwde Des/mti-386Stn 3	D. Wesley/ (646) 252-3061	M. Yu/ (646) 252-3487	
St02-4196 A35643	Station Reconstr Atlantic Avenue Master Plan	W. Wheeler/ (646) 252-4330	W. Wheeler/ (646) 252-4330	
ST06-3860 A35612	Station Signage Statn Advertising panels	Undesignated	Undesignated	
ST21-0608 A36909	Station Components Stn Comp: 6 Lcs/CNR DSGN	N.P. Ng/ (646) 252-6773	Undesignated	
ST21-2489	Station Components Mezz Components: 2 Locs:	R. Dean/ (646) 252-4324	Undesignated	
ST21-2995 A37211	Station Components Stn Pntng @ Comp Loc (2017)	B. Shah/ (646) 252-3452	Undesignated	

(D) LIRR GENERAL NOTES

(a) General Requirements For Projects Adjacent To LIRR Property With Potential To Impact LIRR Safety And Operations:

- (1) Attached are "General Requirements For Outside Contractors Working On LIRR Property". These requirements apply to this project. Cost of LIRR personnel (i.e. flag protection, project engineers, inspectors, etc.) required by the project will be paid for directly to the LIRR by the City.
- (2) Shop drawings and calculations detailing sheeting must be submitted prior to excavation, which may impact the stability of adjacent embankment or structures supporting our tracks. Shop drawings and calculations shall include the original seal and signature of a New York State Licensed Professional Engineer. Shheeting shall be designed for Cooper E-80 Axle Loading as per the American Railway Engineering Association.
- (3) Drawings submitted to the LIRR for review shall be transmitted electronically on a CD or DVD with each drawing clearly defined. The format for the drawing can be either pdf or AutoCAD plotted to full size.
- (4) LIRR flagging will be required at all times when performing work at or near the LIRR structure.
- (5) Fouling of LIRR track includes work within 15-feet of or above LIRR tracks. This also includes operation of equipment or any part of equipment, (i.e. crane booms) which could fall onto or within six (6) feet of LIRR tracks.
- (6) All parties are notified that fouling LIRR track without LIRR flag protection being present is a violation of federal law.

(7) Cranes:

- (a) Cranes operations must maintain at least 15-foot vertical and horizontal separation from overhead LIRR's High Tension lines. If overhead power lines, from outside agencies, are supported from LIRR High Tension poles, a letter from that agency must be submitted to the LIRR stating their vertical and horizontal separation requirements.
- (b) The following conditions apply for operating cranes with booms of sufficient length to fall onto or within six (6) feet of LIRR's tracks:
 - (1) Cranes information must be submitted to the LIRR for review, including proposed location of crane, proposed boom angle and loading diagram indicating that the crane is capable of supporting 150% of the load to be lifted. Loading diagram shall include original seal and signature of New York State Licensed Professional Engineer.
 - (2) LIRR flag protection must be on site. Crane operations will generally be restricted from 10:00 a.m. to 3:00 p.m. daily.
 - (3) Crane operators or one (1) construction supervisor who will be on the site full time, must be trained and certified in Roadway Worker Protection.
 - (4) Crane operators must follow the direction of LIRR's flagmen and face boom parallel to LIRR's track, when ordered to do so.

(b) General Requirements For Survey By Outside Contractor On LIRR Property:

- (1) All survey party members employed by an outside contractor shall herein be referred to as the "contractor"
- (2) Permanent and temporary marking of LIRR track structure is not permitted. LIRR track structure consists of running rail (track), rail fasteners, concrete ties, wood ties.
- (3) Reflective paint shall not be used on or adjacent to LIRR property.
- (4) Nonreflective red, orange or yellow paint shall not be used on LIRR property.
- (5) Electric third rail must be considered energized at all times. The contractor must not come into contact with or attempt to mark the electric third rail, third rail cover board or third rail cover board brackets.

(c) Specific Requirements:

- (1) This project is adjacent to LIRR's Broadway Street Station; therefore, station entrances must be open and accessible at all times. Protection of LIRR property and facilities is the responsibility of the Contractor and at no additional cost to the City. All damage to LIRR property caused by the Contractor's operation shall be repaired by the Contractor or repaired by the LIRR and charged to the Contractor.
- (2) The Contractor shall contact LIRR for the following:
 - (a) Obtaining Permits - Mr. Edward Maines at (718) 558-3536.
 - (b) Insurance Submittal - Ms. Carol Berlingieri at (646) 252-1429.
 - (c) Civil Design And Inspection - Joseph El-Kallassy at (718) 558-3218.
 - (d) Compliance With Safety Training Requirements - Training Department (718) 558-3128.
 - (e) Obtaining Flag Protection - Flag Desk (631) 893-2799.

(E) LIRR INSURANCE REQUIREMENTS

The following shall become a part of and apply to the contract:

- (a) **LONG ISLAND RAIL ROAD INSURANCE:** The Contractor shall procure, at its sole cost and expense, and shall maintain in force at all times during the term of this Agreement, policies of insurance as herein below set forth, written by companies with an A.M. Best Company rating of A- or better and approved by the LIRR/MTA. The Contractor shall deliver to the LIRR/MTA evidence of such policies. These policies must: (i) be written in accordance with the requirements of the paragraphs below, as applicable; (ii) be endorsed in form acceptable to the LIRR/MTA to include a

provision that the policy will not be canceled, materially changed, or not renewed without at least thirty (30) days prior written notice to the LIRR, Attention: Carol Berlingieri, MTA Risk and Insurance Management, Long Island Rail Road, 2 Broadway, New York, New York 10004, Telephone No. (646) 252-1429, by certified mail/return receipt requested; and (iii) state or be endorsed to provide that the coverage afforded under the policies shall apply on a primary and not on an excess or contributing basis with any policies which may be available to the LIRR/MTA. Except as otherwise provided herein, policies written on a "claims-made" basis are not acceptable. At least two (2) weeks prior to the expiration of the policies, evidence of renewal or replacement policies of insurance, with terms and limits no less favorable than the expiring policies, shall be delivered to the LIRR/MTA. Deductibles or self-insured retentions above those shown on Schedule "A" will require approval from the LIRR/MTA. The Contractor shall be responsible for all claim expense and loss payments within the deductible or self-insured retention.

- (1) Commercial General Liability Insurance (I.S.O. Form CG 00 01 01 96 or equivalent approved by the Railroad) in the Contractor's name with limits of liability in the amount of shown on Schedule "A" on a combined single limit basis for injuries to persons (including death) and for damage to property. If the policy is subject to an aggregate limit, replacement insurance will be required if it is likely such aggregate will be exceeded.

Such policies shall include:

- (a) Contractual coverage for liability assumed by the Contractor;
 - (b) "XCU" coverage (Explosion, Collapse, and Underground Hazards) where necessary;
 - (c) Products-Completed Operations Coverage;
 - (d) Independent Contractors Coverage;
 - (e) Coverage for claims for bodily injury asserted by an employee of an additional insured and any Employer Liability Exclusion which may otherwise operate to exclude such coverage shall be voided in this respect; and,
 - (f) Additional Insured Endorsement (latest I.S.O. Form CG 20 10 or equivalent approved by the Railroad) naming Long Island Rail Road and Metropolitan Transportation Authority (LIRR/MTA) including its subsidiaries and affiliates, City of New York and New York City Department of Design and Construction.
- (2) Worker's Compensation Insurance (including Employer's Liability Insurance) meeting the statutory limits of New York State.
 - (3) An Automobile Liability Insurance Policy (I.S.O. Form CA 00 01 07 97 or equivalent approved by the Railroad) in Contractor's name with the Long Island Rail Road (LIRR), Metropolitan Transportation Authority (MTA), its subsidiaries and affiliated companies, the City of New York and all other indemnified parties included in the contract as Additional Insured with limits of liability in the amount of shown on Schedule "A" for claims for bodily injuries (including death) to persons and for damage to property arising out of the ownership, maintenance or use of any owned, hired or non-owned motor vehicle. The policy shall be extended to include employees of any insured acting in the scope of their employment. If the policy is subject to an aggregate limit, replacement insurance will be required if it is likely such aggregate will be exceeded.
 - (4) Railroad Protective Liability Insurance (ISO-RIMA or equivalent form approved by the Railroad), covering the work to be performed at the designated job site and affording protection for damages arising out of bodily injuries or death, injury to or destruction of property, including damage to the insureds own property and conforming to the following:
 - (a) The Long Island Rail Road Company and Metropolitan Transportation Authority are the "Named Insureds."
 - (b) The limit of liability shall be as shown on Schedule "A". If policy is subject to an aggregate limit, replacement insurance will be required if it is likely such aggregate will be exceeded.
 - (c) Evidence of Railroad Protective Liability Insurance, must be provided in the form of the original Policy or a detailed Binder pending issuance of the original Policy.

(d) Definition of "Physical Damage to Property" must be amended to mean direct and accidental loss of or damage to "all property of any Named Insured and all property in any Named Insured's care, custody or control".

(b) The Contractor shall furnish evidence of all policies, before any work is started, to:

Carol Berlingieri
MTA Risk and Insurance Management
Long Island Rail Road
2 Broadway
New York, New York 10004
Telephone No. (646) 252-1429

(c) Certificates of Insurance may be supplied as evidence of policies in paragraph numbers (1), (2), and (3) above, however, if requested by the Agency, the Contractor shall deliver to the Agency, within forty-five (45) days of the request, a copy of such policies, certified by the insurance carrier as being true and complete.

If a Certificate of Insurance is submitted it must:

- (A) Be provided on the Long Island Rail Road Certificate of Insurance Form (see Schedule "A");
- (B) Be signed by an authorized representative of the insurance carrier or producer and notarized;
- (C) Disclose any deductible, self-insured retention, aggregate limit or any exclusions to the policy that materially change the coverage;
- (D) Indicate the Additional Insureds and Named Insureds as required herein;
- (E) Reference the Contract by number on the face of the certificate; and,
- (F) Expressly reference the inclusion of all required endorsements.

(d) Evidence of policy in paragraph number (4) above, Railroad Protective Liability Insurance, requires submittal of the original Policy. The original Binder will be accepted pending issuance of the original policy. Railroad Protective Liability Insurance cannot be submitted on insurance certificate forms. It must be provided as follows:

- (A) A detailed Binder, pending issuance of the actual policy, or the actual policy itself;
- (B) Named Insureds: Long Island Rail Road/Metropolitan Transportation Authority;
- (C) "Physical Damage to Property" definition must be amended as stated above in requirements.

(e) If, at any time during the period of this Agreement, insurance as required is not in effect, or proof thereof is not provided to the LIRR/MTA, the LIRR/MTA shall have the option to: (i) direct the Contractor to suspend work with no additional cost or extension of time due on account thereof, or (ii) treat such failure as an Event of Default.

(5) **Refer to Subsection 10.30 - Contractor To Provide For Traffic, Page I-15:**
Add the following to **Subsection 10.30:**

(1) Traffic Stipulations:

The Contractor shall refer to the Traffic Stipulations (twenty five (25) pages) that are attached to the end of this section, and as directed by the Engineer.

(6) **Refer to Subsection 40.02.15 - Disposal of Water From Trenches, Page IV-9:**
Add the following to **Subsection 40.02.15:**

(A) The Department of Design and Construction has **not** filed application for Dewatering Permit with the New York State Department of Conservation (NYSDEC), under the Environmental Conservation Law (ECL), Title 15 of Article 15, for a Temporary Well Point System Permit. However, it is anticipated that the criteria for rate of pumping specified herebefore in this section will be exceeded in areas of construction; the Contractor shall be responsible for applying and obtaining the necessary dewatering permit prior to the dewatering of trenches within the scope of this project.

As part of the permit application the Contractor will be required to comply with all the requirements of **Section 40.14** of this section.

Copies of all materials submitted to NYSDEC shall be sent to the New York City Department of Design and Construction (NYCDDC), Infrastructure/Design.

The following minimum requirements set forth by the New York Department of Environmental Conservation shall be complied with prior to the start of work in areas of construction requiring dewatering permit:

- (1) An analysis must be made of water samples taken. The results are to be submitted to the Regional Permit Administrator. An analysis shall be made for BOD, salinity, oil, and grease. The samples shall be analyzed by a laboratory certified by the New York State Health Department and the results are to be submitted directed to the New York State Department of Environmental Conservation by the laboratory.
- (2) Prior to setting any wells, wellpoints or header pipes, the Contractor shall submit to the NYSDEC a layout of the complete dewatering system including the location of the discharge point. When permitted by the NYSDEC, discharge of groundwater on the beach areas shall be done in such a manner as to eliminate any erosion or siltation and will require the installation of splash blocks and/or settling basins.

The Contractor is advised that all work required in obtaining a permit, must be submitted to, and approved by the NYSDEC prior to the commencement of any work in areas of construction requiring dewatering permit. No payment for any item of work will be made, and no shop drawing shall be approved for the areas of construction until such time that a written approval is obtained from the NYSDEC.

(B) The Contractor is advised that all work shall be governed by the provisions and requirements of the obtained permit, and their said provisions and requirements shall be made a part of the contract and the Contractor shall be responsible for strict adherence thereto.

The cost of all work required for applying, complying and obtaining required dewatering permits including the cost for any required updating of permits shall be deemed included in the prices bid for all item of this contract. No additional or separate payment will be made for any work required in order to comply with these requirements.

- (7) **Refer** to Page IV-34:
Add the following new **Section 40.14**:

SECTION 40.14 DEWATERING PERMITS

40.14.1 DESCRIPTION

Under this contract, and at locations where groundwater will be present in the trenches and excavations, the Contractor is required to install, maintain and operate a temporary dewatering system of sufficient size and capacity to control ground and surface water flow into the excavation and to allow all work to be accomplished in the "dry condition".

The Contractor shall be required to obtain the following permits in order to operate a temporary dewatering system.

- (A) A Dewatering/Discharge Permit from the New York City Department of Environmental Protection (NYCDEP);
- (B) A Long Island Well Permit from the New York State Department of Environmental Conservation (NYSDEC), under the Environmental Conservation Law (ECL), Title 15 of Article 15, implemented by 6NYCRR Part 601 - Water Supply and Part 602 - Long Island Well. This permit is required only in the Boroughs of Brooklyn and Queens to withdraw water using a well point or deep well system where the total capacity of such well or wells is in excess of 45-gallons per minute (or 64,800-gallons per day); and,
- (C) An Industrial State Pollutant Discharge Elimination System (SPDES) or a Non-Jurisdictional Determination Letter in compliance with Title 8 and 7 of Article 17 of the Environmental Conservation Law of New York State, respectively.

The Contractor is advised that the provisions and requirements of the aforementioned permits shall govern all work, and the said provisions and requirements are hereby made a part of the sewer contract and the Contractor shall be responsible for strict adherence thereto.

No dewatering work shall commence until the above-mentioned Permits have been obtained for this project.

The Contractor is advised that in order to comply with all the permits requirements, the Contractor will be required to submit maps, test data, etc. prior to the start of work. In order to expedite the processing of the permit and its requirements, the Contractor shall be required to obtain the services of an independent Environmental Scientist as herein described below in **Subsection 40.14.2** to perform this work and act as liaison with NYSDEC and NYCDEP.

40.14.2 QUALIFICATIONS

The Environmental Scientist utilized to perform the work required under this section must have adequate experience in work of this nature (obtaining Long Island Well Permit/Dewatering Permit) and must have previous experience in working with the NYSDEC and the NYCDEP, designing equivalent dewatering systems, and have successfully obtained the type of permits required under this contract. Prior to the start of work, the Contractor will be required to submit the name and resume of the Environmental Scientist for approval.

40.14.3 NYSDEC DEWATERING PERMITS

The dewatering system shall be designed by the Environmental Scientist using accepted and professional methods of design and engineering consistent with the best modern practices.

The material to be submitted shall include, but not be limited to the following:

- (1) Site Plan - Scaled, showing construction activity (e.g. excavation, pathway of the pipe, new outfalls, etc.) locations of well points, header pipes and pumps, and all staging and storage areas.

Also included herein shall be a layout of the complete dewatering system including the location of the discharge point. When permitted by the NYSDEC, discharge of groundwater on beach areas shall be done in such a manner as to prevent any erosion or siltation and will require the design and installation of splash blocks and/or settling basins.

- (2) Dewatering System Specifications:

- | | |
|-------------------------------|-----------------------------|
| (a) Number of Well Points | (h) Total Volume Pumped |
| (b) Diameter of Well Points | (i) Number of Pumps |
| (c) Spacing of Well Points | (j) Capacity of Pumps |
| (d) Length to Screen | (k) Duration of Pumping |
| (e) Depth to Bottom of Screen | (l) Initial and Average GPM |
| (f) Static Water Level | (m) Estimated Daily Pumpage |

(g) Drawdown Required

(n) Flow Meter

- (3) Cross Section - Scaled, showing well points, riser, header, annular material (if used) and other equipment associated with each point. A typical construction style drawing may be utilized. Should the Contractor be permitted to use a deep well system, all information regarding it must be submitted.
- (4) Drawdown Contour Map - Based upon a review of the surrounding area affected by the dewatering and upon boring within the project area and characteristics of the soils, the depth and pumping rate of dewatering system and the duration of the pumping, the Environmental Scientist shall submit both a narrative and diagram showing the anticipated maximum cone of depression which shall be shown from both above and in cross section on scaled diagrams. Contour lines on diagrams shall be labeled to show depth from land surface.
- (5) Description of Site and Adjacent Areas - A short narrative shall be prepared describing the land use in the area paying attention to any potential sources of groundwater contamination that may migrate into the well's cone of depression, such as gas stations, chemical plants, wrecking yards, sanitary landfills, etc. Latest map of the area shall be included in the narrative.
- (7) Groundwater Analysis - The Environmental Scientist shall develop and submit a sampling and analysis program subject to NYSDEC Approval (a minimum of one groundwater sample from a site well shall be collected and analyzed). A laboratory certified by the New York State Health Department shall analyze the samples. The sampling and analysis program must include but is not limited to the following:

NYSDEC REGION 2 - DEWATERING PROJECTS SAMPLING INFORMATION

NO.	PARAMETERS	TYPE	EPA METHOD	DETECTION
1	pH	Grab	150.1	EPA min
2	Temperature	°F	After Pumping	EPA min
3	Fecal Coliform	Grab	5-Tubes/3-Dilutions	2-MPN/100-ml
4	Oil & Grease	Grab	413.1	EPA min
5	BOD5	Grab	405.1	EPA min
6	Total Suspended Solids	Grab	160.2	EPA min
7	Settleable Solids	Grab	160.5	EPA min
8	Chlorides	Grab	325.1-325.3	EPA min
9	Benzene	Grab	602	EPA min
10	Toluene	Grab	602	EPA min
11	Xylenes	Grab	602	EPA min
12	Ethylbenzene	Grab	602	EPA min
13	PCB's	Grab	608	(See Note 1)
14	Pesticides	Grab	608	EPA min
15	13 Priority Metals	Grab	200 series	EPA min
16	Acids Base/Neutrals	Grab	625-GC/MS	EPA min
17	Halogenated Volatiles	Grab	601-GC	EPA min
18	Nitrate/Nitrite	Grab	300 or 353.3	EPA min
19	Aromatic Volatiles	Grab	602-GC	EPA min
20	Cyanide (total or amenable)	Grab	335.1/335.2	EPA min

NOTE:

- (1) List each individual aroclor found and report the concentration of each aroclor tested. Use the N.Y.S. detection limit, which is 0.065- μ g/l.

Small dewatering projects with a total estimated pumped volume up to 15-Million Gallons (MG) require sampling analysis for parameters No.'s 1 through 12.

Medium dewatering projects with a total estimated pumped volume between 15-MG and 60-MG require sampling analysis for parameters No.'s 1 through 14.

Large dewatering projects with a total estimated pumped volume greater than 60-MG require sampling analysis for parameters No.'s 1 through 20.

Samples are to be collected after development of the well by a licensed well driller.

A laboratory certified by the NYS Department of Health must conduct all testing.

Irrespective of the aforementioned sampling requirements based on total estimated pumped volumes, the Department may require sampling of additional parameters if the proposed dewatering site is suspected of being contaminated.

40.14.4 SUBMISSION OF DEWATERING PLAN

The Environmental Scientist will be required to submit two (2) copies of the Dewatering Plan (together with all reports, materials, designs, drawings, maps and plans) to the Infrastructure Engineering Support Unit for review and approval. Once approved the Environmental Scientist shall submit in triplicate the Final Dewatering Plan to both the NYSDEC and the NYCDEP. The Dewatering Plan should be bound and bear the name of the Contractor, NYSDEC Application Number and the Signature of the preparer. All drawings and maps shall be on sheets 27-inches by 40-inches and to scale not less than 1"=30'.

40.14.5 DAMAGES

The Contractor shall be responsible for and shall repair at no cost to the City any damage caused by inadequate or improper design and operation of the dewatering system, and any mechanical or electrical failure of the dewatering system.

40.14.6 SYSTEM REMOVAL

The Contractor shall remove all dewatering equipment and temporary electrical service from the site. All wells shall be removed or cut off a minimum of three (3) feet below the final ground surface and capped. Holes left from pulling wells or wells that are capped shall be grouted in a manner approved by the Engineer.

40.14.7 PAYMENTS

No additional or separate payment will be made for any work described herein. The costs for all labor, materials, equipment, permit fees, samples, tests, reports, services and insurance required or necessary to perform all the work described herein shall be deemed included in the price bid for all items of work.

- (8) **Refer** to Page IV-45:
Add the following new **Section 60.61**:

SECTION 60.61CFS
STRUCTURAL REHABILITATION OF EXISTING STEEL WATER MAIN BY CARBON FIBER SYSTEM
(CFS) LINING METHOD

60.61CFS.1 INTENT

It is the intent of this section to provide for the Structural Rehabilitation of an existing 48-inch diameter riveted steel trunk water main by the installation of Carbon Fiber System (CFS) Lining to the interior surface of the existing trunk water main. The Carbon Fiber System (CFS) Lining must be designed and engineered as a stand- alone system with a minimum of 50-year design life. The Carbon Fiber System (CFS) Lining including all its components and materials including primer, epoxy, fiber reinforcement, impregnating resin, and topcoat resin must be evaluated, tested and certified for conformance with NSF/ANSI 61 and NSF/ANSI 372 approved for potable water. All such work must comply with the terms of this specification and with the manufacturer's instructions, recommendations, specifications and standards set forth for the Carbon Fiber Lining method selected by the Contractor and approved by the Engineer.

60.61CFS.2 WORK INCLUDED

The Contractor must employ the services of an experienced and well qualified Carbon Fiber System (CFS) Lining installer to provide design and construction services including material supply for the Structural Rehabilitation of approximately 750 linear feet of existing 48-inch diameter riveted steel trunk water main in East New York Avenue at the intersection of Atlantic Avenue in the Borough of Brooklyn, New York City by the installation of Carbon Fiber System (CFS) Lining to the interior surface of the trunk water main.

The Contractor must furnish all labor, materials and equipment for design, installation, field testing (pressure testing), disinfection and must do all work necessary to apply the CFS Lining into the interior surface of the existing 48-inch diameter riveted steel trunk water main as shown on the contract documents and/or as ordered by the Engineer.

The Contractor must be responsible for the successful completion of all work required herein; failure of the Contractor's selected Carbon Fiber System (CFS) liner, liner Installer and CFS lining method to be satisfactorily installed in the interior surface of the existing 48-inch diameter trunk water main must not relieve him of his responsibility to provide satisfactorily structurally rehabilitated 48-inch diameter riveted steel trunk water main.

Any cost associated with the removal of the unsatisfactorily installed liner and the subsequent, satisfactory reinstallation of an approved liner must be borne solely by the Contractor, and he must not make any claim against the City for this additional required work.

Once installed, the liner must extend from start to end points specified in a continuous tight fitting watertight pipe-within-a-pipe. During the warranty period any defects that might affect the integrity or strength of the liner must be immediately repaired or replaced by the Contractor, at his expense, pursuant to the manufacturer's recommendations, and to the satisfaction of the Engineer.

The Contractor must carry out the work in strict accordance with OSHA and the Carbon Fiber System (CFS) liner manufacturer's safety requirements. The OSHA requirements for confined space must be followed by the Contractor.

60.61CFS.3 SUBMITTALS AND QUALIFICATIONS

The Contractor must be required to submit to the Engineer prior to the start of any work, for review and approval the following:

(A) Name and qualifications of the Liner Manufacturer:

1. The Carbon Fiber System (CFS) liner provided by the Carbon Fiber System (CFS) liner MANUFACTURER must meet the minimum design strength specified as well as all material testing and qualifications outlined in Section 60.61CFS.3 (D) of this specification.

2. Carbon Fiber System (CFS) liner MANUFACTURER must have in place a minimum of twenty (20) Carbon Fiber System (CFS) liner installations used for internal water main rehabilitation including CFS liner layers and epoxy within the past three (3) years. For a project to be considered applicable, it must involve the following: internal application of CFS lining on pipelines greater than 36-inch diameter, with pressures greater than 50 psi operating pressure, where the same Carbon Fiber System (CFS) lining proposed for use on this project has been used as a stand-alone upgrade of the pipeline without reliance on the host pipe for structural integrity. The minimum project length must be 20 linear feet of rehabilitation. Project must have taken place in the United States. Provide a list of project references meeting above requirements- with OWNER'S contact information for each project.

(B) Carbon Fiber System (CFS) liner INSTALLER Qualifications:

1. The CFS LINER INSTALLER must be certified by the CFS LINER MANUFACTURER and have completed a minimum of ten (10) independent installations of CFS lining involving internal water main rehabilitation projects in the past three (3) years. For a project to be considered applicable, it must involve the following:

Internal application of CFS liner on pipelines greater than 36-inch diameter, with pressures greater than 50 psi operating pressure, where the same CFS proposed for use on this project has been used as a stand-alone upgrade of the water main without reliance on the host pipe for structural integrity. The minimum project length must be 20 linear feet of repair. Project must have taken place in the United States. Provide a list of project references meeting above requirements- with OWNER 'S contact information for each project.

2. The Carbon Fiber System (CFS) liner MANUFACTURER must specialize in the supply of the products specified with documented experience and written verification that the CFS LINER INSTALLER personnel are trained and certified in the use of the proposed Carbon Fiber System (CFS) liner.

3. Certification that the foreman, head supervisor and top ten (10) carbon fiber system liner installation technicians available to perform the work have a minimum of three (3) years of experience in large diameter internal pipe repair projects using CFS liner, with a minimum of five (5) internal pipe repair projects using CFS lining per worker. A list of names, titles and projects must be provided.

4. CFS LINER INSTALLER workforce is to self-perform the CFS liner installation and all associated work tasks as outlined in this specification. A confirmation statement must be provided confirming that the full scope of work will be self - performed by the CFS LINER INSTALLER.

5. CFS LINER INSTALLER is to provide documentation confirming that they will provide ancillary equipment for the project including surface preparation equipment, ventilation, environmental controls units and generators, including information on the equipment models for each typically utilized.

6. CFS LINER INSTALLER must provide a list of any projects where the installed CFS liner system failed, did not perform as intended (leak, rupture, CFS lining disbanded/had to be removed during or after installation, etc.), or where work was halted or abandoned prior to completion of the originally contracted scope of work. Provide owner contact information for any of the above referenced projects. If

no projects occurred which meet these criteria, a letter stating such must be provided. Failure to disclose or misrepresentation of this information must be grounds for disqualification.

(C) Carbon Fiber System (CFS) Liner Design Specialist Qualifications:

1. Written documentation that the CFS liner design specialist is a licensed and registered Professional Engineer in the State of New York must be provided. No third-party stamps will be accepted.
2. Written documentation with client contact information showing successful design of an internally applied CFS liner lining and its installation method on a minimum of ten (10) independent pipe rehabilitation projects within the past five years must be provided. Provide owner's contact information for all ten (10) projects.

(D) CFS Liner Material Data for Submission:

1. The Contractor must provide with product data sheets indicating physical, mechanical, and chemical characteristics of all materials used in the CFS liner. As a minimum, the Engineer must be provided with the mechanical properties of the CFS liner, durability of the CFS liner based on the environmental conditions, and the physical properties of the resin.
2. The test reports must indicate clearly the commercial names of the products used, batch ID, sample dimensions, number of samples tested, number of fabric layers used, load and strain measurement techniques, failure modes, and obtained strength, modulus, and ultimate elongation for each sample tested.
3. The Manufacturer must provide documents indicating that all materials comply with the requirements of NSF/ANSI 61 and NSF/ANSI 372.
4. The Manufacturer must provide documents indicating that all materials meet OSHA, EPA, and local ordinances for health and safety including VOC compliance.
5. Written verification from the CFS LINER MANUFACTURER regarding acceptable cure temperatures and time as well as allowable time window between installation of different layers.
6. Document indicating agreement of the CFS Liner manufacturer to have at least one dedicated field Quality Control (QC) personnel throughout the project execution.
7. Manufacturer's Safety Data Sheets (SDS) for all materials to be used.
8. Application instructions, delivery, storage and handling instructions, and general recommendations regarding each material to be used.
9. General Confined Space Entry procedure. CFS INSTALLER must submit confined entry procedure specific to the project.
10. CFS LINER INSTALLER must submit a Job Hazard Analysis specific to the project.

(E) CFS Liner Design, Working Drawings, Calculations and Methods Statements:

The Contractor and CFS LINER INSTALLER must under this article employ the services of a CFS LINER DESIGN SPECIALIST, having proven expertise in designing, installing and testing or supervising CFS lining and must prepare and submit a CFS Liner design for the structural rehabilitation of the existing 48-inch riveted steel trunk water main. The following must be submitted for approval by the Engineer:

1. Working Drawings must provide the following:
 - a. Type of Carbon Reinforcement Fabric Composite System.

- b. Product Name of Reinforcing Fabric(s).
 - c. Product Name of Saturating Epoxy, the Primer Epoxy, and the Top Coat Epoxy.
 - d. Weight of fabric, number of layers and orientation.
 - e. Minimum overlap circumferentially and longitudinally.
 - f. Detail for rivets.
 - g. Repair procedures and details for damaged fabric layers.
 - h. Detail of proposed method of terminating carbon fiber-reinforced composite so as to provide a watertight seal that prevents any water from penetrating between the carbon fiber-reinforced composite layers and the end terminations of the existing pipe. At a minimum, stainless steel expansion rings must be included at each end termination for the CFS Liner.
2. Working Calculations must provide the following:
- a. Type of Carbon Reinforcement Fabric Composite System.
 - b. Product Name of Reinforcing Fabric(s).
 - c. Product Name of Saturating Epoxy.
 - d. The composite material properties used in the design calculations. The properties used must be equal to or more conservative than the properties listed on the product data sheets for the materials used.
 - e. The design requirements utilized in the design calculations must be equal to or greater than the design requirements and must incorporate details provided in 60.61CFS.4 of this specification.
 - f. Calculations associated with each of the design limit states outlined in 60.61CFS.4 of this specification.
3. CFS LINER MANUFACTURER'S written installation procedures, maintenance instructions, and general recommendations regarding the overall system and each material to be used including:
- a. Method for preparing surfaces to accept CFS LINER.
 - b. Method, equipment and procedures to be used to apply CFS LINER.
 - c. Method and drawings detailing transition of new CFS LINER to existing 48-inch diameter riveted steel trunk water main.

(F) SUBMITTALS PRIOR TO CONSTRUCTION:

Submit a complete Implementation Plan describing the inspection of the installation. The submittal must include the following:

- a. Names of key personnel (foreman, head supervisor and top three carbon fiber system liner installation technicians) scheduled to perform the work. Documentation that all workers who plan to work on the pipeline have received OSHA and annual first aid training, confined space training and CFS LINER MANUFACTURER provided certified applicator training must also be provided.

- b. Name of personnel responsible for quality control.
- c. Testing program for CFS Lining.
- d. Surface evaluation procedure.
- e. Material testing of CFS Lining.
- f. Method for ensuring that the adhesion of CFS lining epoxy will conform to specified and indicated requirements.
- g. Methods for repairing defective linings.
- h. Contingency plan to meet specified requirements in the event of an interruption to the CFS placement.

(G) SUBMITTALS DURING CONSTRUCTION

CFS INSTALLER must prepare and submit a detailed schedule describing the work to be accomplished. And work to be accomplished during each shift. Detail daily activities and manpower used at each site. If the Engineer deems any schedule to be inadequate to secure the completion of work in the time submittal, correct and re-submit schedules to change the order of prosecution of work to ensure proper and timely execution.

(H) SUBMITTALS AFTER CONSTRUCTION:

By the CFS LINER INSTALLER for the Engineer's Review:

- 1. All quality control forms completed throughout the construction, including post-installation corrective actions, if any.
- 2. As-Built rehabilitation drawings indicating all CFS liner details and end terminations installed.
- 3. Report of all repair and testing activities performed are in compliance with the specifications.
- 4. Report of all inspections and tests performed on site with traceable records, notes, measurements, and photographs, and location and extent of post-installation repairs, if any.
- 5. Testing report demonstrating water tightness of the proposed CFS Liner a minimum of twice the maximum design pressure of the water main. The testing report must demonstrate that the proposed layup for the CFS Liner does not leak when subject to twice the maximum design pressure of the water main.
- 6. Testing Validation Report that documents pressure testing on 48-inch diameter or greater sections of pipeline under internal pressures of at least 150 psi which were rehabilitated using the proposed CFS liner.

60.61CFS.4 DESIGN PARAMETERS

A. DESIGN APPROACH:

- 1. The CFS liner must be designed as a stand-alone buried flexible pipe (i.e., CFS liner carrying 100% of the internal and external loads acting on the pipe).
- 2. No contribution from the host pipe must be considered.
- 3. The CFS liner design must include factors of safety that are selected for long-term loads, short-term loads, and buckling based on established procedures.

4. The CFS liner design must prevent the water from getting behind the liner at any point.
5. Design must account for special considerations produced by the presence of rivets. Rivets introduce an out of plane variation. In order to account for this, thickened epoxy must be applied over the rivet heads with a 2:1 slope localized reinforcement for circumferential rivets must be applied at the discretion of the design Engineer, localized reinforcement must be applied along the longitudinal rivet lines with an overlap in the circumferential direction for a minimum of 12 inches in each direction beyond the rivet lines.
6. Calculations must use the nominal thickness of any layers of CFS liner. Material properties of any Glass Fiber Reinforced Polymer (GFRP) composite liner materials or intermediate layers of thickened epoxy must be excluded from the design.

B. LIMIT STATES. THE CFS LINER MUST BE DESIGNED FOR EACH OF THE FOLLOWING POTENTIAL LIMIT STATES:

1. Rupture of CFS liner in the circumferential direction due to internal pressure.
2. Rupture of CFS liner in the circumferential direction due to bending of empty pipe.
3. Rupture of CFS liner in the circumferential direction due to combined pressure and bending due to gravity loads.
4. Buckling of the CFS liner in the circumferential direction due to external loads and pressures and internal negative pressure.
5. Rupture of the CFS liner in the longitudinal direction due to pressure induced thrust, Poisson's effect of internal pressure and temperature change.
6. Interlaminar shear failure of CFS liner at pipe ends.
7. Buckling of the CFS liner in the longitudinal direction due to temperature change.

C. DESIGN AND LOADING CRITERIA:

1. Design Type: Stand-alone Design.
2. Fluid Type: Potable Water.
3. Pipe Type: Riveted Steel, Pipe Diameter: 48-inch, Working pressure: $P_w=150$ psi.
4. Transient pressure, $P_t= 60$ psi.
5. Vacuum pressure, $P_v= N/A$ psi
6. Soil cover, $H= 2-10$ ft.
7. Height of the water table over crown of pipe, $H_w= N/A$ ft.
8. Live load = AASHTO HS20-44 Loading under Roadways.
AASHTO E-80 Loading under Railroads.
9. Change in temperature, $\Delta T= +/- 30$ °F
10. Thrust= per vertical and horizontal bends shown on Contract Drawings of Plan and Profile of existing 48-inch riveted steel water main.

11. Soil modulus, $M_s = 1,000$ psi.

D. END TERMINATION:

CFS liner must be terminated with end details that prevent water from getting behind the CFS liner.

60.61CFS.5 CFS LINER COMPONENTS PARAMETERS:

A. CFS Liner:

The CFS liner must consist of epoxy primer, thickened epoxy, unidirectional carbon fabric, impregnating epoxy resin, and topcoat. Other resin types (e.g. polyester, vinyl ester) must not be used as any of these components.

B. Primer:

a. The steel substrate must be primed with an epoxy material, which must penetrate the pore structure of the substrate. The primer must be 100% solids, low viscosity epoxy resin.

b. The primer must have following minimum properties obtained according to ASTM D638.

- i- Tensile strength: 2,500 psi, minimum.
- ii- Tensile modulus: 105 ksi, minimum.
- iii- Adhesion to blasted steel: 3,000 psi minimum according to ASTM D4541.

C. Thickened Epoxy:

1. Thickened epoxy must have a high enough viscosity to fill all voids in the steel substrate and provide a smooth base for the subsequent CFS liner.
2. Thickened epoxy must either be pre-formulated and brought to site in pre-proportioned containers, or prepared on site by mixing the impregnating resin.
3. Minimum compressive yield strength of 10,000 psi when tested in accordance with ASTM D695.

D. Impregnating Resin:

1. All fabrics must be impregnated with 100% solids, low viscosity epoxy resin.
2. The CFS liner repair design must use a two-component epoxy with the following mechanical properties obtained according to ASTM D638:
 - Maximum water absorption when tested in accordance with ASTM D570 (24 hours): 2 percent.
 - Minimum tensile strength with an elongation of greater than 2 percent when tested in accordance with ASTM D638 (14-day cure): 7,000 psi
 - Tensile modulus: 300 ksi
 - Minimum flexural strength when tested in accordance with ASTM D790 (14-day cure): 7,500 psi

E. Carbon Fiber-Epoxy Liners:

The CFS Liner rehabilitation design must use carbon fiber composite liners with the following mechanical and physical properties:

- The tensile properties of the CFS liner must be determined according to ASTM D3039 and statistically analyzed according to ASTM D7290 to determine the characteristic values.
- Minimum tensile modulus of elasticity (ASTM D7290): 9,000 ksi
- Minimum liner thickness: 0.07 inch
- Maximum liner thickness: 0.10 inch
- Minimum tensile strength (ASTM D7290): 100 ksi;
- Minimum flexural modulus of 350,000 psi
- Minimum flexural strength of 30,000 psi
- The minimum elongation at break according to the ASTM D3039 test should be 0.85%.

F. Glass Fiber Reinforced Polymer (GFRP) Composite System:

1. A glass fiber reinforced polymer (GFRP) composite system liner must be used as insulator between the riveted steel pipe and the CFS liner to avoid possible galvanic corrosion and also must be used as a water tightness layer.
2. The GFRP composite system liner must be a proprietary system consisting of all associated fiber reinforcement and polymer adhesives/resins. All components of the GFRP composite system liner must be provided by the same Manufacturer of CFS liner system. The GFRP composite liners must have the following mechanical and physical properties:
 - Minimum tensile modulus of elasticity: 2,000 ksi
 - Minimum laminate thickness: 0.03 inch
 - Maximum laminate thickness: 0.10 inch
 - Minimum tensile strength: 30 ksi
 - Minimum strain at GFRP rupture (ASTM D3039): 1.0 percent
3. The total nominal thickness of a single GFRP liner must not be less than 0.03 in.

G. Protective Coatings:

Top-Coat

1. The CFS liner must be top-coated with a coating recommended by the CFS liner Manufacturer and in conformance with the following:
 - The topcoat must consist of the same thickened epoxy used between the CFLS layers or potable water coating, if needed.
 - Seams in fabric and edges must be smoothed with thickened epoxy prior to application of the topcoat.
 - The topcoat material must have been used successfully as a finished assembly on a minimum of five past documented pipe strengthening projects.

2. Topcoat must be installed in accordance with the Manufacturer's published installation instructions. The duration elapsed between the application of the last CFS liner and the topcoat must not exceed the time specified by the Manufacturer.

H. Other Materials:

1. Epoxy Mortar

Epoxy mortar must consist of one-part mixed epoxy combined with five parts sand or equivalent demonstrated to have the ability to bond to steel and CFS liner in overhead and all other positions. Epoxy mortar must be preformulated.

2. Steel Expansion Ring

Weko-Seal stainless steel expansion ring, or approved equivalent with a ¼ in. rubber strip expanded against pipe wall to achieve minimum 100 psi interface pressure. All expansion rings, wedges, and shims must conform to the grade recommended by the Manufacturer for the expected exposure condition and to ASTM A240.

60.61CFS.6 DELIVERY, STORAGE AND HANDLING

A. Delivery

The products must be delivered in original, unopened containers. Containers must be clearly marked with legible and intact labels listing the Manufacturer's name, brand name, product identification, batch number, storage conditions, mixing ratios, and shelf-life.

B. Storage

1. Storage of all materials and equipment on site must be in areas and using designated access locations.
2. Store materials in areas where temperatures conform to Manufacturer's written recommendations and instructions.
3. Stored fiber reinforcement and resins must be protected from dust, moisture, and chemical exposure.
4. Resin components must be stored separately and in tightly closed containers, away from direct sunlight, flame sources, or other hazards.
5. Fiber reinforcement and resins must not be exposed to freezing temperatures during transport, storage, preparation, installation or curing.

C. Handling

1. The fabric reinforcement must not be handled roughly. Care must be taken not to damage the fibers.
2. Fabric reinforcement may be stored either in rolls of 4-inch radius or greater or stacked after cutting.
3. Consult the Manufacturer's MSDS for specific handling hazards of resin components.

60.61CFS.7 CLEANING, INSPECTION AND PREPARATION OF HOST PIPE

1. CLEANING OF HOST PIPE

The cleaning of the existing water main is a critical step in the reconstruction of the existing riveted steel water main with a CFS liner lining method. It is anticipated that the existing water main will have a fair amount of rust and scale deposits on the inside walls of the pipe.

The Contractor must clean the existing 48-inch riveted steel trunk water main using a cleaning method that is approved by the Engineer. The cleaning method must remove all rust, scales, tuberculation, deposits loose or deteriorated remains of any original coatings and other foreign materials from the inside surface of the host pipe so as to produce a smooth metal surface finish that must allow the newly designed CFS liner to adhere to the existing host pipe.

After cleaning, and again immediately before pipe liner insertion the main must be plunged with a tightfitting rubber plunger and foam swab to clear the pipe bore of debris and water.

CFS LINER INSTALLER must examine the existing conditions to assess quality of substrate, document any damaged condition, ovality, or surface irregularities in the pipe, and identify any leaks near repair areas. The CFS LINER INSTALLER must be responsible to provide a substrate that is sound, visibly dry and free of moisture. The Contractor must correct all unsatisfactory conditions and obtain the Engineer's approval prior to commencement of repairs.

2. TELEVISION INSPECTION PRIOR TO INSTALLATION

The cleaned main must be inspected by the CFS LINER INSTALLER in the presence of the Engineer using suitable CCTV equipment to examine the success of cleaning and removal of intrusions, structurally deteriorated areas, obstructions, separated joints, existing connections (air cock, blow-off and outlet openings), etc.

In the event of intrusions, pinhole leakage and/or openings being detected prior to or during the cleaning of the main, the Contractor must permanently close/plug and seal the openings and pinhole leaks using an approved method to the satisfaction of the Engineer.

The CCTV system must incorporate an on-screen distance counter capable of being reset to zero at the point of entry into the main. All lengths of mains must be recorded and the video clearly labeled with the date, time and location of the recording.

The video must become the property of the Engineer.

3. PREPARATION OF HOST PIPE

A. Environmental Conditions

1. Do not install CFS liner when the ambient temperature is outside the range required by the Manufacturer, the relative humidity is outside the range required by the Manufacturer, and the interior pipe surface temperature is less than 5°F above the dewpoint. In cold conditions, auxiliary heat may be applied to raise the ambient temperature to a suitable level. If heating is used, direct-fired gas or kerosene "salamander" type heaters must not be permitted. Only electric or indirect-fired heaters must be permitted, to avoid contaminating the substrate with carbonation.
2. The presence of water inhibits the adhesion of epoxy to the substrate and may contribute to the formation of amine blush. Do not install CFS liner when surface moisture is present. Use dehumidifiers to keep the relative humidity within the range required by the Manufacturer. There must be no standing water in the pipe.
3. If water leakage exists through cracks, pinholes or welds, water flow must be stopped by the CFS LINER INSTALLER using a method approved by the Engineer.

B. Site Conditions

1. The CFS LINER INSTALLER must employ a confined space entry procedure which will require an entry permit according to OSHA regulations.
2. Maintain control of dust, and debris due to mortar lining repair or surface preparation in each area of work. Clean up and remove such material at the completion of each day of work.

60.61CFS.8 INSTALLATION

The installation method used by the Contractor must be such that no further damage will occur to the existing steel pipe when it is installed.

The Contractor must install the CFS Liner inside the host pipe. The CFS Liner must be installed properly and positioned in accordance with this specification and/or the manufacturer's recommendations, and must be approved by the Engineer.

A. SUBSTRATE REPAIR

All problems associated with the condition of the original substrate that can compromise the integrity of the CFS liner must be addressed before surface preparation begins. The Manufacturer must be consulted on the compatibility of the CFS liner with materials used for repairing the substrate.

B. SURFACE PREPARATION

1. At areas where the CFS liner will be applied, any existing coal tar coating or other interior coating must be removed and the steel substrate must be abrasively blasted to achieve SSPC SP-10 near white metal surface prior to installing the CFS liner. Other methods of surface preparation (e.g., water blasting, grinding) are not acceptable for steel surface preparation.
2. The prepared steel surface finish must be verified visually according to "Guide and Reference Photographs for Steel Surface Prepared by Dry Abrasive Blast Cleaning, SSPC-VIS 1."
3. Any holes or leaks in the pipelines must be addressed as needed prior to application of the CFS lining system. If water intrusion mitigation is needed, it will be addressed by the CFS LINER INSTALLER. If any welding is needed, this will be provided by the Contractor.
4. The surfaces to which the CFS liner is to be applied must be freshly exposed, free of loose or unsound materials, and must be allowed to dry prior to CFS liner installation.
5. With the exclusion of rivets, localized out-of-plane variations, such as form lines, sharp edges, and protrusions, must not exceed $\frac{1}{4}$ in. Such out-of-plane variations can be removed by grinding, abrasive-blasting, or can be smoothed over using thickened epoxy if variations are very small.
6. Rivets introduce an out of plane variation. In order to account for this thickened epoxy must be applied over the rivet heads with a 2:1 slope following surface preparation.
7. All debris and dust generated during surface preparation must be removed by air blasting or other approved means to achieve a dust free surface.

C. MIXING OF RESINS

1. The resin and its catalyst must be kept in tightly closed containers at all times except for the time of mixing to prevent absorption of carbon dioxide and moisture which could lead to amine blush. The mixing technique must not cause air entrainment in the resin system.
2. All resins must be mixed according to the Manufacturer's instructions. All resin components must be at a proper temperature and mixed from pre-proportioned and pre-packaged containers until there is a uniform and complete mixing of components. On-site proportioning of resin

components is not allowed. Resins must be mixed for the Manufacturer's prescribed mixing time and visually inspected for uniformity of color.

3. Mixed resin that exceeds the pot life specified by the Manufacturer must not be used.

D. APPLICATION OF CFS LINER BY THE WET LAY-UP TECHNIQUE

1. The application of the CFS liner must be performed in accordance with the Manufacturer's published installation instructions.
2. The CFS liner primer must be applied to all areas on the existing pipe surface where the CFS liner is to be placed. The primer must be placed uniformly on the prepared surface at the Manufacturer's specified rate of coverage. The primer must be allowed to cure in accordance with the CFS liner Manufacturer's installation instructions before applying subsequent materials.
3. All fabrics must be impregnated with epoxy using a mechanical saturation machine. Manual impregnation of fabrics is not allowed. Pre-cured laminates or the dry lay-up method are not permitted.
4. The impregnated fabric must be pressed onto the substrate to achieve intimate contact. Entrapped air between layers must be released or rolled out before the resin sets.
5. A thin layer of thickened epoxy must be applied between all consecutive CFS liner layers, over the entire surface.

E. PROJECT SEQUENCING

All components of the lining system, including the primer, thickened epoxy, CFS liner layers and GFRP layers, and topcoat, must be applied within the allowable time windows recommended by the Manufacturer. If a project delay causes violation of the recommended allowable time windows, the previously applied layer must be scuff-sanded, all dust must be removed by compressed air and/or vacuum, and the surface must be wiped clean with a manufacturer-recommended material before resuming work with application of the subsequent materials and layers.

F. PREPARATION OF TEST SAMPLES AND AREAS

The standard of workmanship must be measured prior to construction through pull-off (bond) testing on representative mock-up areas, and after construction through tension tests performed on samples cut from witness panels.

1. Representative Mock-Ups for Pull-off (Bond) Testing Prior to Construction
 - The CFS LINER INSTALLER must install two layers of CFS liner (oriented 0 and 90 degrees) in at least 2ft by 2ft areas in at least one representative location on a pipe adjacent to the repair scope to be used as mock-ups of the installed CFS lining system.
 - The CFS LINER INSTALLER must perform at least three pull-off tests in the presence of the Engineer in each mock-up area according to ASTM D4541 and using testers with documented calibration. The CFS LINER INSTALLER must take precautions to ensure proper alignment and shimming of the test fixture to prevent non-perpendicular forces on the test specimen which can produce low bond strength results.
 - The Engineer must evaluate the results as follows:
 - (a) A test plate must be performed as opposed to an adjacent area of pipe using 12" x 12" x 3/8" plate of the same material as the host pipe and do a pull of adhesion test there instead of on the actual pipe wall.

- (b) Failure within CFS liner or at the CFS liner- steel interface with pull-off strength greater than 1,000 psi: Acceptable.
- (c) Failure at the steel surface with pull-off strength less than 1,000 psi: Rejected. The CFS LINER INSTALLER must improve the surface preparation and prepare and test new mock-up areas.
- (d) Failure within CFS liner with pull-off strength less than 1,000 psi: Rejected. The CFS LINER INSTALLER must improve the quality of construction and prepare and test new mock-up areas.

Do not start work until the Engineer (with Owner's approval if necessary) has approved the mock-ups unless the Owner allows commencement of work prior to testing of mock-ups.

2. Witness Panels for Tension Testing after Construction

The CFS LINER INSTALLER must prepare at least two panels per work shift where CFS lining installation is taking place made of one layer of CFS liner using the same material and techniques used in the actual field installation.

Place a plastic sheet on a smooth flat horizontal surface (a plastic plate on plywood). Cover the plastic plate with a thin plastic film as release agent. The fabric must be epoxy coated on the plastic surface using the same amount of epoxy per unit area as would be applied in the actual installation. The samples must be stored on a rigid level surface in the pipeline or in an area representative of the temperature and humidity conditions in the CFS liner repair areas during the curing period or the end of the repair work.

Label samples with time, date, sample number, fabric lot numbers, resin lot numbers and store in pipe section being repaired. Do not move for a minimum 48 hours after casting.

The CFS LINER INSTALLER must retain a testing laboratory, accredited by A2LA or NVLAP to perform the Quality Control Testing.

The CFS LINER INSTALLER must prepare and forward to the Engineer approximately 10% of the total number of test panels for Quality Assurance (QA) testing intends to have tested by the Testing Agency retained by the Engineer.

Testing lab will prepare test specimens (coupons) from one CFS liner witness test panel and test in accordance with ASTM D3039 using nominal material thickness. Each test specimen must be tested for their material properties in the longitudinal (primary fiber) direction.

Certified test results must be provided to the Engineer, CFS LINER INSTALLER and Engineer by the Test Lab within 20 business days of completion of the construction. The testing must provide values for each specimen as follows:

- (a) Ultimate Tensile Strength
- (b) Tensile Modulus and Related Specimen Thickness
- (c) Percent Elongation

G. CURING

1. All CFS liner installed areas must be cured using the curing schedule recommended by the Manufacturer in writing and approved by the Engineer prior to Construction.

2. The CFS LINER INSTALLER's work schedule must allow sufficient time between completion of repairs and refilling of the pipeline so that all CFS liner completes at least 85% cure before being exposed to water based on the cure temperature versus time relationship provided by the

Manufacturer, unless adequacy of lesser percent cure is proven by test data. The Engineer must reject the work schedule if sufficient time for curing is not provided.

3. The Engineer may specify a revised curing schedule during construction, if needed, based on the cure progress reported by the CFS LINER INSTALLER.
4. Curing must take place in a dry environment to prevent amine blush. If heating is used, direct-fired gas or kerosene "salamander" type heaters must not be permitted. Only electric or indirect-fired heaters must be permitted. Satisfactory performance of the curing schedules used must be proven by the Manufacturer with documentation of previous satisfactory applications or thermal test results indicating the curing behavior of the epoxy.
5. Exhaust fumes from vehicles or equipment must be kept away from CFS liner applied areas during curing.

H. INSTALLATION OF JOINT SEALS

1. A termination detail must be provided to ensure durable water tightness and prevent water from getting behind the CFS liner.
2. The CFS liner applicator must provide and install appropriately sized single band stainless steel expansion rings with $\frac{1}{4}$ in thick elastomeric rubber strips at the terminations between the CFS liner and the host piping system. The stainless-steel expansion rings must be installed in joints at each end of the CFS liner upgrade after the CFS liner materials have cured sufficiently to avoid damage during joint ring installation. The jacking pressure for the expansion ring must be selected to achieve a minimum of 150 psi interface pressure in accordance with manufacturer's recommended procedures.

I. INSPECTION DURING INSTALLATION

1. CFS LINER INSTALLER must submit the Quality Control Program (QCP) covering the quality control measures imposed on the CFS LINER INSTALLER's work, and imposed upon sub-Suppliers or subcontractors.
2. CFS LINER INSTALLER must have at least one dedicated field Quality Control (QC) personnel throughout the project execution.
3. The Engineer may monitor and document all phases of the construction including material preparation, impregnation of all fabrics, application of all CFS liner and GFRP layers, end termination details, curing, and the environmental conditions under which materials were stored and applied. Such inspections may be performed during all shifts of work.
4. The Engineer may inspect the fabric impregnation procedure periodically and observe the CFS LINER INSTALLER perform a "weight test" at random intervals during all shifts of work. A weight test consists of weighing an approximately 1ft x 1ft piece of fabric before and after impregnation in the impregnation machine, and ensuring that the fabric-to-resin weight ratio is within the range recommended by the Manufacturer. The CFS LINER INSTALLER must adjust the impregnation machine as necessary.
5. The Engineer may witness preparation of all witness panels by the CFS LINER INSTALLER and monitor the conditions under which they are stored.
6. The CFS LINER INSTALLER must specify corrective actions as necessary, and reinspect all items to be corrected.
7. The CFS LINER INSTALLER may report to the Engineer the results of all inspections required in this specification with traceable records, notes, measurements, and photographs. Reported results of bond tests performed on mock-up areas must indicate the location of test samples, pull-off test equipment used, and failure mode and test result for each sample tested.

60.61CFS.9 POST-INSTALLATION INSPECTION AND REPAIR OF DAMAGED OR DEFECTIVE AREAS**A. INSPECTION FOR VOIDS AND DELAMINATION.**

1. Inspect each repair pipe after the CFS liner has become tack free to identify imperfections such as voids, delamination, wrinkles, and raised fabric edges, and to specify corrective actions to be taken by the CFS LINER INSTALLER as necessary. Voids and delamination must be identified by dragging a coin or small piece of metal across the CFS liner surface and tapping at areas of change in sound, or automated methods approved by the Engineer.

2. Voids requiring corrective action must be marked and repaired in accordance with paragraph 60.61CFS.9 B.

3. The Engineer must also inspect all joints filled with epoxy mortar where CFS liner is terminated and check for any sagging or hollow-sounding. If needed, the corrective action for hollow-sounding epoxy mortar must be removal and replacement.

B. REPAIR OF DELAMINATED AREAS OF INSTALLED CFS LINER REINFORCEMENT

1. Small delamination less than one (1) square inch each do not require corrective action as long as the total delaminated area is less than 5% of the total laminate area and there are no more than ten such delamination per 10 sq. ft.

2. Large delamination, greater than 25 sq. in. must be repaired by selectively cutting away the affected laminate, abrading the surface and wiping the surface of the remaining layers with materials recommended by the Manufacturer and allowed by the Engineer, allowing the surface to dry, applying a coat of thickened epoxy, and applying an overlapping CFS liner patch of equivalent layers and fiber orientations.

3. Moderate delamination less than 25 sq. in. must be repaired by filling the delamination by low-pressure injection of the epoxy resin or by the previous procedure specified for large delamination.

4. Repair procedures for conditions that are not specifically addressed in this Specification must be approved by the Engineer.

5. All areas of corrective actions must be re-inspected.

6. All repairs are to be performed at no cost to the City.

C. GUARANTEE

The CFS LINER INSTALLER must guarantee all work under this Specification in a document stating that if, within five years after the Date of Substantial Completion of the Work, any of the work of this Specification is found to be defective, the CFS LINER INSTALLER must correct it promptly after receipt of a written notice from the Engineer to do so, unless the Engineer has previously given the CFS LINER INSTALLER a written acceptance of such condition. Defects to be covered under the CFS liner composite rehabilitation guarantee must include, but not be limited to, interfacial peel-off of CFS liner layers and de-bonding of CFS liner layers from host pipe substrate.

D. TV INSPECTION AND INITIAL TESTING

A television inspection and video recording of the newly rehabilitated 48-inch riveted steel trunk water main must be performed immediately after work is completed. The CCTV inspection must be performed prior to disinfection/chlorination, revealing the smooth, round interior walls of the CFS lining, and must be viewed and accepted by the Engineer. The CCTV equipment and cables being used must be completely sterilized before being used inside the water main. The Contractor must supply two (2) copies of the

CCTV survey (CD Format) to the Engineer. Should the results of this final inspection reveal any defects that are determined by the Engineer to be repairable the Contractor will be required to repair these defects as ordered by the Engineer at the sole expense of the Contractor. The entire installation procedure must be rigorously inspected as herein specified, but inspection must not relieve the Contractor of responsibility to furnish material and perform work in accordance with the specifications. If at any time it is found that the pipe lining procedure is not in accordance with these specifications, the liner so installed will be subject to rejection.

The Contractor must furnish the Engineer reasonable assistance, without charge, for inspection and for obtaining such information as the Engineer desires in respect to the progress and manner of the work that are being performed.

After the CFS liner has been installed in to the interior surface the existing trunk water main, it must be given a combined pressure and leakage test in accordance with the requirements of the applicable portions of New York City Department of Environmental Protection (NYC DEP) Specifications For Trunk Main Work. (This publication includes Special Provisions For Trunk Main Work; and, Specification For Furnishing, Delivering And Laying Steel Pipe And Appurtenances.

If a section fails to pass the pressure and leakage test, the Contractor must do everything necessary to locate, uncover and repair or replace the defective part or joint, all at the Contractor's own expense.

E. DISINFECTION/CHLORINATION

Once all rehabilitation work is completed to the satisfaction of the Engineer, the Contractor must perform chlorine disinfection of the newly rehabilitated water mains within the guidelines of AWWA-C651 latest revision and CFS Liner manufacturer's recommendations/procedures and as per NYC DEP specifications and/or as ordered by the Engineer. Under no circumstances, must any dry powder or pellet chlorine come into contact with the liner. All chlorine must be completely dissolved and in an approved liquid solution prior to introduction into the liner.

F. FINAL PRESSURE TESTING AND RECOMMISSIONING

Pressure testing and recommissioning of rehabilitated trunk water main must be done in accordance with NYC DEP specifications, CFS LINER manufacturer's recommendations/procedures and/or as ordered by the Engineer. The Contractor must subject the water main and appurtenances to a proof test by water pressure of not less than 150-psi.

G. WORK SCHEDULE

The Contractor is notified that the time for completion of work as specified in Schedule "A" of the specifications is provided for the total execution of the work under this contract. All work to be performed at the site of installation of CFS Liner installation, including cleaning, television inspections, all necessary restoration, complete installation of the liner and all incidental work necessary and required to complete the work as specified, must be conducted pursuant to these specifications and must be completed within that time period.

H. MEASUREMENT

The quantity of rehabilitated existing trunk water main using CFS liner to be measured for payment must be the number of linear feet of existing trunk water main rehabilitated using CFS lining method, complete, all in accordance with the contract drawings and specifications and to the satisfaction of the Engineer, measured along the centerline of the water main.

60.61CFS.10 PRICE TO COVER

The contract price for Item No. 60.61CFS48RS- STRUCTURAL REHABILITATION OF 48-INCH RIVETED STEEL WATER MAIN BY CARBON FIBER SYSTEM (CFS) LINING METHOD must be the unit price bid per linear foot of the 48-inch riveted steel trunk water main rehabilitated by using Carbon Fiber System (CFS) lining method and must cover the cost of all labor, materials, plant, equipment, samples, pumping, tests and insurance required and necessary for the designing, fabricating, furnishing, delivering, cleaning up, disposal of surplus and rejected excess materials, inspecting/surveying, installing, testing, reconnecting, disinfecting, and recommissioning of the existing trunk water main rehabilitated by using CFS lining method and do all work incidental thereto, all in accordance with the contract drawings and specifications and as directed by the Engineer.

Included in the price here under must be the cost of employing the services of A2LA or NVLAP accredited Laboratory to perform the Quality Control Testing, complete.

Included in the price here under must be the cost of all labor, materials and equipment required to provide and install the stainless-steel expansion rings and thick elastomeric rubber strips required at the terminations between the CFS liner and the host pipe.

Included in the price here under must be the cost of all labor, materials and equipment required to provide and install any weld repairs, standard or specialized welding, abrasive blasting and grinding of rivet heads required on existing 48-inch riveted steel trunk water main including permanently close/plug and sealing pinhole leaks for the surface preparation of CFS liner installation.

In addition, included in the price hereunder must be the cost for all television inspection and video tape recording required herein. No separate or additional payment will be made for this work.

**(9) Refer to Subsection 71.41.4 - Specific Pavement Restoration Provisions, Page VII-67:
Add the following to Subsection 71.41.4:**

(E) Specific Pavement Restoration Provisions:

(1) Within the limits of the highway reconstruction (**In Atlantic Avenue, from the west curb line of Georgia Avenue to west curb line of Pennsylvania Avenue**), the restoration shall be accomplished and paid for in accordance with Highway Construction Plan, Details and Specifications for Highway.

(2) **In East New York Avenue from West curb line of Howard Avenue to approximately 10 feet East of East Building line of Junius Street. In north side of East New York Avenue from William Place to East Building Line of Broadway. In Jamaica Avenue, from West Building Line of Alabama Avenue to East Building Line of Vermont Street. (Wherever Concrete Median is found in East New York Avenue/Jamaica Avenue, full reconstruction of the roadway shall be from the North Curb Line of the Median to the North Curb Line of East New York Avenue/Jamaica Avenue).**

(a) The **entire width of roadway** and six (6) inches of existing roadway subgrade shall be removed from curb to curb or edge to edge and the permanent restoration over the **entire width of roadway** shall consist of a top course of three (3) inches of asphaltic concrete wearing course on a base course of 6" to 9" of high-early strength concrete as encountered and directed by the Engineer. New curbs and sidewalks shall be constructed where and as directed by the Engineer. The above area is approximate; the actual final area of restoration shall be determined by the Engineer.

(3) In street areas requiring sewer and water main work outside the limits of highway reconstruction the restoration shall be as follows:

(A) In South Side of Atlantic Avenue from approximately 60 feet East of East Building Line of Snediker Avenue to the West Curb Line of Georgia Avenue. In North Side of Atlantic Avenue from East Curb Line of East New York Avenue to the West Curb Line of Georgia Avenue. In Williams Avenue from North Curb Line of Atlantic Avenue to the North Curb Line of East New York Avenue. In Herkimer Street from East Curb Line of Williams Place to North Curb Line of East New York Avenue.

(a) The permanent restoration over the **trench width and cutbacks only** shall consist of a top course of one and one-half (1-1/2) inches of binder mixture on a base course of a minimum of four and one-half (4-1/2) inches of binder mixture, or a top course of a minimum of three (3) inches of binder mixture on a base course of a minimum of six (6) inches of concrete, to match the existing pavement as directed by the Engineer.

(b) Finally an overlay of two (2) inches of asphaltic concrete wearing course shall be installed over the entire width of the roadway from **curb to curb** or **edge to edge** of existing roadway.

(B) In Streets Not Requiring Overlay:

(a) The permanent restoration over the **trench width and cutbacks only** shall consist of a top course of one and one-half (1-1/2) inches of asphaltic concrete wearing course on a base course of a minimum of four and one-half (4-1/2) inches of binder mixture, or a top course of one and one-half (1-1/2) inches of asphaltic concrete wearing course on a minimum of one and one-half (1-1/2) inches of binder mixture on a base course of a minimum of six (6) inches of concrete, to match the existing pavement as directed by the Engineer.

(4) The following requirements apply:

(a) Before the top course is installed, an additional width of asphalt beyond the edge of new base course shall be saw-cut and removed from all edges of trenches to a depth to accommodate the specified top course and the entire area restored. This additional removal shall be in accordance with paragraph (b) below.

(b) Pavement excavation along with saw cutting of pavements for sewer and water main trenches shall be in accordance with **Section 71.21 - Pavement Excavation** of the Standard Sewer And Water Main Specifications.

(c) At locations requiring the installation of a concrete base course, a reflective cracking membrane shall be installed over joints prior to restoration, the cost of which shall be deemed included in the prices bid for all pavement restoration items. Additionally, appropriate pavement keys as described below shall be used.

(d) Pavement keys **Type B-1** shall be used to insure a desired four (4) inch curb reveal (two and one-half (2-1/2) inch absolute minimum). Pavement key **Type A** shall be used in all intersections. Both keys are to be per Department Of Transportation Specifications and Standard Details of Construction.

(e) Unless otherwise specified, the cost for Proctor analyses, in-place soil density tests, tack coating, eradication of temporary roadway markings, stripping or milling of

pavement keys and adjustment of city-owned castings for all roadway work shall be deemed included in the prices bid for all pavement restoration items.

- (f) Payment for placement of temporary pavement marking shall be made under Item No. 6.49 - TEMPORARY PAVEMENT MARKINGS (4" WIDE).
- (g) Payment for removal of existing pavement markings shall be made under Item No. 6.53 - REMOVE EXISTING LANE MARKINGS (4"WIDE).
- (h) Payment for placement of permanent pavement marking with thermoplastic reflectorized pavement markings (crosswalk and lane dividers) shall be made under Item No. 6.44 - THERMOPLASTIC REFLECTORIZED PAVEMENT MARKINGS (4" WIDE).
- (i) Payment for pavement restoration shall be made under the following items:

<u>Item No.</u>	<u>Item</u>	<u>Payment Description</u>
4.02 AB-R	Asphaltic Concrete Wearing Course, 1-1/2" Thick	(For asphaltic concrete wearing course top course when <u>no</u> overlay is required.)
4.02 AF-R	Asphaltic Concrete Wearing Course, 2" Thick	(For 2" asphaltic concrete wearing course overlay from curb to curb or edge to edge.)
4.02 AG	Asphaltic Concrete Wearing Course, 3" Thick	(For asphaltic concrete wearing course for entire width of roadway restoration.)
4.02 CA	Binder Mixture	(For binder mixture base course over trenches and cutbacks; binder mixture top filler course under asphaltic concrete wearing course when <u>no</u> overlay is required; binder mixture top course when overlay is required; binder mixture in Type A and B Keys; and binder mixture to fill in roadway depressions and to provide a leveling course prior to overlay where ordered.)
4.04 H	Concrete Base for Pavement Variable 6"-9" Thick (high-Early-Strength)	(Concrete Base Course for entire width of roadway restoration.)
4.05 AX	High Early Strength Reinforced Concrete Pavement (Bus Stop)	(For reinforced concrete pavement at bus stops.)

(NO FURTHER TEXT ON THIS PAGE)

D. REVISIONS TO THE SPECIFICATIONS FOR TRUNK MAIN WORK

- 1) **Refer to Part 1 – Furnishing And Delivering Steel Pipes And Appurtenances 30 Inches In Diameter And Larger, Section 11. Fabrication:, Page 4;**
Add the following to **Section 11:**

All steel water mains shall be spiral welded pipes, and all steel water main fittings shall be fabricated from qualified spiral welded pipe. Can type pipe is not acceptable.

- 2) **Refer to Part 1 – Furnishing And Delivering Steel Pipes And Appurtenances 30 Inches In Diameter And Larger, Section 13. Special Fittings:, Page 5;**
Add the following to **Section 13:**

The steel reducer shall have a length of seven (7) feet for every twelve (12) inches reduction in diameter.

END OF SECTION

This Section consists of forty-one (41) pages plus twenty-five (25) pages of traffic stipulations and forty-two (42) pages of attachments.

NO TEXT ON THIS PAGE



OCMC TRAFFIC STIPULATIONS

AUGUST 13, 2019

OCMC FILE NO: BNEC-17-190
CONTRACT NO: BED776
PROJECT: Water Main Replacement in East New York Avenue, Jamaica Avenue between Tapscott Avenue, Vermont Street, Atlantic Avenue between Van Sinderen Avenue and Georgia Avenue
LOCATION(S): VARIOUS LOCATIONS IN BROOKLYN

PERMISSION IS HEREBY GRANTED TO THE DEPARTMENT OF DESIGN AND CONSTRUCTION AND ITS DULY AUTHORIZED AGENT, TO ENTER UPON AND RESTRICT THE FLOW OF TRAFFIC AT THE ABOVE LOCATION(S) FOR THE PURPOSE OF CARRYING OUT THE ABOVE NOTED PROJECT, SUBJECT TO THE STIPULATIONS, AS NOTED BELOW:

A. SPECIAL STIPULATIONS

- 1. EMBARGOES - A CONSTRUCTION EMBARGO WILL APPLY TO THOSE LOCATIONS BELOW WHICH FALL WITHIN THE HOLIDAY EMBARGO OR ANY OTHER SPECIAL EVENT EMBARGOES SUCH AS THE (OTHER EMBARGOES IF APPLICABLE) AS PUBLISHED BY THE BUREAU OF PERMIT MANAGEMENT AND CONSTRUCTION CONTROL.
2. BIKE LANES - IF WORK IS IN OR AFFECTING A BIKE LANE, THE PERMITTEE MUST POST ADVANCE WARNING SIGNS 350 FEET AND 200 FEET PRIOR TO THE WORK ZONE STATING "CONSTRUCTION IN BIKE LANE AHEAD PROCEED WITH CAUTION", AND ALSO POST A SIGN AT THE WORK ZONE STATING "CONSTRUCTION IN BIKE LANE PROCEED WITH CAUTION".
3. BIKE SHARE STATIONS: THE PERMITTEE SHALL NOT REMOVE, RELOCATE, DAMAGE OR DISRUPT THE OPERATION OF EXISTING BIKE SHARE STATIONS WITHOUT FIRST CONTACTING NYC BIKE SHARE AT 855-245-3311 FOR THEIR REQUIREMENTS PRIOR TO COMMENCING WORK.
4. BUS STOPS - THE PERMITTEE SHALL PROVIDE WRITTEN NOTICE TO NYC DOT OCMC AND NEW YORK CITY TRANSIT (NYCT) A MINIMUM OF FIVE (5) WEEKS IN ADVANCE FOR LANE/STREET CLOSURES THAT AFFECT BUS ROUTES/BUS STOPS.
5. STREET LIGHTS / TRAFFIC SIGNALS: THE PERMITTEE SHALL NOT REMOVE OR RELOCATE EXISTING STREET LIGHTS OR TRAFFIC SIGNALS WITHOUT FIRST OBTAINING APPROVAL FROM NYCDOT STREET LIGHTING / TRAFFIC SIGNALS UNIT.
6. METERS - THE PERMITTEE SHALL NOT REMOVE OR RELOCATE PARKING METERS WITHOUT FIRST OBTAINING APPROVAL FROM NYCDOT PARKING METER DIVISION AT 718-894-8651.
7. ACCESS TO ADJUTING PROPERTIES - THE PERMITTEE SHALL COORDINATE ALL ACTIVITIES WITH ADJUTING PROPERTY OWNERS TO ENSURE ACCESS IS PROVIDED TO/FROM ENTRANCES/DRIVEWAYS AT ALL TIMES.
8. AUTHORIZED PARKING - PRIOR TO PERFORMING WORK WHICH IMPACTS AUTHORIZED PARKING, THE PERMITTEE SHALL SUBMIT IN WRITING, AND COPY OCMC-STREETS, A REQUEST TO OCCUPY SPACE CURRENTLY USED BY AUTHORIZED VEHICLES.
9. NOTIFICATION - THE PERMITTEE MUST AT LEAST TWO (2) WORKING DAYS BEFORE THE START OF CONSTRUCTION NOTIFY THE NYC FIRE DEPARTMENT, NYC POLICE DEPARTMENT, NYC EMS, LOCAL COMMUNITY BOARD, BOROUGH PRESIDENT'S OFFICE-CHIEF ENGINEER, NYCDOT OCMC OFFICE, AND ALL ADJUTING PROPERTY OWNERS.
10. ENHANCED MITIGATIONS
o "NO STANDING ANYTIME-TEMPORARY CONSTRUCTION" SIGNS AND TEMPORARY PAVEMENT MARKINGS SHALL BE INSTALLED AND MAINTAINED AS WARRANTED BY THE MAINTENANCE AND PROTECTION OF TRAFFIC (MPT) REQUIRED TO FACILITATE TRAFFIC MOVEMENTS THROUGH THE WORK ZONE.
o COMMUNITY OUTREACH SHALL BE PROVIDED FOR THE DURATION OF THE PROJECT.

B. MAINTENANCE AND PROTECTION OF TRAFFIC

EAST NEW YORK AVENUE BETWEEN PITKIN AVENUE AND HOWARD AVENUE

Work hours shall be as follows: 9AM to 4PM Monday to Friday and Saturday 7AM to 6PM.

AUGUST 13, 2019

Water Main Replacement in East New York Avenue, Jamaica Avenue between Tapscott Avenue, Vermont Street, Atlantic Avenue between Van Sinderen Avenue and Georgia Avenue

The contractor shall maintain two lanes for traffic, 1 lane in each direction.
The contractor shall maintain a minimum 5 foot clear sidewalk or maintain a 5 foot clear pedestrian walkway in the roadway.

The contractor shall occupy 8 foot width of roadway adjacent to the curb and a maximum of 50 linear feet, rolling permits for storage of material.

No parking anytime temporary construction signs.

Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.

Must coordinate with school and NYC DOT bike lane prior to mobilizing.

EAST NEW YORK AVENUE BETWEEN PITKIN AVENUE AND TAPSCOTT STREET

Work hours shall be as follows: 7AM to 6PM Monday to Friday and Saturday 7AM to 6PM.

The contractor shall maintain two lanes for traffic, 1 lane in each direction.

The contractor shall maintain a minimum 5 foot clear sidewalk or maintain a 5 foot clear pedestrian walkway in the roadway.

The contractor shall occupy 8 foot width of roadway adjacent to the curb and a maximum of 50 linear feet, rolling permits for storage of material.

No parking anytime temporary construction signs.

Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.

Must coordinate with NYCT Bus and NYC DOT bike lane prior to mobilizing.

EAST NEW YORK AVENUE BETWEEN GRAFTON STREET AND HOWARD AVENUE

Work hours shall be as follows: 9AM to 2PM Monday to Friday when school is in session and Saturday 7AM to 6PM.

Work hours shall also be as follows when school is not in session: 9AM to 4PM Monday to Friday and Saturday 7AM to 6PM.

The contractor shall also maintain one (1) 11ft lane for traffic on one-way streets or two (2) 11ft lane for traffic on two-way streets.

The contractor shall maintain a minimum 5-foot clear sidewalk or a 5-foot pedestrian walkway in the roadway.

The contractor shall occupy 8 foot width of roadway adjacent to the curb and a maximum of 50 linear feet, rolling permits for storage of material.

No parking anytime temporary construction signs.

Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.

Must coordinate with school and NYCT Bus and NYC DOT bike lane prior to mobilizing.

EAST NEW YORK AVENUE BETWEEN GRAFTON STREET AND LINCOLN PLACE

Work hours shall be as follows: 7AM to 6PM Monday to Friday and Saturday.

The contractor shall fully close the roadway from the month of June to August, maintain one eleven foot lane for traffic after working hours.

The contractor shall maintain a minimum 5 foot clear sidewalk or maintain a 5 foot clear pedestrian walkway in the roadway.

The contractor shall occupy 8 foot width of roadway adjacent to the curb and a maximum of 50 linear feet, rolling permits for storage of material.

No parking anytime temporary construction signs.

Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.

Must coordinate with school and NYC DOT bike lane prior to mobilizing.

EAST NEW YORK AVENUE BETWEEN GRAFTON STREET AND LEGION STREET

Work hours shall be as follows: 9AM to 2PM Monday to Friday when school is in session and Saturday 7AM to 6PM.

Work hours shall also be as follows when school is not in session: 9AM to 4PM Monday to Friday and Saturday 7AM to 6PM.

The contractor shall also maintain one (1) 11ft lane for traffic on one-way streets or two (2) 11ft lane for traffic on two-way streets.

The contractor shall maintain a minimum 5-foot clear sidewalk or a 5-foot pedestrian walkway in the roadway.

AUGUST 13, 2019

Water Main Replacement in East New York Avenue, Jamaica Avenue between Tapscott Avenue, Vermont Street, Atlantic Avenue between Van Sinderen Avenue and Georgia Avenue

The contractor shall occupy 8 foot width of roadway adjacent to the curb and a maximum of 50 linear feet, rolling permits for storage of material.

No parking anytime temporary construction signs.

Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.

Must coordinate with school and NYCT Bus prior to mobilizing.

EAST NEW YORK AVENUE BETWEEN LINCOLN PLACE AND SARATOGA AVENUE

Work hours shall be as follows: 9AM to 5PM Monday to Friday.

The contractor shall maintain one eleven foot lane for traffic during working hours, after working hours maintain two ten foot lanes for traffic one lane in each direction.

The contractor shall maintain a minimum 5-foot clear sidewalk or a 5-foot pedestrian walkway in the roadway.

The contractor shall occupy 8 foot width of roadway adjacent to the curb and a maximum of 50 linear feet, rolling permits for storage of material.

No parking anytime temporary construction signs.

Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.

Must coordinate with school, NYCT bike lane and NYCT Bus prior to mobilizing.

EAST NEW YORK AVENUE BETWEEN LEGION STREET AND SARATOGA AVENUE

Work hours shall be as follows: 9AM to 2PM Monday to Friday when school is in session and Saturday 7AM to 6PM.

Work hours shall also be as follows when school is not in session: 9AM to 4PM Monday to Friday and Saturday 7AM to 6PM.

The contractor shall maintain one eleven foot lane for traffic during working hours, after working hours maintain two eleven foot lanes traffic, one lane in each direction.

The contractor shall maintain a minimum 5-foot clear sidewalk or a 5-foot pedestrian walkway in the roadway.

The contractor shall occupy 8 foot width of roadway adjacent to the curb and a maximum of 50 linear feet, rolling permits for storage of material.

No parking anytime temporary construction signs.

Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.

Must coordinate with school, NYCT bike lane and NYCT Bus prior to mobilizing.

EAST NEW YORK AVENUE BETWEEN SARATOGA AVENUE AND SARATOGA AVENUE

Work hours shall be as follows: 9AM to 2PM Monday to Friday when school is in session and Saturday 7AM to 6PM.

Work hours shall also be as follows when school is not in session: 9AM to 4PM Monday to Friday and Saturday 7AM to 6PM.

The contractor shall maintain one eleven foot lane for traffic during working hours, after working hours maintain two eleven foot lanes traffic, one lane in each direction.

The contractor shall maintain a minimum 5-foot clear sidewalk or a 5-foot pedestrian walkway in the roadway.

The contractor shall occupy 8 foot width of roadway adjacent to the curb and a maximum of 50 linear feet, rolling permits for storage of material.

No parking anytime temporary construction signs.

Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.

Must coordinate with school, NYCT bike lane and NYCT Bus prior to mobilizing.

EAST NEW YORK AVENUE BETWEEN SARATOGA AVENUE AND STRAUSS STREET

Work hours shall be as follows: 9AM to 5PM Monday to Friday.

The contractor shall maintain one eleven foot lane for traffic during working hours, after working hours maintain two eleven foot lanes traffic, one lane in each direction.

The contractor shall maintain a minimum 5-foot clear sidewalk or a 5-foot pedestrian walkway in the roadway.

The contractor shall occupy 8 foot width of roadway adjacent to the curb and a maximum of 50 linear feet, rolling permits for storage of material.

Water Main Replacement in East New York Avenue, Jamaica Avenue between Tapscott Avenue, Vermont Street, Atlantic Avenue between Van Sinderen Avenue and Georgia Avenue

No parking anytime temporary construction signs.

Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.

Must coordinate with school, NYCT bike lane and NYCT Bus prior to mobilizing.

EAST NEW YORK AVENUE BETWEEN SARATOGA AVENUE AND SAINT JOHN'S PLACE

Work hours shall be as follows: 9AM to 2PM Monday to Friday when school is in session and Saturday 7AM to 6PM.

Work hours shall also be as follows when school is not in session: 9AM to 4PM Monday to Friday and Saturday 7AM to 6PM.

The contractor shall maintain one eleven foot lane for traffic during working hours, after working hours maintain two eleven foot lanes traffic, one lane in each direction.

The contractor shall maintain a minimum 5-foot clear sidewalk or a 5-foot pedestrian walkway in the roadway.

The contractor shall occupy 8 foot width of roadway adjacent to the curb and a maximum of 50 linear feet, rolling permits for storage of material.

No parking anytime temporary construction signs.

Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.

Must coordinate with school, NYCT bike lane and NYCT Bus prior to mobilizing.

EAST NEW YORK AVENUE BETWEEN SARATOGA AVENUE AND STRAUSS STREET

Work hours shall be as follows: 9AM to 5PM Monday to Friday.

The contractor shall maintain one lane for traffic during working hours. After working hours maintain two lanes for traffic, one in each direction.

The contractor shall maintain a minimum 5-foot clear sidewalk or a 5-foot pedestrian walkway in the roadway.

The contractor shall occupy 8 foot width of roadway adjacent to the curb and a maximum of 50 linear feet, rolling permits for storage of material.

No parking anytime temporary construction signs.

Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.

Must coordinate with school, NYCT bike lane and NYCT Bus prior to mobilizing.

EAST NEW YORK AVENUE BETWEEN STRAUSS STREET AND AMBOY STREET

Work hours shall be as follows: 9AM to 5PM Monday to Friday PM.

The contractor shall maintain one lane for traffic during working hours. After working hours maintain two lanes for traffic, one in each direction.

The contractor shall maintain a minimum 5 foot clear sidewalk or maintain a 5 foot clear pedestrian walkway in the roadway.

The contractor shall occupy 8 foot width of roadway adjacent to the curb and a maximum of 50 linear feet, rolling permits for storage of material.

No parking anytime temporary construction signs.

Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.

Must coordinate with NYCT Bus and NYC DOT bike lane Prior to mobilizing.

EAST NEW YORK AVENUE BETWEEN SARATOGA AVENUE AND STERLING PLACE

Work hours shall be as follows: 9AM to 4PM Monday to Friday and Saturday 7AM to 6PM.

The contractor shall maintain one eleven foot lane for traffic during working hours, after working hours maintain two eleven foot lanes for traffic, one lane in each direction.

The contractor shall maintain a minimum 5 foot clear sidewalk or maintain a 5 foot clear pedestrian walkway in the roadway.

The contractor shall occupy 8 foot width of roadway adjacent to the curb and a maximum of 50 linear feet, rolling permits for storage of material.

No parking anytime temporary construction signs.

Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.

Must coordinate with NYCT Bus and NYC DOT bike lane Prior to mobilizing.

Water Main Replacement in East New York Avenue, Jamaica Avenue between Tapscott Avenue, Vermont Street, Atlantic Avenue between Van Sinderen Avenue and Georgia Avenue

EAST NEW YORK AVENUE BETWEEN AMBOY STREET AND THOMAS BOYLAND STREET

Work hours shall be as follows: 9AM to 5PM Monday to Friday.
The contractor shall maintain one lane for traffic during working hours. After working hours maintain two lanes for traffic, one in each direction.
The contractor shall maintain a minimum 5 foot clear sidewalk or maintain a 5 foot clear pedestrian walkway in the roadway.
The contractor shall occupy 8 foot width of roadway adjacent to the curb and a maximum of 50 linear feet, rolling permits for storage of material.
No parking anytime temporary construction signs.
Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.
Must coordinate with NYCT Bus and NYC DOT bike lane Prior to mobilizing.

EAST NEW YORK AVENUE BETWEEN THOMAS BOYLAND STREET AND BRISTOL STREET

Work hours shall be as follows: 9AM to 5PM Monday to Friday.
The contractor shall maintain one lane for traffic during working hours. After working hours maintain two lanes for traffic, one in each direction.
The contractor shall maintain a minimum 5 foot clear sidewalk or maintain a 5 foot clear pedestrian walkway in the roadway.
The contractor shall occupy 8 foot width of roadway adjacent to the curb and a maximum of 50 linear feet, rolling permits for storage of material.
No parking anytime temporary construction signs.
Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.
Must coordinate with NYCT Bus, NYPD and NYC DOT bike lane Prior to mobilizing.

EAST NEW YORK AVENUE BETWEEN BRISTOL STREET AND CHESTER STREET

Work hours shall be as follows: 9AM to 5PM Monday to Friday.
The contractor shall maintain one lane for traffic during working hours. After working hours maintain two lanes for traffic, one in each direction.
The contractor shall maintain a minimum 5 foot clear sidewalk or maintain a 5 foot clear pedestrian walkway in the roadway.
The contractor shall occupy 8 foot width of roadway adjacent to the curb and a maximum of 50 linear feet, rolling permits for storage of material.
No parking anytime temporary construction signs.
Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.
Must coordinate with NYCT Bus, NYPD and NYC DOT bike lane Prior to mobilizing.

EAST NEW YORK AVENUE BETWEEN BRISTOL STREET AND PARK PLACE

Work hours shall be as follows: 9AM to 4PM Monday to Friday and Saturday 7AM to 6PM.
The contractor shall maintain one eleven foot lane for traffic during working hours, after working hours maintain two eleven foot lanes for traffic, one lane in each direction.
The contractor shall maintain a minimum 5 foot clear sidewalk or maintain a 5 foot clear pedestrian walkway in the roadway.
The contractor shall occupy 8 foot width of roadway adjacent to the curb and a maximum of 50 linear feet, rolling permits for storage of material.
No parking anytime temporary construction signs.
Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.
Must coordinate with NYCT Bus, NYPD and NYC DOT bike lane Prior to mobilizing.

EAST NEW YORK AVENUE BETWEEN CHESTER STREET AND ROCKAWAY AVENUE

Work hours shall be as follows: 9AM to 5PM Monday to Friday.
The contractor shall maintain one lane for traffic during working hours. After working hours maintain two lanes for traffic, one in each direction.
The contractor shall maintain a minimum 5 foot clear sidewalk or maintain a 5 foot clear pedestrian walkway in the roadway.

AUGUST 13, 2019

Water Main Replacement in East New York Avenue, Jamaica Avenue between Tapscott Avenue, Vermont Street, Atlantic Avenue between Van Sinderen Avenue and Georgia Avenue

The contractor shall occupy 8 foot width of roadway adjacent to the curb and a maximum of 50 linear feet, rolling permits for storage of material.

No parking anytime temporary construction signs.

Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.

Must coordinate with NYCT Bus, NYPD and NYC DOT bike lane Prior to mobilizing.

E EAST NEW YORK AVENUE BETWEEN CHESTER STREET AND PROSPECT PLACE

Work hours shall be as follows: 9AM to 4PM Monday to Friday and Saturday 7AM to 6PM.

The contractor shall maintain one eleven foot lane for traffic during working hours, after working hours maintain two eleven foot lanes for traffic, one lane in each direction.

The contractor shall maintain a minimum 5 foot clear sidewalk or maintain a 5 foot clear pedestrian walkway in the roadway.

The contractor shall occupy 8 foot width of roadway adjacent to the curb and a maximum of 50 linear feet, rolling permits for storage of material.

No parking anytime temporary construction signs.

Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.

Must coordinate with NYCT Bus, NYPD and NYC DOT bike lane Prior to mobilizing.

EAST NEW YORK AVENUE BETWEEN ROCKAWAY AVENUE AND SAINT MARK'S AVENUE

Work hours shall be as follows: 9AM to 4PM Monday to Friday and Saturday 7AM to 6PM.

The contractor shall maintain two lanes for traffic, 1 lane in each direction.

The contractor shall maintain a minimum 5 foot clear sidewalk or maintain a 5 foot clear pedestrian walkway in the roadway.

The contractor shall occupy 8 foot width of roadway adjacent to the curb and a maximum of 50 linear feet, rolling permits for storage of material.

No parking anytime temporary construction signs.

Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.

Must coordinate with NYCT Bus, NYPD and NYC DOT bike lane Prior to mobilizing.

EAST NEW YORK AVENUE BETWEEN SAINT MARK'S AVENUE AND MOTHER GASTON BOULEVARD

Work hours shall be as follows: 9AM to 4PM Monday to Friday and Saturday 7AM to 6PM.

The contractor shall maintain two lanes for traffic, 1 lane in each direction.

The contractor shall maintain a minimum 5 foot clear sidewalk or maintain a 5 foot clear pedestrian walkway in the roadway.

The contractor shall occupy 8 foot width of roadway adjacent to the curb and a maximum of 50 linear feet, rolling permits for storage of material.

No parking anytime temporary construction signs.

Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.

Must coordinate with NYCT Bus, NYPD and NYC DOT bike lane Prior to mobilizing.

EAST NEW YORK AVENUE BETWEEN MOTHER GASTON BOULEVARD TO CHRISTOPHER AVENUE

Work hours shall be as follows: 9AM to 5PM Monday to Friday.

The contractor shall maintain one lane for traffic during working hours. After working hours maintain two lanes for traffic, one in each direction.

The contractor shall maintain a minimum 5 foot clear sidewalk or maintain a 5 foot clear pedestrian walkway in the roadway.

The contractor shall occupy 8 foot width of roadway adjacent to the curb and a maximum of 50 linear feet, rolling permits for storage of material.

No parking anytime temporary construction signs.

Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.

Must coordinate with NYCT Bus, NYPD and NYC DOT bike lane Prior to mobilizing.

EAST NEW YORK AVENUE BETWEEN MOTHER GASTON BOULEVARD AND BERGEN STREET

AUGUST 13, 2019

Water Main Replacement in East New York Avenue, Jamaica Avenue between Tapscott Avenue, Vermont Street, Atlantic Avenue between Van Sinderen Avenue and Georgia Avenue

Work hours shall be as follows: 9AM to 4PM Monday to Friday and Saturday 7AM to 6PM.
The contractor shall maintain one eleven foot lane for traffic during working hours, after working hours maintain two eleven foot lanes for traffic, one lane in each direction.
The contractor shall maintain a minimum 5 foot clear sidewalk or maintain a 5 foot clear pedestrian walkway in the roadway.
The contractor shall occupy 8 foot width of roadway adjacent to the curb and a maximum of 50 linear feet, rolling permits for storage of material.
No parking anytime temporary construction signs.
Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.
Must coordinate with NYCT Bus, NYPD and NYC DOT bike lane Prior to mobilizing.

EAST NEW YORK AVENUE BETWEEN BERGEN STREET AND CHRISTOPHER AVENUE

Work hours shall be as follows: 9AM to 4PM Monday to Friday and Saturday 7AM to 6PM.
The contractor shall maintain one eleven foot lane for traffic during working hours, after working hours maintain two eleven foot lanes for traffic, one lane in each direction.
The contractor shall maintain a minimum 5 foot clear sidewalk or maintain a 5 foot clear pedestrian walkway in the roadway.
The contractor shall occupy 8 foot width of roadway adjacent to the curb and a maximum of 50 linear feet, rolling permits for storage of material.
No parking anytime temporary construction signs.
Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.
Must coordinate with NYCT Bus, NYPD and NYC DOT bike lane Prior to mobilizing.

EAST NEW YORK AVENUE BETWEEN CHRISTOPHER AVENUE AND SACKMAN STREET

Work hours shall be as follows: 9AM to 5PM Monday to Friday.
The contractor shall maintain one lane for traffic during working hours. After working hours maintain two lanes for traffic, one in each direction.
The contractor shall maintain a minimum 5 foot clear sidewalk or maintain a 5 foot clear pedestrian walkway in the roadway.
The contractor shall occupy 8 foot width of roadway adjacent to the curb and a maximum of 50 linear feet, rolling permits for storage of material.
No parking anytime temporary construction signs.
Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.
Must coordinate with NYCT Bus, NYPD and NYC DOT bike lane Prior to mobilizing.

EAST NEW YORK AVENUE BETWEEN SACKMAN STREET AND DEAN STREET

Work hours shall be as follows: 9AM to 2PM Monday to Friday when school is in session and Saturday 7AM to 6PM.
Work hours shall also be as follows when school is not in session: 9AM to 4PM Monday to Friday and Saturday 7AM to 6PM.
The contractor shall maintain one eleven foot lane for traffic during working hours, after working hours maintain two eleven foot lanes for traffic, one lane in each direction.
The contractor shall maintain a minimum 5-foot clear sidewalk or a 5-foot pedestrian walkway in the roadway.
The contractor shall occupy 8 foot width of roadway adjacent to the curb and a maximum of 50 linear feet, rolling permits for storage of material.
No parking anytime temporary construction signs.
Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.
Must coordinate with school and NYCT Bus prior to mobilizing.

EAST NEW YORK AVENUE BETWEEN SACKMAN STREET AND POWELL STREET

Work hours shall be as follows: 9AM to 5PM Monday to Friday.
The contractor shall maintain one 11 foot lane for traffic.
The contractor shall maintain a minimum 5 foot clear sidewalk or maintain a 5 foot clear pedestrian walkway in the roadway.

AUGUST 13, 2019

Water Main Replacement in East New York Avenue, Jamaica Avenue between Tapscott Avenue, Vermont Street, Atlantic Avenue between Van Sinderen Avenue and Georgia Avenue

The contractor shall occupy 8 foot width of roadway adjacent to the curb and a maximum of 50 linear feet, rolling permits for storage of material.

No parking anytime temporary construction signs.

Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.

Must coordinate with NYCT Bus, NYPD and NYC DOT bike lane Prior to mobilizing.

EAST NEW YORK AVENUE BETWEEN POWELL STREET AND JUNIUS STREET

Work hours shall be as follows: 9AM to 5PM Monday to Friday.

The contractor shall maintain one 11 foot lane for traffic.

The contractor shall maintain a minimum 5 foot clear sidewalk or maintain a 5 foot clear pedestrian walkway in the roadway.

The contractor shall occupy 8 foot width of roadway adjacent to the curb and a maximum of 50 linear feet, rolling permits for storage of material.

No parking anytime temporary construction signs.

Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.

Must coordinate with NYCT Bus, NYPD and NYC DOT bike lane Prior to mobilizing.

EAST NEW YORK AVENUE BETWEEN PACIFIC STREET AND JUNIUS STREET

Work hours shall be as follows: 9AM to 4PM Monday to Friday and Saturday 7AM to 6PM.

The contractor shall maintain one 11 foot lane for traffic.

The contractor shall maintain a minimum 5 foot clear sidewalk or maintain a 5 foot clear pedestrian walkway in the roadway.

The contractor shall occupy 8 foot width of roadway adjacent to the curb and a maximum of 50 linear feet, rolling permits for storage of material.

No parking anytime temporary construction signs.

Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.

Must coordinate with NYCT Bus, NYPD and NYC DOT bike lane Prior to mobilizing.

EAST NEW YORK AVENUE BETWEEN PACIFIC STREET AND VAN SINDEREN AVENUE

Work hours shall be as follows: 9AM to 4PM Monday to Friday and Saturday 7AM to 6PM.

The contractor shall maintain one 11 foot lane for traffic.

The contractor shall maintain a minimum 5 foot clear sidewalk or maintain a 5 foot clear pedestrian walkway in the roadway.

The contractor shall occupy 8 foot width of roadway adjacent to the curb and a maximum of 50 linear feet, rolling permits for storage of material.

No parking anytime temporary construction signs.

Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.

Must coordinate with NYCT Bus, NYPD and NYC DOT bike lane Prior to mobilizing.

EAST NEW YORK AVENUE BETWEEN VAN SINDEREN AVENUE AND ATLANTIC AVENUE

Work hours shall be as follows: 9AM to 4PM Monday to Friday and Saturday 7AM to 6PM.

The contractor shall maintain one 11 foot lane for traffic.

The contractor shall maintain a minimum 5 foot clear sidewalk or maintain a 5 foot clear pedestrian walkway in the roadway.

The contractor shall occupy 8 foot width of roadway adjacent to the curb and a maximum of 50 linear feet, rolling permits for storage of material.

No parking anytime temporary construction signs.

Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.

Must coordinate with NYCT Bus, NYPD and NYC DOT bike lane Prior to mobilizing.

EAST NEW YORK AVENUE BETWEEN ATLANTIC AVENUE AND SNEDIKER AVENUE

Work hours shall be as follows: 9AM to 4PM Monday to Friday and Saturday 7AM to 6PM.

The contractor shall maintain one 11 foot lane for traffic.

Water Main Replacement in East New York Avenue, Jamaica Avenue between Tapscott Avenue, Vermont Street, Atlantic Avenue between Van Sinderen Avenue and Georgia Avenue

The contractor shall maintain a minimum 5 foot clear sidewalk or maintain a 5 foot clear pedestrian walkway in the roadway.

The contractor shall occupy 8 foot width of roadway adjacent to the curb and a maximum of 50 linear feet, rolling permits for storage of material.

No parking anytime temporary construction signs.

Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.

Must coordinate with NYCT Bus, NYPD and NYC DOT bike lane Prior to mobilizing.

EAST NEW YORK AVENUE BETWEEN ATLANTIC AVENUE AND WILLIAMS AVENUE

Work hours shall be as follows: 9AM to 4PM Monday to Friday and Saturday 7AM to 6PM.

The contractor shall maintain a minimum 5 foot clear sidewalk or maintain a 5 foot clear pedestrian walkway in the roadway.

The contractor shall also maintain one (1) 11ft lane for traffic on one-way streets or two (2) 11ft lane for traffic on two-way streets.

The contractor shall occupy 8 foot width of roadway adjacent to the curb and a maximum of 50 linear feet, rolling permits for storage of material.

No parking anytime temporary construction signs.

Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.

Must coordinate with NYCT Bus, NYPD and NYC DOT bike lane Prior to mobilizing.

WILLIAMS AVENUE BETWEEN EAST NEW YORK AVENUE AND ATLANTIC AVENUE

Work hours shall be as follows: 9AM to 5PM Monday to Friday.

The contractor shall maintain one 11 foot lane for traffic.

The contractor shall maintain a minimum 5 foot clear sidewalk or maintain a 5 foot clear pedestrian walkway in the roadway.

The contractor shall occupy 8 foot width of roadway adjacent to the curb and a maximum of 50 linear feet, rolling permits for storage of material.

No parking anytime temporary construction signs.

Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.

Must coordinate with NYCT Bus, NYPD and NYC DOT bike lane Prior to mobilizing.

EAST NEW YORK AVENUE BETWEEN WILLIAMS PLACE AND HERKIMER STREET

Work hours shall be as follows: 9AM to 5PM Monday to Friday.

The contractor shall maintain one 11 foot lane for traffic.

The contractor shall maintain a minimum 5 foot clear sidewalk or maintain a 5 foot clear pedestrian walkway in the roadway.

The contractor shall occupy 8 foot width of roadway adjacent to the curb and a maximum of 50 linear feet, rolling permits for storage of material.

No parking anytime temporary construction signs.

Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.

Must coordinate with NYCT Bus, NYPD and NYC DOT bike lane Prior to mobilizing.

GEORGIA AVENUE BETWEEN ATLANTIC AVENUE AND JAMAICA AVENUE

Work hours shall be as follows: 9AM to 5PM Monday to Friday.

The contractor shall maintain one 11 foot lane for traffic.

The contractor shall maintain a minimum 5 foot clear sidewalk or maintain a 5 foot clear pedestrian walkway in the roadway.

The contractor shall occupy 8 foot width of roadway adjacent to the curb and a maximum of 50 linear feet, rolling permits for storage of material.

No parking anytime temporary construction signs.

Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.

Must coordinate with NYCT Bus, NYPD and NYC DOT bike lane Prior to mobilizing.

EAST NEW YORK AVENUE BETWEEN WILLIAMS AVENUE AND ALABAMA AVENUE

Water Main Replacement in East New York Avenue, Jamaica Avenue between Tapscott Avenue, Vermont Street, Atlantic Avenue between Van Sinderen Avenue and Georgia Avenue

Work hours shall be as follows: 9AM to 4PM Monday to Friday and Saturday 7AM to 6PM.
The contractor shall maintain a minimum 5 foot clear sidewalk or maintain a 5 foot clear pedestrian walkway in the roadway.
The contractor shall also maintain one (1) 11ft lane for traffic on one-way streets or two (2) 11ft lane for traffic on two-way streets.
The contractor shall occupy 8 foot width of roadway adjacent to the curb and a maximum of 50 linear feet, rolling permits for storage of material.
No parking anytime temporary construction signs.
Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.
Must coordinate with NYCT Bus, NYPD and NYC DOT bike lane Prior to mobilizing.

ATLANTIC AVENUE BETWEEN JUNIUS STREET AND VAN SINDEREN AVENUE

Work hours shall be as follows: 9AM to 4PM Monday to Friday and Saturday 7AM to 6PM.
The contractor shall maintain one 11 foot lane for traffic.
The contractor shall maintain a minimum 5 foot clear sidewalk or maintain a 5 foot clear pedestrian walkway in the roadway.
The contractor shall occupy 8 foot width of roadway adjacent to the curb and a maximum of 50 linear feet, rolling permits for storage of material.
No parking anytime temporary construction signs.
Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.
Must coordinate with NYCTA, Long Island Railroad and NYC DOT Bridges Prior to mobilizing.

ATLANTIC AVENUE BETWEEN VAN SINDEREN AND NYCTA SUBWAY

Work hours shall be as follows: 9AM to 4PM Monday to Friday and Saturday 7AM to 6PM.
The contractor shall maintain one 11 foot lane for traffic.
The contractor shall maintain a minimum 5 foot clear sidewalk or maintain a 5 foot clear pedestrian walkway in the roadway.
The contractor shall occupy 8 foot width of roadway adjacent to the curb and a maximum of 50 linear feet, rolling permits for storage of material.
No parking anytime temporary construction signs.
Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.
Must coordinate with NYCTA, Long Island Railroad and NYC DOT Bridges Prior to mobilizing.

ATLANTIC AVENUE BETWEEN NYCTA SUBWAY AND SNEDIKER AVENUE

Work hours shall be as follows: 9AM to 4PM Monday to Friday and Saturday 7AM to 6PM.
The contractor shall maintain one 11 foot lane for traffic.
The contractor shall maintain a minimum 5 foot clear sidewalk or maintain a 5 foot clear pedestrian walkway in the roadway.
The contractor shall occupy 8 foot width of roadway adjacent to the curb and a maximum of 50 linear feet, rolling permits for storage of material.
No parking anytime temporary construction signs.
Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.
Must coordinate with NYCTA, Long Island Railroad and NYC DOT Bridges Prior to mobilizing.

ATLANTIC AVENUE BETWEEN SNEDIKER AVENUE AND EAST NEW YORK AVENUE

Work hours shall be as follows: 9AM to 4PM Monday to Friday and Saturday 7AM to 6PM.
The contractor shall maintain one 11 foot lane for traffic.
The contractor shall maintain a minimum 5 foot clear sidewalk or maintain a 5 foot clear pedestrian walkway in the roadway.
The contractor shall occupy 8 foot width of roadway adjacent to the curb and a maximum of 50 linear feet, rolling permits for storage of material.
No parking anytime temporary construction signs.
Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.

Water Main Replacement in East New York Avenue, Jamaica Avenue between Tapscott Avenue, Vermont Street, Atlantic Avenue between Van Sinderen Avenue and Georgia Avenue

Must coordinate with NYCTA, Long Island Railroad and NYC DOT Bridges Prior to mobilizing.

ATLANTIC AVENUE BETWEEN EAST NEW YORK AVENUE AND HINSDALE AVENUE

Work hours shall be as follows: 9AM to 4PM Monday to Friday and Saturday 7AM to 6PM.

The contractor shall maintain one 11 foot lane for traffic.

The contractor shall maintain a minimum 5 foot clear sidewalk or maintain a 5 foot clear pedestrian walkway in the roadway.

The contractor shall occupy 8 foot width of roadway adjacent to the curb and a maximum of 50 linear feet, rolling permits for storage of material.

No parking anytime temporary construction signs.

Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.

Must coordinate with NYCTA, Long Island Railroad and NYC DOT Bridges Prior to mobilizing.

ATLANTIC AVENUE BETWEEN HINSDALE AVENUE AND WILLIAMS AVENUE

Work hours shall be as follows: 9AM to 2PM Monday to Friday when school is in session and Saturday 7AM to 6PM.

Work hours shall also be as follows when school is not in session: 9AM to 4PM Monday to Friday and Saturday 7AM to 6PM.

The contractor shall maintain one 11 foot lane for traffic.

The contractor shall maintain a minimum 5 foot clear sidewalk or maintain a 5 foot clear pedestrian walkway in the roadway.

The contractor shall occupy 8 foot width of roadway adjacent to the curb and a maximum of 50 linear feet, rolling permits for storage of material.

No parking anytime temporary construction signs.

Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.

Must coordinate with NYCTA, Long Island Railroad and NYC DOT Bridges Prior to mobilizing.

ATLANTIC AVENUE BETWEEN WILLIAMS AVENUE AND ALABAMA AVENUE

Work hours shall be as follows: 9AM to 2PM Monday to Friday when school is in session and Saturday 7AM to 6PM.

Work hours shall also be as follows when school is not in session: 9AM to 4PM Monday to Friday and Saturday 7AM to 6PM.

The contractor shall maintain one 11 foot lane for traffic.

The contractor shall maintain a minimum 5 foot clear sidewalk or maintain a 5 foot clear pedestrian walkway in the roadway.

The contractor shall occupy 8 foot width of roadway adjacent to the curb and a maximum of 50 linear feet, rolling permits for storage of material.

No parking anytime temporary construction signs.

Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.

Must coordinate with NYCTA, Long Island Railroad and NYC DOT Bridges Prior to mobilizing.

ATLANTIC AVENUE BETWEEN ALABAMA AVENUE AND GEORGIA AVENUE

Work hours shall be as follows: 9AM to 4PM Monday to Friday and Saturday 7AM to 6PM.

The contractor shall maintain one 11 foot lane for traffic.

The contractor shall maintain a minimum 5 foot clear sidewalk or maintain a 5 foot clear pedestrian walkway in the roadway.

The contractor shall occupy 8 foot width of roadway adjacent to the curb and a maximum of 50 linear feet, rolling permits for storage of material.

No parking anytime temporary construction signs.

Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.

Must coordinate with NYCTA, Long Island Railroad and NYC DOT Bridges Prior to mobilizing.

JAMAICA AVENUE BETWEEN VERMONT STREET AND MARGINAL STREET EAST

Work hours shall be as follows: 9AM to 4PM Monday to Friday and Saturday 7AM to 6PM.

Water Main Replacement in East New York Avenue, Jamaica Avenue between Tapscott Avenue, Vermont Street, Atlantic Avenue between Van Sinderen Avenue and Georgia Avenue

The contractor shall maintain two lanes for traffic, one lane in each direction.
The contractor shall maintain a minimum 5 foot clear sidewalk or maintain a 5 foot clear pedestrian walkway in the roadway.
The contractor shall occupy 8 foot width of roadway adjacent to the curb and a maximum of 50 linear feet for storage of material.
No parking anytime temporary construction signs.
Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.
Must coordinate with NYCT Bus Prior to mobilizing.

JAMAICA AVENUE BETWEEN MARGINAL STREET EAST AND JACKIE ROBINSON PARKWAY (EXTENSION OF INTERBOROUGH PKWY)

Work hours shall be as follows: 10PM to 6AM Monday to Sunday.
The contractor shall maintain two eleven foot lanes, one eleven foot lane on each side of the existing double yellow center line.
The contractor shall maintain a minimum 5 foot clear sidewalk or maintain a 5 foot clear pedestrian walkway in the roadway.
The contractor shall occupy 8 foot width of roadway adjacent to the curb and a maximum of 50 linear feet for storage of material.
No parking anytime temporary construction signs.
Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.
Must coordinate with NYCT Bus Prior to mobilizing.

JAMAICA AVENUE BETWEEN NEW JERSEY AVENUE AND PENNSYLVANIA AVENUE

Work hours shall be as follows: 10PM to 6AM Monday to Sunday.
The contractor shall maintain two eleven foot lanes, one eleven foot lane on each side of the existing double yellow center line.
The contractor shall maintain a minimum 5 foot clear sidewalk or maintain a 5 foot clear pedestrian walkway in the roadway.
The contractor shall occupy 8 foot width of roadway adjacent to the curb and a maximum of 50 linear feet for storage of material.
No parking anytime temporary construction signs.
Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.
Must coordinate with NYCT Bus Prior to mobilizing.

JAMAICA AVENUE BETWEEN JACKIE ROBINSON PARKWAY (EXTENSION OF INTERBOROUGH PKWY) AND BUSHWICK AVENUE

Work hours shall be as follows: 10PM to 6AM Monday to Sunday.
The contractor shall maintain two eleven foot lanes for traffic and no impact on the opposite side of the roadway.
The contractor shall maintain a minimum 5 foot clear sidewalk or maintain a 5 foot clear pedestrian walkway in the roadway.
The contractor shall occupy 8 foot width of roadway adjacent to the curb and a maximum of 50 linear feet for storage of material.
No parking anytime temporary construction signs.
Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.
Must coordinate with NYCT Bus Prior to mobilizing.

JAMAICA AVENUE BETWEEN PENNSYLVANIA AVENUE AND BUSHWICK AVENUE

Work hours shall be as follows: 10PM to 6AM Monday to Sunday.
The contractor shall maintain two eleven foot lanes for traffic and no impact on the opposite side of the roadway.
The contractor shall maintain a minimum 5 foot clear sidewalk or maintain a 5 foot clear pedestrian walkway in the roadway.

Water Main Replacement in East New York Avenue, Jamaica Avenue between Tapscott Avenue, Vermont Street, Atlantic Avenue between Van Sinderen Avenue and Georgia Avenue

The contractor shall occupy 8 foot width of roadway adjacent to the curb and a maximum of 50 linear feet for storage of material.

No parking anytime temporary construction signs.

Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.

Must coordinate with NYCT Bus Prior to mobilizing.

JAMAICA AVENUE BETWEEN BUSHWICK AVENUE AND FANCHON PLACE

Work hours shall be as follows: 10PM to 6AM Monday to Sunday.

The contractor shall maintain two eleven foot lanes for traffic and no impact on the opposite side of the roadway.

The contractor shall maintain a minimum 5 foot clear sidewalk or maintain a 5 foot clear pedestrian walkway in the roadway.

The contractor shall occupy 8 foot width of roadway adjacent to the curb and a maximum of 50 linear feet for storage of material.

No parking anytime temporary construction signs.

Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.

Must coordinate with NYCT Bus Prior to mobilizing.

JAMAICA AVENUE BETWEEN BUSHWICK AVENUE AND SHEFFIELD AVENUE

Work hours shall be as follows: 10PM to 6AM Monday to Sunday.

The contractor shall maintain two eleven foot lanes for traffic and no impact on the opposite side of the roadway.

The contractor shall maintain a minimum 5 foot clear sidewalk or maintain a 5 foot clear pedestrian walkway in the roadway.

The contractor shall occupy 8 foot width of roadway adjacent to the curb and a maximum of 50 linear feet for storage of material.

No parking anytime temporary construction signs.

Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.

Must coordinate with NYCT Bus Prior to mobilizing.

JAMAICA AVENUE BETWEEN SHEFFIELD AVENUE AND GEORGIA AVENUE

Work hours shall be as follows: 10PM to 6AM Monday to Sunday.

The contractor shall maintain two eleven foot lanes for traffic and no impact on the opposite side of the roadway.

The contractor shall maintain a minimum 5 foot clear sidewalk or maintain a 5 foot clear pedestrian walkway in the roadway.

The contractor shall occupy 8 foot width of roadway adjacent to the curb and a maximum of 50 linear feet for storage of material.

No parking anytime temporary construction signs.

Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.

Must coordinate with NYCT Bus Prior to mobilizing.

JAMAICA AVENUE BETWEEN GEORGIA AVENUE AND FULTON STREET

Work hours shall be as follows: 10PM to 6AM Monday to Sunday.

The contractor shall maintain two eleven foot lanes for traffic and no impact on the opposite side of the roadway.

The contractor shall maintain a minimum 5 foot clear sidewalk or maintain a 5 foot clear pedestrian walkway in the roadway.

The contractor shall occupy 8 foot width of roadway adjacent to the curb and a maximum of 50 linear feet for storage of material.

No parking anytime temporary construction signs.

Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.

Must coordinate with NYCT Bus Prior to mobilizing.

AUGUST 13, 2019

Water Main Replacement in East New York Avenue, Jamaica Avenue between Tapscott Avenue, Vermont Street, Atlantic Avenue between Van Sinderen Avenue and Georgia Avenue

JAMAICA AVENUE BETWEEN GEORGIA AVENUE AND ALABAMA AVENUE

Work hours shall be as follows: 10PM to 6AM Monday to Sunday.

The contractor shall maintain two eleven foot lanes for traffic and no impact on the opposite side of the roadway.

The contractor shall maintain a minimum 5 foot clear sidewalk or maintain a 5 foot clear pedestrian walkway in the roadway.

The contractor shall occupy 8 foot width of roadway adjacent to the curb and a maximum of 50 linear feet for storage of material.

No parking anytime temporary construction signs.

Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.

Must coordinate with NYCT Bus Prior to mobilizing.

JAMAICA AVENUE BETWEEN ALABAMA AVENUE AND GEORGIA AVENUE

Work hours shall be as follows: 10PM to 6AM Monday to Sunday.

The contractor shall maintain two eleven foot lanes for traffic and no impact on the opposite side of the roadway.

The contractor shall maintain a minimum 5 foot clear sidewalk or maintain a 5 foot clear pedestrian walkway in the roadway.

The contractor shall occupy 8 foot width of roadway adjacent to the curb and a maximum of 50 linear feet for storage of material.

No parking anytime temporary construction signs.

Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.

Must coordinate with NYCT Bus Prior to mobilizing.

JAMAICA AVENUE BETWEEN ALABAMA AVENUE AND FULTON STREET

Work hours shall be as follows: 10PM to 6AM Monday to Sunday.

The contractor shall maintain two eleven foot lanes for traffic and no impact on the opposite side of the roadway.

The contractor shall maintain a minimum 5 foot clear sidewalk or maintain a 5 foot clear pedestrian walkway in the roadway.

The contractor shall occupy 8 foot width of roadway adjacent to the curb and a maximum of 50 linear feet for storage of material.

No parking anytime temporary construction signs.

Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.

Must coordinate with NYCT Bus Prior to mobilizing.

JAMAICA AVENUE BETWEEN ALABAMA AVENUE AND BROADWAY

Work hours shall be as follows: 10PM to 6AM Monday to Sunday.

The contractor shall maintain two eleven foot lanes for traffic and no impact on the opposite side of the roadway.

The contractor shall maintain a minimum 5 foot clear sidewalk or maintain a 5 foot clear pedestrian walkway in the roadway.

The contractor shall occupy 8 foot width of roadway adjacent to the curb and a maximum of 50 linear feet for storage of material.

No parking anytime temporary construction signs.

Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.

Must coordinate with NYCT Bus Prior to mobilizing.

INTERSECTION OF JAMAICA AVENUE AND BROADWAY

Work hours shall be as follows: 10PM to 6AM Monday to Sunday.

The contractor shall maintain two eleven foot lanes for traffic and no impact on the opposite side of the roadway on Jamaica Avenue.

The contractor shall also maintain on Broadway, one (1) 11ft lane for traffic on one-way streets or two (2) 11ft lane for traffic on two-way streets during work hours. Must clear the entire intersection after work hours.

AUGUST 13, 2019

Water Main Replacement in East New York Avenue, Jamaica Avenue between Tapscott Avenue, Vermont Street, Atlantic Avenue between Van Sinderen Avenue and Georgia Avenue

Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.
Must coordinate with NYCT Bus Prior to mobilizing.

INTERSECTION OF JAMAICA AVENUE AND ALABAMA AVENUE

Work hours shall be as follows: 10PM to 6AM Monday to Sunday.
The contractor shall maintain two eleven foot lanes for traffic and no impact on the opposite side of the roadway on Jamaica Avenue.
The contractor shall also maintain on Alabama Avenue, one (1) 11ft lane for traffic on one-way streets or two (2) 11ft lane for traffic on two-way streets during work hours. Must clear the entire intersection after work hours.
Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.
Must coordinate with NYCT Bus Prior to mobilizing.

INTERSECTION OF JAMAICA AVENUE AND FULTON STREET

Work hours shall be as follows: 10PM to 6AM Monday to Sunday.
The contractor shall maintain two eleven foot lanes for traffic and no impact on the opposite side of the roadway on Jamaica Avenue.
The contractor shall also maintain on Fulton Street, one (1) 11ft lane for traffic on one-way streets or two (2) 11ft lane for traffic on two-way streets during work hours. Must clear the entire intersection after work hours.
Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.
Must coordinate with NYCT Bus Prior to mobilizing.

INTERSECTION OF JAMAICA AVENUE AND GEORGIA AVENUE

Work hours shall be as follows: 10PM to 6AM Monday to Sunday.
The contractor shall maintain two eleven foot lanes for traffic and no impact on the opposite side of the roadway on Jamaica Avenue.
The contractor shall also maintain on Georgia Avenue, one (1) 11ft lane for traffic on one-way streets or two (2) 11ft lane for traffic on two-way streets during work hours. Must clear the entire intersection after work hours.
Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.
Must coordinate with NYCT Bus Prior to mobilizing.

INTERSECTION OF JAMAICA AVENUE AND FANCHON PLACE

Work hours shall be as follows: 10PM to 6AM Monday to Sunday.
The contractor shall maintain two eleven foot lanes for traffic and no impact on the opposite side of the roadway on Jamaica Avenue.
The contractor shall also maintain on Fanchon Place, one (1) 11ft lane for traffic on one-way streets or two (2) 11ft lane for traffic on two-way streets during work hours. Must clear the entire intersection after work hours.
Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.
Must coordinate with NYCT Bus Prior to mobilizing.

INTERSECTION OF JAMAICA AVENUE AND SHEFFIELD AVENUE

Work hours shall be as follows: 10PM to 6AM Monday to Sunday.
The contractor shall maintain two eleven foot lanes for traffic and no impact on the opposite side of the roadway on Jamaica Avenue.
The contractor shall also maintain on Sheffield Avenue, one (1) 11ft lane for traffic on one-way streets or two (2) 11ft lane for traffic on two-way streets during work hours. Must clear the entire intersection after work hours.
Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.
Must coordinate with NYCT Bus Prior to mobilizing.

INTERSECTION OF JAMAICA AVENUE AND BUSHWICK AVENUE

Work hours shall be as follows: 10PM to 6AM Monday to Sunday.
The contractor shall maintain two eleven foot lanes for traffic and no impact on the opposite side of the roadway on Jamaica Avenue.

AUGUST 13, 2019

Water Main Replacement in East New York Avenue, Jamaica Avenue between Tapscott Avenue, Vermont Street, Atlantic Avenue between Van Sinderen Avenue and Georgia Avenue

The contractor shall also maintain on Bushwick Avenue, one (1) 11ft lane for traffic on one-way streets or two (2) 11ft lane for traffic on two-way streets during work hours. Must clear the entire intersection after work hours. Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits. Must coordinate with NYCT Bus Prior to mobilizing.

INTERSECTION OF JAMAICA AVENUE AND PENNSYLVANIA AVENUE

Work hours shall be as follows: 10PM to 6AM Monday to Sunday.

The contractor shall maintain two eleven foot lanes for traffic and no impact on the opposite side of the roadway on Jamaica Avenue.

The contractor shall also maintain on Pennsylvania Avenue, one (1) 11ft lane for traffic on one-way streets or two (2) 11ft lane for traffic on two-way streets during work hours. Must clear the entire intersection after work hours.

Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.

Must coordinate with NYCT Bus Prior to mobilizing.

INTERSECTION OF JAMAICA AVENUE AND JACKIE ROBINSON PARKWAY (EXTENSION OF INTERBOROUGH

Work hours shall be as follows: 10PM to 6AM Monday to Sunday.

The contractor shall maintain two eleven foot lanes for traffic and no impact on the opposite side of the roadway on Jamaica Avenue.

The contractor shall also maintain on Pennsylvania Avenue, one (1) 11ft lane for traffic on one-way streets or two (2) 11ft lane for traffic on two-way streets during work hours. Must clear the entire intersection after work hours.

Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.

Must coordinate with NYCT Bus Prior to mobilizing.

INTERSECTION OF JAMAICA AVENUE AND NEW JERSEY AVENUE

Work hours shall be as follows: 10PM to 6AM Monday to Sunday.

The contractor shall also maintain one (1) 11ft lane for traffic on one-way streets or two (2) 11ft lane for traffic on two-way streets during work hours. Must clear the entire intersection after work hours.

Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.

The contractor must coordinate with NYCT Bus prior to mobilizing.

INTERSECTION OF JAMAICA AVENUE AND MARGINAL STREET

Work hours shall be as follows: 10PM to 6AM Monday to Sunday.

The contractor shall also maintain one (1) 11ft lane for traffic on one-way streets or two (2) 11ft lane for traffic on two-way streets during work hours. Must clear the entire intersection after work hours.

Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.

The contractor must coordinate with NYCT Bus prior to mobilizing.

INTERSECTION OF JAMAICA AVENUE AND VERMONT STREET

Work hours shall be as follows: 10PM to 6AM Monday to Sunday.

The contractor shall also maintain one (1) 11ft lane for traffic on one-way streets or two (2) 11ft lane for traffic on two-way streets during work hours. Must clear the entire intersection after work hours.

Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.

The contractor must coordinate with NYCT Bus prior to mobilizing.

INTERSECTION OF EAST NEW YORK AVENUE AND BROADWAY

Work hours shall be as follows: 10PM to 6AM Monday to Sunday.

The contractor shall maintain two eleven foot lanes for traffic and no impact on the opposite side of the roadway on Jamaica Avenue.

The contractor shall also maintain on Pennsylvania Avenue, one (1) 11ft lane for traffic on one-way streets or two (2) 11ft lane for traffic on two-way streets during work hours. Must clear the entire intersection after work hours.

Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.

AUGUST 13, 2019

Water Main Replacement in East New York Avenue, Jamaica Avenue between Tapscott Avenue, Vermont Street, Atlantic Avenue between Van Sinderen Avenue and Georgia Avenue

Must coordinate with NYCT Bus Prior to mobilizing.

INTERSECTION OF EAST NEW YORK AVENUE AND ALABAMA AVNUE

Work hours shall be as follows: 10PM to 6AM Monday to Sunday.

The contractor shall maintain two eleven foot lanes for traffic and no impact on the opposite side of the roadway on Jamaica Avenue.

The contractor shall also maintain on Alabama Avenue, one (1) 11ft lane for traffic on one-way streets or two (2) 11ft lane for traffic on two-way streets during work hours. Must clear the entire intersection after work hours.

Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.

Must coordinate with NYCT Bus Prior to mobilizing.

INTERSECTION OF EAST NEW YORK AVENUE AND WILLIAMS AVENUE

Work hours shall be as follows: 10PM to 6AM Monday to Sunday.

The contractor shall maintain two eleven foot lanes for traffic and no impact on the opposite side of the roadway on Jamaica Avenue.

The contractor shall also maintain on Williams Avenue, one (1) 11ft lane for traffic on one-way streets or two (2) 11ft lane for traffic on two-way streets during work hours. Must clear the entire intersection after work hours.

Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.

Must coordinate with NYCT Bus Prior to mobilizing.

INTERSECTION OF EAST NEW YORK AVENUE AND ATLANTIC AVENUE

Work hours shall also be as follows : 9AM to 4PM Monday to Friday and Saturday 7AM to 6PM.

The contractor shall also maintain on one (1) 11ft lane for traffic on one-way streets or two (2) 11ft lane for traffic on two-way streets during work hours. Must clear the entire intersection after work hours.

Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.

Must coordinate with NYCT Bridges Prior to mobilizing.

INTERSECTION OF ATLANTIC AVENUE AND WILLIAMS PLACE

Work hours shall also be as follows : 9AM to 4PM Monday to Friday and Saturday 7AM to 6PM.

The contractor shall also maintain on one (1) 11ft lane for traffic on one-way streets or two (2) 11ft lane for traffic on two-way streets during work hours. Must clear the entire intersection after work hours.

Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.

Must coordinate with NYCT Bridges Prior to mobilizing.

INTERSECTION OF ATLANTIC AVENUE AND VAN SINDEREN AVNUE

Work hours shall also be as follows : 9AM to 4PM Monday to Friday and Saturday 7AM to 6PM.

The contractor shall also maintain on one (1) 11ft lane for traffic on one-way streets or two (2) 11ft lane for traffic on two-way streets during work hours. Must clear the entire intersection after work hours.

Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.

Must coordinate with NYCT Bridges Prior to mobilizing.

INTERSECTION OF ATLANTIC AVENUE AND WILLIAMS AVNUE

Work hours shall also be as follows : 9AM to 4PM Monday to Friday and Saturday 7AM to 6PM.

The contractor shall also maintain on one (1) 11ft lane for traffic on one-way streets or two (2) 11ft lane for traffic on two-way streets during work hours. Must clear the entire intersection after work hours.

Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.

Must coordinate with NYCT Bridges Prior to mobilizing.

INTERSECTION OF ATLANTIC AVENUE AND ALABAMA AVNUE

Work hours shall also be as follows : 9AM to 4PM Monday to Friday and Saturday 7AM to 6PM.

The contractor shall also maintain on one (1) 11ft lane for traffic on one-way streets or two (2) 11ft lane for traffic on two-way streets during work hours. Must clear the entire intersection after work hours.

AUGUST 13, 2019

Water Main Replacement in East New York Avenue, Jamaica Avenue between Tapscott Avenue, Vermont Street, Atlantic Avenue between Van Sinderen Avenue and Georgia Avenue

Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.
Must coordinate with NYCT Bridges Prior to mobilizing.

INTERSECTION OF ATLANTIC AVENUE AND GEORGIA AVENUE

Work hours shall also be as follows : 9AM to 4PM Monday to Friday and Saturday 7AM to 6PM.
The contractor shall also maintain on one (1) 11ft lane for traffic on one-way streets or two (2) 11ft lane for traffic on two-way streets during work hours. Must clear the entire intersection after work hours.
Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.
Must coordinate with NYCT Bridges Prior to mobilizing.

INTERSECTION OF EAST NEW YORK AVENUE AND FULTON STREET

Work hours shall be as follows: 10PM to 6AM Monday to Sunday.
The contractor shall maintain two eleven foot lanes for traffic and no impact on the opposite side of the roadway on Jamaica Avenue.
The contractor shall also maintain on Fulton Street, one (1) 11ft lane for traffic on one-way streets or two (2) 11ft lane for traffic on two-way streets during work hours. Must clear the entire intersection after work hours.
Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.
Must coordinate with NYCT Bus Prior to mobilizing.

INTERSECTION OF EAST NEW YORK AVENUE AND HERKIMER STREET

Work hours shall be as follows: 10PM to 6AM Monday to Sunday.
The contractor shall maintain two eleven foot lanes for traffic and no impact on the opposite side of the roadway on Jamaica Avenue.
The contractor shall also maintain on Herkimer Street, one (1) 11ft lane for traffic on one-way streets or two (2) 11ft lane for traffic on two-way streets during work hours. Must clear the entire intersection after work hours.
Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.
Must coordinate with NYCT Bus Prior to mobilizing.

INTERSECTION OF EAST NEW YORK AVENUE AND WILLIAMS PLACE

Work hours shall also be as follows : 9AM to 4PM Monday to Friday and Saturday 7AM to 6PM.
The contractor shall also maintain on one (1) 11ft lane for traffic on one-way streets or two (2) 11ft lane for traffic on two-way streets during work hours. Must clear the entire intersection after work hours.
Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.
Must coordinate with NYCT Bridges Prior to mobilizing.

INTERSECTION OF EAST NEW YORK AVENUE AND SNEDIKER AVENUE

Work hours shall also be as follows : 9AM to 4PM Monday to Friday and Saturday 7AM to 6PM.
The contractor shall also maintain on one (1) 11ft lane for traffic on one-way streets or two (2) 11ft lane for traffic on two-way streets during work hours. Must clear the entire intersection after work hours.
Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.
Must coordinate with NYCT Bridges Prior to mobilizing.

INTERSECTION OF EAST NEW YORK AVENUE AND VAN SINDEREN AVENUE

Work hours shall also be as follows : 9AM to 4PM Monday to Friday and Saturday 7AM to 6PM.
The contractor shall also maintain on one (1) 11ft lane for traffic on one-way streets or two (2) 11ft lane for traffic on two-way streets during work hours. Must clear the entire intersection after work hours.
Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.
Must coordinate with NYCT Bridges Prior to mobilizing.

INTERSECTION OF EAST NEW YORK AVENUE AND JUNIUS STREET

Work hours shall also be as follows : 9AM to 4PM Monday to Friday and Saturday 7AM to 6PM.

Water Main Replacement in East New York Avenue, Jamaica Avenue between Tapscott Avenue, Vermont Street, Atlantic Avenue between Van Sinderen Avenue and Georgia Avenue

The contractor shall also maintain on one (1) 11ft lane for traffic on one-way streets or two (2) 11ft lane for traffic on two-way streets during work hours. Must clear the entire intersection after work hours. Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits. Must coordinate with NYCT Bus and Bridges Prior to mobilizing.

INTERSECTION OF EAST NEW YORK AVENUE AND POWELL STREET

Work hours shall also be as follows : 9AM to 4PM Monday to Friday and Saturday 7AM to 6PM. The contractor shall also maintain on one (1) 11ft lane for traffic on one-way streets or two (2) 11ft lane for traffic on two-way streets during work hours. Must clear the entire intersection after work hours. Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits. Must coordinate with NYCT Bus Prior to mobilizing.

INTERSECTION OF EAST NEW YORK AVENUE AND DEAN STREET

Work hours shall also be as follows : 9AM to 4PM Monday to Friday and Saturday 7AM to 6PM. The contractor shall also maintain on one (1) 11ft lane for traffic on one-way streets or two (2) 11ft lane for traffic on two-way streets during work hours. Must clear the entire intersection after work hours. Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits. Must coordinate with NYCT Bus Prior to mobilizing.

INTERSECTION OF EAST NEW YORK AVENUE AND SACKMAN STREET

Work hours shall also be as follows : 9AM to 4PM Monday to Friday and Saturday 7AM to 6PM. The contractor shall also maintain on one (1) 11ft lane for traffic on one-way streets or two (2) 11ft lane for traffic on two-way streets during work hours. Must clear the entire intersection after work hours. Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits. Must coordinate with NYCT Bus Prior to mobilizing.

INTERSECTION OF EAST NEW YORK AVENUE AND CHRISTOPHER STREET

Work hours shall also be as follows : 9AM to 4PM Monday to Friday and Saturday 7AM to 6PM. The contractor shall also maintain on one (1) 11ft lane for traffic on one-way streets or two (2) 11ft lane for traffic on two-way streets during work hours. Must clear the entire intersection after work hours. Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits. Must coordinate with NYCT Bus Prior to mobilizing.

INTERSECTION OF EAST NEW YORK AVENUE AND BERGEN STREET

Work hours shall also be as follows : 9AM to 4PM Monday to Friday and Saturday 7AM to 6PM. The contractor shall also maintain on one (1) 11ft lane for traffic on one-way streets or two (2) 11ft lane for traffic on two-way streets during work hours. Must clear the entire intersection after work hours. Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits. Must coordinate with NYCT Bus Prior to mobilizing.

INTERSECTION OF EAST NEW YORK AVENUE AND MOTHER GASTON BOULEVARD

Work hours shall also be as follows : 9AM to 4PM Monday to Friday and Saturday 7AM to 6PM. The contractor shall also maintain on one (1) 11ft lane for traffic on one-way streets or two (2) 11ft lane for traffic on two-way streets during work hours. Must clear the entire intersection after work hours. Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits. Must coordinate with NYCT Bus and DOT bike lane Prior to mobilizing.

INTERSECTION OF EAST NEW YORK AVENUE AND PROSPECT PLACE

Work hours shall also be as follows : 9AM to 4PM Monday to Friday and Saturday 7AM to 6PM. The contractor shall also maintain on one (1) 11ft lane for traffic on one-way streets or two (2) 11ft lane for traffic on two-way streets during work hours. Must clear the entire intersection after work hours.

Water Main Replacement in East New York Avenue, Jamaica Avenue between Tapscott Avenue, Vermont Street, Atlantic Avenue between Van Sinderen Avenue and Georgia Avenue

Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.
Must coordinate with NYCT Bus and DOT bike lane Prior to mobilizing.

INTERSECTION OF EAST NEW YORK AVENUE AND ROCKAWAY AVENUE

Work hours shall also be as follows : 9AM to 4PM Monday to Friday and Saturday 7AM to 6PM.
The contractor shall also maintain on one (1) 11ft lane for traffic on one-way streets or two (2)11ft lane for traffic on two-way streets during work hours. Must clear the entire intersection after work hours.
Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.
Must coordinate with NYCT Bus and DOT bike lane Prior to mobilizing.

INTERSECTION OF EAST NEW YORK AVENUE AND CHESTER STREET

Work hours shall also be as follows : 9AM to 4PM Monday to Friday and Saturday 7AM to 6PM.
The contractor shall also maintain on one (1) 11ft lane for traffic on one-way streets or two (2)11ft lane for traffic on two-way streets during work hours. Must clear the entire intersection after work hours.
Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.
Must coordinate with NYCT Bus, DOT bike lane and NYPD Prior to mobilizing.

INTERSECTION OF EAST NEW YORK AVENUE AND BRISTOL STREET

Work hours shall also be as follows : 9AM to 4PM Monday to Friday and Saturday 7AM to 6PM.
The contractor shall also maintain on one (1) 11ft lane for traffic on one-way streets or two (2)11ft lane for traffic on two-way streets during work hours. Must clear the entire intersection after work hours.
Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.
Must coordinate with NYCT Bus, DOT bike lane and NYPD Prior to mobilizing.

INTERSECTION OF EAST NEW YORK AVENUE AND PARK PLACE

Work hours shall also be as follows : 9AM to 4PM Monday to Friday and Saturday 7AM to 6PM.
The contractor shall also maintain on one (1) 11ft lane for traffic on one-way streets or two (2)11ft lane for traffic on two-way streets during work hours. Must clear the entire intersection after work hours.
Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.
Must coordinate with NYCT Bus, DOT bike lane and NYPD Prior to mobilizing.

INTERSECTION OF EAST NEW YORK AVENUE AND THOMAS BOYLAND STREET

Work hours shall also be as follows : 9AM to 4PM Monday to Friday and Saturday 7AM to 6PM.
The contractor shall also maintain on one (1) 11ft lane for traffic on one-way streets or two (2)11ft lane for traffic on two-way streets during work hours. Must clear the entire intersection after work hours.
Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.
Must coordinate with NYCT Bus, DOT bike lane and NYPD Prior to mobilizing.

INTERSECTION OF EAST NEW YORK AVENUE AND STERLING PLACE

Work hours shall also be as follows : 9AM to 4PM Monday to Friday and Saturday 7AM to 6PM.
The contractor shall also maintain on one (1) 11ft lane for traffic on one-way streets or two (2)11ft lane for traffic on two-way streets during work hours. Must clear the entire intersection after work hours.
Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.
Must coordinate with NYCT Bus, DOT bike lane and NYPD Prior to mobilizing.

INTERSECTION OF EAST NEW YORK AVENUE AND AMBOY STREET

Work hours shall also be as follows : 9AM to 4PM Monday to Friday and Saturday 7AM to 6PM.
The contractor shall also maintain on one (1) 11ft lane for traffic on one-way streets or two (2)11ft lane for traffic on two-way streets during work hours. Must clear the entire intersection after work hours.
Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.
Must coordinate with NYCT Bus, DOT bike lane and NYPD Prior to mobilizing.

Water Main Replacement in East New York Avenue, Jamaica Avenue between Tapscott Avenue, Vermont Street, Atlantic Avenue between Van Sinderen Avenue and Georgia Avenue

INTERSECTION OF EAST NEW YORK AVENUE AND ST JOHNS PLACE

Work hours shall also be as follows : 9AM to 4PM Monday to Friday and Saturday 7AM to 6PM.
The contractor shall also maintain on one (1) 11ft lane for traffic on one-way streets or two (2)11ft lane for traffic on two-way streets during work hours. Must clear the entire intersection after work hours.
Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.
Must coordinate with NYCT Bus and DOT bike lane Prior to mobilizing.

INTERSECTION OF EAST NEW YORK AVENUE AND ST STRAUSS STREET

Work hours shall also be as follows : 9AM to 4PM Monday to Friday and Saturday 7AM to 6PM.
The contractor shall also maintain on one (1) 11ft lane for traffic on one-way streets or two (2)11ft lane for traffic on two-way streets during work hours. Must clear the entire intersection after work hours.
Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.
Must coordinate with NYCT Bus and DOT bike lane Prior to mobilizing.

INTERSECTION OF EAST NEW YORK AVENUE AND SARATOGA AVENUE

Work hours shall be as follows: 9AM to 2PM Monday to Friday when school is in session and Saturday 7AM to 6PM
Work hours shall also be as follows when school is not in session: 9AM to 4PM Monday to Friday and Saturday 7AM to 6PM.
The contractor shall also maintain one (1) 11ft lane for traffic on one-way streets or two (2)11ft lane for traffic on two-way streets during work hours. Must clear the entire intersection after work hours
Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.
The contractor must coordinate with school, NYCT Bus and DOT bike lane prior to mobilizing.

INTERSECTION OF EAST NEW YORK AVENUE AND LINCOLN PLACE

Work hours shall be as follows: 9AM to 2PM Monday to Friday when school is in session and Saturday 7AM to 6PM
Work hours shall also be as follows when school is not in session: 9AM to 4PM Monday to Friday and Saturday 7AM to 6PM.
The contractor shall also maintain one (1) 11ft lane for traffic on one-way streets or two (2)11ft lane for traffic on two-way streets during work hours. Must clear the entire intersection after work hours
Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.
The contractor must coordinate with school, NYCT Bus and DOT bike lane prior to mobilizing.

INTERSECTION OF EAST NEW YORK AVENUE AND LEGION STREET

Work hours shall be as follows: 9AM to 2PM Monday to Friday when school is in session and Saturday 7AM to 6PM
Work hours shall also be as follows when school is not in session: 9AM to 4PM Monday to Friday and Saturday 7AM to 6PM.
The contractor shall also maintain one (1) 11ft lane for traffic on one-way streets or two (2)11ft lane for traffic on two-way streets during work hours. Must clear the entire intersection after work hours
Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.
The contractor must coordinate with school, NYCT Bus and DOT bike lane prior to mobilizing.

INTERSECTION OF EAST NEW YORK AVENUE AND GRAFTON STREET

Work hours shall be as follows: 9AM to 2PM Monday to Friday when school is in session and Saturday 7AM to 6PM
Work hours shall also be as follows when school is not in session: 9AM to 4PM Monday to Friday and Saturday 7AM to 6PM.
The contractor shall also maintain on one (1) 11ft lane for traffic on one-way streets or two (2)11ft lane for traffic on two-way streets during work hours. Must clear the entire intersection after work hours.
Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.
Must coordinate with NYCT Bus and DOT bike lane Prior to mobilizing.

Water Main Replacement in East New York Avenue, Jamaica Avenue between Tapscott Avenue, Vermont Street, Atlantic Avenue between Van Sinderen Avenue and Georgia Avenue

INTERSECTION OF EAST NEW YORK AVENUE AND PITKIN AVENUE

Work hours shall also be as follows : 9AM to 4PM Monday to Friday and Saturday 7AM to 6PM.
The contractor shall also maintain on one (1) 11ft lane for traffic on one-way streets or two (2)11ft lane for traffic on two-way streets during work hours. Must clear the entire Intersection after work hours.
Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.
Must coordinate with NYCT Bus and DOT bike lane Prior to mobilizing.

INTERSECTION OF EAST NEW YORK AVENUE AND HOWARD AVENUE

Work hours shall also be as follows : 9AM to 4PM Monday to Friday and Saturday 7AM to 6PM.
The contractor shall maintain two eleven foot lanes for traffic and no impact on the opposite side of the roadway on Howard.
The contractor shall also maintain on one (1) 11ft lane for traffic on one-way streets or two (2)11ft lane for traffic on two-way streets on East New York Avenue during work hours. Must clear the entire intersection after work hours.
Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.
Must coordinate with NYCT Bus and DOT bike lane Prior to mobilizing.

INTERSECTION OF EAST NEW YORK AVENUE AND TAPSCOTT STREET

Work hours shall also be as follows : 9AM to 4PM Monday to Friday and Saturday 7AM to 6PM.
The contractor shall also maintain on one (1) 11ft lane for traffic on one-way streets or two (2)11ft lane for traffic on two-way streets during work hours. Must clear the entire intersection after work hours.
Flag person must be provided to stop pedestrian and/or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.

C. GENERAL NOTES

1. **THIS IS NOT A PERMIT.** THIS STIPULATION SHEET MUST BE SUBMITTED WITH ALL REQUESTS FOR PERMITS PERTAINING TO THE ABOVE CONTRACT AND PRESENT AT THE WORK SITE ALONG WITH ALL ACTIVE CONSTRUCTION PERMITS WHEN THE APPROVED WORK IS BEING PERFORMED.
2. THE CONTRACTOR MUST COMPLY WITH ALL CONSTRUCTION EMBARGOS ISSUED BY THE NYCDOT INCLUDING THE HOLIDAY EMBARGO.
3. THE CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS OF THE NYCDOT SPECIAL EVENTS UNIT AS IDENTIFIED BELOW:

A. STREET FAIRS / FESTIVALS

ALL EXCAVATIONS MUST BE PLATED WITH SKID RESISTANT PLATES.
PLATES MUST BE RECESSED AND FLUSH WITH PAVEMENT.
ALL PAVEMENT DEFECTS MUST BE CORRECTED WITHIN OR ADJACENT TO THE WORK ZONE.
THE CONTRACTOR IS RESPONSIBLE FOR ANY DEFECTS WITHIN THE IMMEDIATE VICINITY IF NYCDOT STREET & ARTERIAL MAINTENANCE CANNOT MAKE REPAIRS DUE TO PROJECT INTERFERENCE (AS DETERMINED BY NYCDOT).
ALL EQUIPMENT, TRAILERS AND MATERIAL STORAGE MUST BE REMOVED.

B. RUNNING / WALKING / BIKING EVENTS

ALL EXCAVATIONS MUST BE BACKFILLED AND PAVED OR PLATES MUST BE RECESSED AND PAVED OVER FLUSH WITH PAVEMENT.
ALL PAVEMENT DEFECTS MUST BE CORRECTED WITHIN OR ADJACENT TO THE WORK ZONE.
THE CONTRACTOR IS RESPONSIBLE FOR ANY DEFECTS WITHIN THE IMMEDIATE VICINITY IF NYCDOT STREET & ARTERIAL MAINTENANCE CANNOT MAKE REPAIRS DUE TO PROJECT INTERFERENCE (AS DETERMINED BY NYCDOT).
ALL EQUIPMENT, TRAILERS AND MATERIAL STORAGE MUST BE REMOVED.

C. PARADES

ALL EXCAVATIONS MUST BE BACKFILLED AND PAVED OR PLATES MUST BE RECESSED AND PAVED OVER FLUSH WITH PAVEMENT.
FORMATION AND DISPERSAL AREA PLATES MUST BE RECESSED AND FLUSH WITH PAVEMENT (PLATES MUST BE SKID RESISTANT).
ALL PAVEMENT DEFECTS MUST BE CORRECTED WITHIN OR ADJACENT TO THE WORK ZONE.
THE CONTRACTOR IS RESPONSIBLE FOR ANY DEFECTS WITHIN THE IMMEDIATE VICINITY IF NYCDOT STREET & ARTERIAL MAINTENANCE CANNOT MAKE REPAIRS DUE TO PROJECT INTERFERENCE (AS DETERMINED BY NYCDOT).
ALL EQUIPMENT, TRAILERS AND MATERIAL STORAGE MUST BE REMOVED.

D. MAYORAL EVENTS

ALL EXCAVATIONS MUST BE BACKFILLED AND PAVED OR PLATES MUST BE RECESSED AND PAVED OVER FLUSH WITH PAVEMENT.
ALL PAVEMENT DEFECTS MUST BE CORRECTED WITHIN OR ADJACENT TO THE WORK ZONE.
THE CONTRACTOR IS RESPONSIBLE FOR ANY DEFECTS WITHIN THE IMMEDIATE VICINITY IF NYCDOT STREET & ARTERIAL MAINTENANCE CANNOT MAKE REPAIRS DUE TO PROJECT INTERFERENCE (AS DETERMINED BY NYCDOT).
ALL EQUIPMENT, TRAILERS AND MATERIAL STORAGE MUST BE REMOVED.

AUGUST 13, 2019

Water Main Replacement in East New York Avenue, Jamaica Avenue between Tapscott Avenue, Vermont Street, Atlantic Avenue between Van Sinderen Avenue and Georgia Avenue

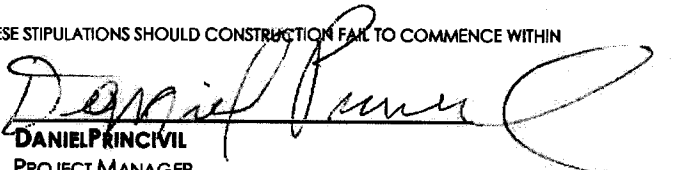
ALL RELOCATION WORK BY THE UTILITIES SUCH AS; CON EDISON, TELEPHONE, GAS AND CABLE COMPANIES SHALL PRECEDE THE CONTRACTORS' START OF WORK ON ALL AFFECTED ROADWAYS IN THE IMPACTED CONTRACT AREA.

THE CONTRACTOR IS ADVISED THAT OTHER CONTRACTORS MAY BE WORKING IN THE GENERAL AREA DURING THE TERM OF THIS STIPULATION. IN WHICH EVENT, THE CONTRACTOR MAY REQUIRE MODIFICATIONS BY THE OCMC-STREETS.

THE PERMITEE IS NOT AUTHORIZED TO ENTER, OCCUPY OR USE ANY PUBLICLY-OWNED OR PRIVATELY OWNED, NON-PAVED, LANDSCAPE OR NON-LANDSCAPED LOCATION WITHOUT SPECIFIC WRITTEN PERMISSION. WHEN THE LOCATION IS WITHIN THE RIGHT-OF-WAY OF A LIMITED-ACCESS ARTERIAL HIGHWAY, **WRITTEN** APPROVAL FROM THE NYCDOT OCMC-HIGHWAYS IS REQUIRED. WHEN THE LOCATION IS WITHIN THE RIGHT-OF-WAY OF A PUBLIC STREET OR PUBLIC PARK, **WRITTEN** APPROVAL FROM THE NEW YORK CITY DEPARTMENT OF TRANSPORTATION OR NEW YORK CITY DEPARTMENT OF PARKS AND RECREATION IS REQUIRED. WHEN THE LOCATION IS WITHIN THE RIGHT-OF-WAY OF ANY OTHER JURISDICTION SUCH AS PRIVATE PROPERTY, STATE, FEDERAL ETC., IT IS THE PERMITEE'S RESPONSIBILITY TO DETERMINE THE PROPERTY OWNER AND OBTAIN THE WRITTEN APPROVAL.

4. THE PERMITEE SHALL ADHERE TO THE NYCDOT BUREAU OF BRIDGES' SPECIAL PROVISIONS FOR LANDSCAPE PROTECTION, MAINTENANCE AND RESTORATION, ITEMS 1.18.15 THROUGH 1.18.19, WHENEVER AND WHEREVER ANY OF THE PERMITEE'S ACTIVITIES OCCUR WITHIN A LIMITED ACCESS ARTERIAL HIGHWAY RIGHT - OF - WAY.
5. NO DEVIATION OR DEPARTURE FROM THESE STIPULATIONS WILL BE PERMITTED WITHOUT THE PRIOR WRITTEN APPROVAL FROM THE OCMC-STREETS. REQUEST FOR SUCH MODIFICATIONS SHALL BE SUBMITTED TO THE OFFICE OF THE OCMC-STREETS, NEW YORK CITY DEPARTMENT OF TRANSPORTATION, A MINIMUM OF TWENTY (20) DAYS IN ADVANCE FOR CONSIDERATION.
6. FOR ANY CONSTRUCTION ACTIVITY RESULTING IN THE FULL CLOSURE OF A ROADWAY FOR MORE THAN 180 CONSECUTIVE CALENDAR DAYS, THE CONTRACTOR MUST PRODUCE AND SUBMIT A COMMUNITY REASSESSMENT, IMPACT AND AMELIORATION (CRIA) STATEMENT TO NYCDOT PLANNING AND OBTAIN THEIR APPROVAL BEFORE APPLYING FOR PERMITS, IN COMPLIANCE WITH THE PROVISIONS OF **LOCAL LAW 24 STREET CLOSURE LAW.**
7. FOR THIS PROJECT THE CONTRACTOR SHALL FURNISH, INSTALL AND MAINTAIN ALL NECESSARY ADVANCE WARNING AND DETOUR SIGNS, TEMPORARY CONTROL DEVICES, BARRICADES, LIGHTS AND FLASHING ARROW BOARDS IN ACCORDANCE WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES," THE TYPICAL SCHEMES INCLUDED IN THIS SPECIFICATION; AND AS ORDERED BY THE ENGINEER-IN-CHARGE AND THE OCMC-STREETS.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING HIS CONSTRUCTION SIGNAGE. THE IDENTIFICATION SHALL INCLUDE THE CONTRACTOR'S NAME, SPONSORING AGENCY NAME AND THE CONTRACT NUMBER. THE IDENTIFICATION SHALL BE PLACED ON THE BACK OF THE SIGN. THE LETTERING SHALL BE THREE (3) INCHES HIGH.
9. THE OCMC-STREETS RESERVES THE RIGHT TO VOID OR MODIFY THESE STIPULATIONS SHOULD CONSTRUCTION FAIL TO COMMENCE WITHIN TWO (2) YEARS OF THE SIGNED DATE OF THESE STIPULATIONS.


GARY SMALLS
DIRECTOR
OCMC-STREETS


DANIEL PRINCIVIL
PROJECT MANAGER
OCMC-STREETS



Department of Transportation

POLLY TROTTEBERG, Commissioner

OCMC TRAFFIC STIPULATIONS - AMENDMENT#1

NOVEMBER 20, 2019

OCMC FILE NO: **BNEC-17-190**
CONTRACT NO: **BED776**
LOCATION(S): **VARIOUS LOCATIONS IN BROOKLYN**

STIPULATIONS ORIGINALLY DATED **JANUARY 08, 2018** GRANTING PERMISSION TO THE **NEW YORK CITY DEPARTMENT OF DESIGN AND CONSTRUCTION** AND ITS DULY AUTHORIZED AGENT, TO ENTER UPON AND RESTRICT THE FLOW OF TRAFFIC AT THE ABOVE LOCATION AND ITS LOCAL ADJACENT STREETS FOR THE PURPOSE OF CARRYING OUT THE ABOVE NOTED PROJECT, IS HEREBY AMENDED AS FOLLOWS:

A. SPECIAL STIPULATIONS

1. **EMBARGOES** – A CONSTRUCTION EMBARGO WILL APPLY TO THOSE LOCATIONS BELOW WHICH FALL WITHIN THE **HOLIDAY EMBARGO** OR ANY OTHER SPECIAL EVENT EMBARGOES AS PUBLISHED BY THE BUREAU OF PERMIT MANAGEMENT AND CONSTRUCTION CONTROL.
2. **ACCESS TO ABUTTING PROPERTIES** – THE CONTRACTOR SHALL COORDINATE ALL ACTIVITIES WITH ABUTTING PROPERTY OWNERS TO ENSURE ACCESS IS PROVIDED TO/FROM ENTRANCES/DRIVEWAYS AT ALL TIMES.
3. **NOTIFICATION** – THE CONTRACTOR MUST AT LEAST TWO (2) WORKING DAYS BEFORE THE START OF CONSTRUCTION NOTIFY THE NYC FIRE DEPARTMENT, NYC POLICE DEPARTMENT, NYC EMS, LOCAL COMMUNITY BOARDS (INCLUDING BROOKLYN COMMUNITY BOARD 1 AND QUEENS COMMUNITY BOARD 2), BOROUGH PRESIDENT'S OFFICE-CHIEF ENGINEER (BROOKLYN AND QUEENS), NYCDOT OCMC OFFICE, AND ALL ABUTTING PROPERTY OWNERS.
4. **"NO STANDING ANYTIME-TEMPORARY CONSTRUCTION" SIGNS** AND TEMPORARY PAVEMENT MARKINGS SHALL BE INSTALLED AND MAINTAINED AS WARRANTED BY THE MAINTENANCE AND PROTECTION OF TRAFFIC (MPT) REQUIRED TO FACILITATE TRAFFIC MOVEMENTS THROUGH THE WORK ZONE. ALL TEMPORARY SIGNS AND PAVEMENT MARKINGS SHALL BE REMOVED UPON COMPLETION OF THE PROJECT. THE CONTRACTOR SHALL POST AND MAINTAIN ADVISORY SIGNS A MINIMUM OF 48-HOURS PRIOR TO CHANGING EXISTING PARKING REGULATION SIGNS TO APPROVED TEMPORARY CONSTRUCTION PARKING REGULATION SIGNS. THE ADVISORY SIGNS SHOULD BE POSTED ON ALL POLES AND DRIVE RAILS ON THE SEGMENT AFFECTED INDICATING THE DATE OF THE CHANGE, THE NEW REGULATIONS AND A TELEPHONE NUMBER TO OBTAIN INFORMATION.

B. MAINTENANCE AND PROTECTION OF TRAFFIC

1. **ATLANTIC AVENUE FROM GEORGIA TO SHEFFIELD AVENUE**
ATLANTIC AVENUE FROM SHEFFIELD AVENUE TO PENNSYLVANIA AVENUE
Contractor can work in the Parking Lane (8 feet adjacent to the west curb) from 7am-5pm
Contractor will maintain 2(11) feet lanes of traffic and work from 9am-5pm
Contractor will maintain 2 (11) feet lanes of traffic and work from 10pm -6am
Contractor will maintain 2(11) feet lanes of traffic from 7am-5pm on Saturdays
The contractor must coordinate with school before working.
Flag person must be provided to stop pedestrian and /or vehicle traffic while lifting materials overhead and also when crossing sidewalk in conjunction with crossing sidewalk permits.
The contractor shall maintain 5 foot clear sidewalk or 5 foot clear pedestrian walkway in roadway. Walkway must meet NYCDOT specifications. Walkway must be ramped at entry to sidewalk for handicapped accessibility.
Full width of roadway shall be opened to traffic when site is unattended.
THIS IS NOT A PERMIT. THIS STIPULATION SHEET MUST BE SUBMITTED WITH ALL REQUESTS FOR PERMITS PERTAINING TO THE ABOVE CONTRACT AND PRESENT AT THE WORK SITE ALONG WITH ALL ACTIVE CONSTRUCTION PERMITS WHEN THE APPROVED WORK IS BEING PERFORMED.
1. **All other stipulations under original NYCDOT stipulations sheet BNEC-17-190 dated November 20, 2019 and its amendments which have not been changed by this amendment remain in effect.**
2. ALL RELOCATION WORK BY THE UTILITIES SUCH AS: CON EDISON, TELEPHONE, GAS AND CABLE COMPANIES SHALL PRECEDE THE CONTRACTORS' START OF WORK ON ALL AFFECTED ROADWAYS IN THE IMPACTED CONTRACT AREA.
3. THE CONTRACTOR IS ADVISED THAT OTHER CONTRACTORS MAY BE WORKING IN THE GENERAL AREA DURING THE TERM OF THIS STIPULATION. IN WHICH EVENT, THE CONTRACTOR MAY REQUIRE MODIFICATIONS BY THE OCMC-STREETS.
4. THE PERMITEE IS NOT AUTHORIZED TO ENTER, OCCUPY OR USE ANY PUBLICLY-OWNED OR PRIVATELY OWNED, NON-PAVED, LANDSCAPE OR NON-LANDSCAPED LOCATION WITHOUT SPECIFIC WRITTEN PERMISSION. WHEN THE LOCATION IS WITHIN THE RIGHT-OF-WAY OF A LIMITED-ACCESS ARTERIAL HIGHWAY, **WRITTEN** APPROVAL FROM THE NYCDOT OCMC-HIGHWAYS IS REQUIRED. WHEN THE LOCATION IS WITHIN THE RIGHT-OF-WAY OF A PUBLIC STREET OR PUBLIC PARK, **WRITTEN** APPROVAL FROM THE NEW YORK CITY DEPARTMENT OF TRANSPORTATION OR NEW YORK CITY DEPARTMENT OF PARKS AND RECREATION IS REQUIRED. WHEN THE LOCATION IS WITHIN THE RIGHT-OF-WAY OF ANY OTHER JURISDICTION SUCH AS

OCMC FILE NO: BNEC-17-190
CONTRACT NO: BED 776
LOCATION(S): VARIOUS LOCATIONS IN BROOKLYN

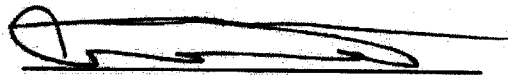
November 20, 2019
Page 2 of 2

PRIVATE PROPERTY, STATE, FEDERAL ETC., IT IS THE PERMITTEE'S RESPONSIBILITY TO DETERMINE THE PROPERTY OWNER AND OBTAIN THE WRITTEN APPROVAL.

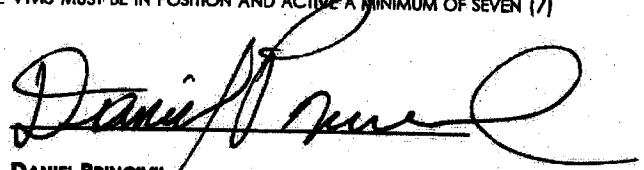
5. THE PERMITTEE SHALL ADHERE TO THE NYCDOT BUREAU OF BRIDGES' SPECIAL PROVISIONS FOR LANDSCAPE PROTECTION, MAINTENANCE AND RESTORATION, ITEMS 1.18.15 THROUGH 1.18.19, WHENEVER AND WHEREVER ANY OF THE PERMITTEE'S ACTIVITIES OCCUR WITHIN A LIMITED ACCESS ARTERIAL HIGHWAY RIGHT - OF - WAY.
6. NO DEVIATION OR DEPARTURE FROM THESE STIPULATIONS WILL BE PERMITTED WITHOUT THE PRIOR WRITTEN APPROVAL FROM THE OCMC-STREETS. REQUEST FOR SUCH MODIFICATIONS SHALL BE SUBMITTED TO THE OFFICE OF THE OCMC-STREETS, NEW YORK CITY DEPARTMENT OF TRANSPORTATION, A MINIMUM OF TWENTY (20) DAYS IN ADVANCE FOR CONSIDERATION.
7. FOR THIS PROJECT THE CONTRACTOR SHALL FURNISH, INSTALL AND MAINTAIN ALL NECESSARY ADVANCE WARNING AND DETOUR SIGNS, TEMPORARY CONTROL DEVICES, BARRICADES, LIGHTS AND FLASHING ARROW BOARDS IN ACCORDANCE WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES," THE TYPICAL SCHEMES INCLUDED IN THIS SPECIFICATION; AND AS ORDERED BY THE ENGINEER-IN-CHARGE AND THE OCMC-STREETS.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING HIS CONSTRUCTION SIGNAGE. THE IDENTIFICATION SHALL INCLUDE THE CONTRACTOR'S NAME, SPONSORING AGENCY NAME AND THE CONTRACT NUMBER. THE IDENTIFICATION SHALL BE PLACED ON THE BACK OF THE SIGN. THE LETTERING SHALL BE THREE (3) INCHES HIGH.
9. THE OCMC-STREETS RESERVES THE RIGHT TO VOID OR MODIFY THESE STIPULATIONS SHOULD CONSTRUCTION FAIL TO COMMENCE WITHIN TWO (2) YEARS OF THE SIGNED DATE OF THESE STIPULATIONS.
10. THE CONTRACTOR MUST COMPLY WITH ALL CONSTRUCTION EMBARGOS ISSUED BY THE NYCDOT INCLUDING THE HOLIDAY EMBARGO.

D. ENHANCED MITIGATIONS

1. **ENHANCED MITIGATIONS FOR PEDESTRIAN FLOW**, INCLUDING METAL FENCING, SHALL BE PROVIDED TO ENSURE PEDESTRIANS STAY WITHIN THEIR DESIGNATED PATH/ROUTE. FLAGGERS SHALL BE PROVIDED TO ASSIST WITH PEDESTRIANS AT THE DESIGNATED CROSSWALK AREAS. THESE FLAGGERS SHALL BE ASSIGNED TO THIS FUNCTION ONLY.
2. **VARIABLE MESSAGE SIGNS (VMS)** A TOTAL OF 4 VMS SHALL BE PROVIDED FOR THE DURATION OF THIS PROJECT. THE LOCATIONS AND MESSAGES SHALL BE RECOMMENDED BY NYCDDC AND THEIR CONTRACTOR (BASED ON THE STAGING OF WORK) A MINIMUM OF TWO (2) WEEKS PRIOR TO WORK COMMENCING, FOR OCMC REVIEW AND APPROVAL. THE VMS MUST BE IN POSITION AND ACTIVE A MINIMUM OF SEVEN (7) CALENDAR DAYS IN ADVANCE OF WORK.



GARY SMALLS
DIRECTOR
OCMC-STREETS



DANIEL PRINCIVIL
PROJECT MANAGER
OCMC-STREETS

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Long Island Rail Road

GENERAL REQUIREMENTS FOR PROJECTS ADJACENT TO LIRR PROPERTY WITH POTENTIAL TO IMPACT LIRR SAFETY AND OPERATIONS

- Attached are "General Requirements for Outside Contractors Working on LIRR Property". These requirements apply to this project. Entry Permit requires an outside agency or contractor to reimburse the LIRR for all project costs (i.e. Flag Protection, Project engineers, Inspectors, etc.)
- Shop drawings and calculations detailing sheeting must be submitted prior to excavation, which may impact the stability of adjacent embankment supporting our tracks. Shop drawings and calculations to include the original seal and signature of a NYS Licensed Professional Engineer. Shheeting to be designed for Cooper E-80 Axle Loading as per the American Railway Engineering and Maintenance of Way Association.
- Fouling of LIRR Track includes work within 15 ft. of or along LIRR tracks. This also includes operation of equipment or any part of equipment (i.e. crane booms) which could fall onto or within six (6) feet of LIRR tracks.
- All parties are notified that fouling LIRR track without LIRR flag protection being present is a violation of Federal Law.
- CRANES
 - Crane operation must maintain at least fifteen (15) feet vertical and horizontal separation from overhead LIRR High Tension Lines. If overhead power lines from outside agencies are supported from LIRR High tension poles, a letter from that agency must be submitted to the LIRR stating their vertical and horizontal separation requirements.
 - The following conditions apply for operating cranes with booms of sufficient length to fall onto or within six (6) feet of LIRR tracks.
 - Crane information must be submitted to the LIRR for review, including proposed location of crane, proposed boom angle and loading diagram indicating that the crane is capable of supporting 150% of load to be lifted. Loading diagram to include original seal and signature of NYS Licensed Professional engineer.
 - LIRR flag protection must be on site. Crane operations will generally be restricted to 10:00 am to 3:00 pm daily.
 - Crane operator or one (1) construction supervisor who will be on the site full time must be trained and verified in Roadway Worker Protection.
 - Crane operations must follow the direction of LIRR flagmen and face boom parallel to our track when ordered to do so.

Procedure Number: 3rd Party – 3

Title: Adjacent

Revision: 2

Date: 03/13/12

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Long Island Rail Road

**GENERAL REQUIREMENTS FOR
OUTSIDE CONTRACTORS WORKING ON LIRR PROPERTY**

- Obtain Entry Permits. Call LIRR Manager – Engineering Contracts, Agreements and Materials at 718-558-3356.
- Obtain required Railroad Protective Liability Insurance and submit original signed insurance documents to the MTA Risk and Insurance Management, call 646-252-1429.
- All contractor personnel whose duties include working on, within fifteen (15) feet of or above railroad tracks or operating equipment (i.e. cranes) on or near railroad tracks shall attend annual Roadway Worker Protection (RWP). Call LIRR Training Department at 718-558-3100 to schedule.
- Two (2) weeks prior to start of construction call Managing Engineer – Civil Inspection at 718-558-3218.

Procedure Number: 3rd Party – 3

Title: General

Revision: 2

Date: 03/13/12

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Guidelines for Obtaining a LIRR Entry Permit

Step 1: **LIRR Project:** YES _____ No _____

If no, Proceed to Step 2.

If Yes,

- 1) Provide LIRR Project Number & Project Title,
- 2) Provide LIRR Project Manager's Name and Telephone Number,
- 3) Contact LIRR Project Manager to manage and coordinate all property access requirements and support.

Step 2: **Request for Entry Permit:**

Contact: **Mr. Edward Maines**
Manager - Contracts & Agreements, Engineering Department
Long Island Rail Road, Hillside Maintenance Complex
93-59 183rd Street, Dept. 3146
Hollis, NY 11423

Tele: (718) 558-3536
Email: emaines@lirr.org

- Provide:**
- 1) Company Name, Address, Principal of Company (President or VP), Contact Person's Name, Title, & Telephone #'s, email address,
 - 2) Authority for whom the work is being performed (NYC or NYS DOT, County, Utility Company, etc.), if applicable,
 - 3) Contract Number assigned by the above Authority, for the work to be performed,
 - 4) Full Description of work to be performed (detailed scope of work),
 - 5) Additional information that may clarify the working limits and any interference to LIRR operation (i.e. drawings, surveys, crane calculations, etc.)
 - 6) Amount of time necessary to complete the work and anticipated period of performance.

After reviewing the Entry Permit request submittal package for completeness, two (2) original copies of the LIRR/MTA Entry Permit will be prepared and forwarded to the requestor for signature. Upon receipt, the requestor must sign the permit, return one (1) signed original to Mr. Maines, and proceed to Step 3.

Step 3: **Insurance Submittal: (ACORD certificates are unacceptable)**

Contact: **Ms. Melva Villa**

MTA Risk & Insurance Management
Standards & Enforcement & Claims Analyst
2 Broadway, New York, NY 10004

Tele: (646) 252-1437
Fax: (646) 252-1434
Email: Melvilla@mtahq.org

- Provide:**
- 1) A copy of the executed Entry Permit (signed by LIRR and requestor),
 - 2) Evidence of insurance, in accordance with the requirements identified in the executed Entry Permit

Upon receipt and approval of appropriate evidence of insurance, the requestor must proceed to Step 4.

Step 4: ******* If this is an LIRR Project, Contact the LIRR Project Manager *******

Contact: **If not:**
Mr. Timothy Raichel
LIRR Civil Design & Inspection
Managing Engineer- Civil Inspection, Engineering Department
Long Island Rail Road, Hillside Maintenance Complex
93-59 183rd Street, Dept. 3146, Hollis, NY 11423

Tele: (718) 558-3218
Fax: (718) 558-3298
Email: tjraich@lirr.org

- Provide:**
- 1) A copy of the executed Entry Permit (signed by LIRR and requestor)
 - 2) Original signed copies of Evidence of Insurance - submitted in the proper format
 - 3) Items 1 through 6 from Step 2

Upon review of all documents, and obtaining appropriate confirmation from MTARIM that all insurances have been reviewed and approved, a Field Inspector will be assigned to coordinate activities associated with the project, such as arranging for appropriate flag protection, RWP Training and request for mark-out of LIRR assets.

*** It should be noted that the requestor must not alter the documents or take exception to the LIRR Entry Permit Terms and Conditions. Failure to follow the Guidelines described herein may result in the cancellation of the Entry Permit Agreement.**

PLAN SCALE 1/4" = 1'

NOTES

STRUCTURES MUST NOT BE LOCATED NEARER TO TRACK THAN THE MINIMUM CLEARANCE UNLESS SPECIFIED BY THIS PLAN. THE MINIMUM CLEARANCE SHOULD BE INDICATED WHERE NECESSARY.

GENERAL REQUIREMENTS

ALL STRUCTURES SHALL BE BUILT ON THE EXISTING GRADE UNLESS OTHERWISE NOTED. ALL STRUCTURES SHALL BE BUILT TO THE FULL WIDTH OF THE TRACK UNLESS OTHERWISE NOTED.

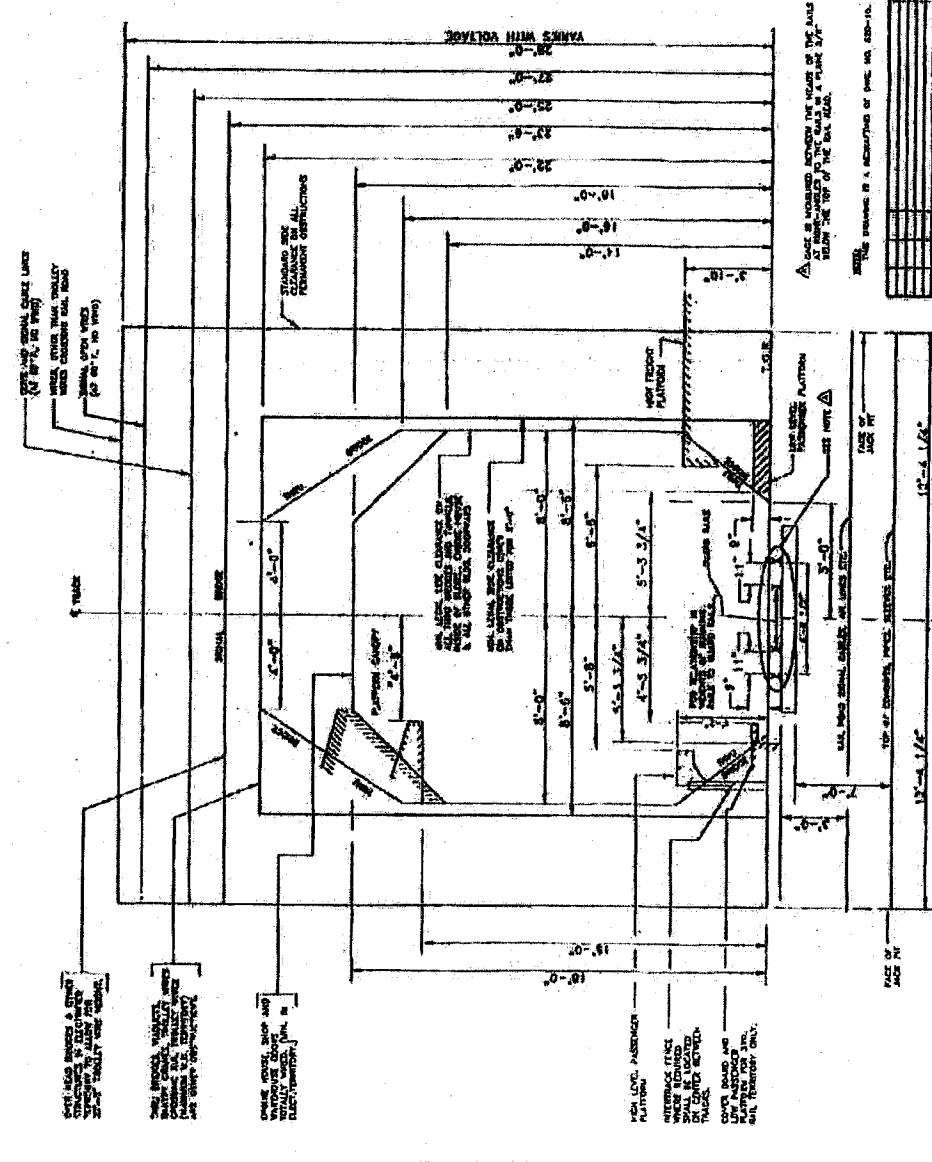
EXISTING

ON THE OUTSIDE OF CROSSING TRACKS, THE CLEARANCE SHALL BE THE CLEARANCE OF THE TRACKS. ON THE INSIDE OF CROSSING TRACKS, THE CLEARANCE SHALL BE THE CLEARANCE OF THE TRACKS AND THE CLEARANCE OF THE STRUCTURE AND THE TRACKS.

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ON THE INSIDE OF CROSSING TRACKS, THE CLEARANCE SHALL BE THE CLEARANCE OF THE TRACKS AND THE CLEARANCE OF THE STRUCTURE AND THE TRACKS. ON THE OUTSIDE OF CROSSING TRACKS, THE CLEARANCE SHALL BE THE CLEARANCE OF THE TRACKS.

CLEARANCE REQUIREMENTS SET FORTH IN THE PLAN SHALL APPLY ONLY TO NEW CONSTRUCTION OR RECONSTRUCTION. ALL EXISTING STRUCTURES SHALL BE MAINTAINED AND EXTENDED AT THE EXISTING CLEARANCE. THE FOLLOWING CLEARANCES ARE MINIMUM CLEARANCES. THE FOLLOWING CLEARANCES ARE MINIMUM CLEARANCES. THE FOLLOWING CLEARANCES ARE MINIMUM CLEARANCES. THE FOLLOWING CLEARANCES ARE MINIMUM CLEARANCES.



ALL CLEARANCES SHOWN ON THIS PLAN ARE MINIMUM CLEARANCES. THE LOCATION OF THE STRUCTURE IS LISTED IN THE CLEARANCE TABLE.

THIS DRAWING IS A REVISION OF DRAWING NO. 100-10. DATE: 11-20-72.

LONG ISLAND RAIL ROAD	
MINIMUM PASSAGE CLEARANCE	
STRUCTURE	MINIMUM CLEARANCE
1. OVERHEAD CABLES	13'-4 1/2"
2. SIGNALS	13'-4 1/2"
3. TRACKS	13'-4 1/2"
4. STRUCTURES	13'-4 1/2"
5. POWER LINES	13'-4 1/2"
6. TELEPHONE LINES	13'-4 1/2"
7. WATER MAINS	13'-4 1/2"
8. GAS MAINS	13'-4 1/2"
9. SANITARY MAINS	13'-4 1/2"
10. OTHER	13'-4 1/2"

DATE: 11-20-72

**Guidelines for Submission of Evidence of Insurance
MTA LONG ISLAND RAIL ROAD (LIRR) AGREEMENTS**

These are basic acceptance guidelines-read your agreement for specific insurance requirements.
Policies must be written by Carriers rated A-/VII or better to be acceptable to MTA & MTA's Operating Agencies

1. General Requirements:

- Use Long Island Rail Road (LIRR) Certificate if contract applies to only LIRR;
- Use Joint Agency Certificate if contract applies to more than one MTA Agency;
- ACORD Certificate may be used for operating-funded contracts under \$250,000 unless otherwise noted in agreement.

On the Certificate, you are required to:

- Reference the Agreement or Contract #;
- Disclose any deductible, self-insured retention, sub-limit or aggregate limit;
- Provide Insured's telephone number, contact person and e-mail address;
- Must be signed by an Authorized Representative of the Insurance Carrier or Producer and notarized.
- Insurance expiration dates may not be within 30 days of submission unless written assurance from the authorized broker that the policy (s) will be renewed with the same terms and conditions is submitted with the certificate.
- Select / Check (✓) the appropriate boxes for Additional Insured / Additional Named Insureds and/or Loss Payees,

2. Minimum Coverages (Refer to Agreement for Specific Insurance Requirements):

a. Workers' Compensation

- The New York State Insurance Fund form is acceptable.
- If a company is located out of state, an "All States" endorsement is required
- Sole Proprietors may provide CE-200 form as documentation of exemption status. Others may provide a letter from their accountant or attorney as evidence of exemption.

b. General Liability (Refers To Primary and Umbrella/Excess Liability Policies)

- Minimum limits of Commercial General Liability may be satisfied by a combination of primary and umbrella / excess policies and must follow form of the underlying policy and be extended to "drop down" to become primary in the event the primary policy is exhausted.
- A physical copy of the Additional Insured Endorsement (I.S.O. Form CG 20 10 1185 version or equivalent) reflecting the policy number(s) and covering the required indemnitees in your agreement must accompany the certificate of insurance.

c. Railroad Protective Liability (RRPL) / Builder's Risk

- A Certificate of Insurance is not acceptable proof of these coverages: an insurance binder must be provided pending issuance of actual policy.
- RRPL binder must list all required Named Insured (indemnitees).
- Actual policies must be submitted within 30 days from issuance of binder.

d. Environmental Coverages - Contractor or its sub-contractor may provide:

- Contractor's Pollution Liability coverage must be endorsed to include the additional insureds per terms of contract and a copy of the physical endorsement must accompany the certificate of insurance.
- Pollution Legal Liability coverage must be endorsed to include the additional insureds as required in your contract. Evidence of coverage can be satisfied by the following:
 - Stand alone Pollution Legal Liability policy listing the Non-Owned Disposal Site
 - A Non-Owned Disposal Site Endorsement to the Contractor's Pollution Liability policy.
 - A certificate of insurance from the disposal facility adding the applicable Agency (s) as additional insured.
- The Hauler must provide evidence of their Business Auto Liability policy with copies of the MCS90 & CA9948 endorsement,

e. Joint Venture

- If the Contractor/Consultant is a joint venture, the joint venture must be listed as the Insured on page one of the MTA Long Island Rail Road Certificate of Insurance.

3. Provide Signed Certificate or a Certified Copy(s) of the actual Policy(s) to:

Mailing Address: MTA Risk and Insurance Management Dept., Standards, Enforcements and Claims Unit, 2 Broadway, 21st floor, New York, NY 10004.

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**NYC DDC BED 776
CP System Survey and Engineering
Study of Soils and Stray Currents
Cathodic Protection System Design**

Prepared For:

**NYC Department of Design and Construction
30-30 Thomson Ave
Long Island City, NY 11101**

Prepared By:

**CorrTech, Inc.
25 South Street
Hopkinton, MA 01748**

**CorrTech, Inc. Report No. 8285-FOR-01-1
NYC DDC Task Order 024**

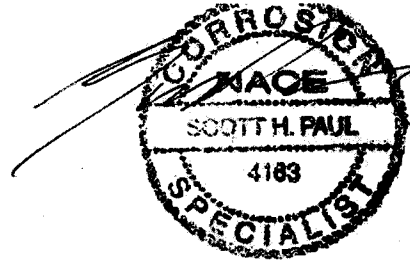
August 2018

STATEMENT OF LIMITATION

The conclusions presented in this document are based on the services described and not on tasks or procedures beyond the scope of the described procedures or the time and budgetary constraints imposed by the contract limitations.

CorrTech, Inc. has performed this assessment in a professional manner using that degree of skill and care exercised for similar projects under similar conditions by reputable and competent consultants, and in accordance with the procedures established within CorrTech's quality assurance, quality control protocol.

CorrTech, Inc. shall not be responsible for conditions or consequences arising from relevant facts that were concealed, withheld or not fully disclosed at the time the evaluation was performed.



Report Reviewed by:
Scott Paul, P.E.
NACE Corrosion Specialist No. 4163
June 2016

Report Prepared by:
Patrick Blum
NACE Cathodic Protection Technician No. 69529
February 2018

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- Cathodic Protection Design Worksheets
- Material List - Engineers Estimate

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BED-776 CP-1 through BED-776 CP-8
BED-776 CPD-1 through BED-776 CPD-3

INTRODUCTION

On August 6th, 2018, CorrTech, Inc. entered into agreement with the NYC Department of Design and Construction with the expectation of providing cathodic protection design, construction support, field testing, final system testing, and as-built documentation. The BED 776 project is located in Brooklyn, New York, along East New York Avenue between Howard Avenue and Vermont Street. It is estimated that approximately 7,113 linear feet of 48-in steel pipe and associated fittings are to be installed under this contract. Six isolated segments of pipe will be protected by cathodic protection systems designed by CorrTech. Work is being completed under CorrTech, Inc. Job No. 8285, Task Order 024, issued under contract GEDRC001, registration number 20121401831.

Field testing was performed on August 7th, 2018 to obtain soil resistivity data and to perform stray current monitoring in the approximate areas in which the new steel water trunk main is to be installed. Data collected has been used to design the sacrificial cathodic protection systems. In addition to the field testing, a cursory review of area utilities was completed.

CorrTech, Inc. provides corrosion engineering expertise in accordance with specifications section 5.04A of New York City Department of Environmental Protection (NYCDEP) "Specifications for Trunk Main Work".¹

CONCLUSION

Based on the field-testing protocol and test results obtained during the system evaluation and energization, the following conclusions are presented:

1. The average soil resistivity measured along the construction route was found to be approximately 18,556 ohm-cm. Measured values ranged from 9,000 ohm-cm to 32,000 ohm-cm. The soil resistivity study indicates that the area soils are classified as mildly corrosive to metallic structures. Steel piping installed in this area will require corrosion control measures that will include an external dielectric coating system, isolation of the new piping from existing piping and other metallic structures (and also in-line isolation at butterfly valves), and sacrificial anode cathodic protection that will provide adequate corrosion control for in excess of 50 years.
2. Stray current effects measured along the construction route are considered to be moderate. The magnitude of variations observed indicates existence of dynamic stray DC voltage effects near the MTA rail line crossing. A dielectric coating on the new piping, galvanic anodes, isolation of the piping at inline butterfly valves, and isolation of the piping from other underground utilities or metallic structures will serve to mitigate the effects of stray current.

¹ This publication includes "Special Provisions for Trunk Main Work"; and "Specification for Furnishing, Delivering and Laying Steel Pipe and Appurtenances".

RECOMMENDATIONS

While the soils in the area are considered mildly corrosive, the effect of dynamic stray current and minimum life expectancy of 50 years must be considered. In order to protect against passive corrosion and active corrosion caused by stray current, the newly installed steel pipe should be installed with an external coating system, electrical isolation, and sacrificial anode type cathodic protection system. The following are required for the system to function as designed:

1. Flange isolation assemblies are required where the new steel pipe connects to existing piping. Insulating flanges must also be installed at all butterfly valve chambers and at any/all ductile iron or cast-iron main connections. These have been indicated on the design drawings. The new steel trunk main is being directly welded with a butt strap closure sleeve at the following locations:

Segment 6, app 1,537-ft of pipe is to be connected to an existing 48-inch water main without an insulating flange, it is assumed that the existing 48-inch water main has adequate cathodic protection.

A short segment of pipe being installed on Bergen Street does not have an insulating flange indicated at the connection to exiting pipe. It is assumed that the existing 48-inch water main has adequate cathodic protection to protect this small section of pipe. No cathodic protection is being provided for this short section in this design package.

These locations are not being electrically isolated from the existing pipe requiring that functional and effective cathodic protection is existing on those pipes.

2. The new steel piping must have a high-quality dielectric coating, such as a tape wrap system or bonded polyurethane coating system, applied to any and all steel pipe surfaces that are in contact with the surrounding soil environment. The dielectric coating system should be applied to all piping associated with the air cock hydrants and blow-off assemblies.
3. Sacrificial magnesium anodes, permanent reference electrodes, pipe test wires, steel counter electrodes and flush-to-grade test stations at the locations indicated on the design drawings must be installed adjacent to the direct-buried piping, as per design drawings. All test stations must be installed on the inside of nearby curbs in order to prevent the enclosures from being subject to vehicular traffic and to make them easier to locate for future testing.
4. Fiberglass reinforced plastic (FRP) shields must be installed around the pipe at any/all points of contact with reinforced concrete piles or similar structures. Electrical isolation between the new steel piping and other structures is of critical importance.
5. Construction inspection, interim testing and final testing shall be performed by CorrTech personnel in concert with the REI team. Testing must verify that the installed cathodic protection system meets the criteria set forth by NACE International Standard Practice

SP0169, which requires control of external corrosion on underground or submerged metallic piping systems at all locations.

6. Based on the cathodic protection design worksheets and pipe network, the following table summarizes the direct-buried pipe segments for BED 776:

Pipe Segment	Location and Description	No. of Anodes	No. of Anode Test Stations
1	NEW YORK EAST AVE. FROM PITKIN AVE. TO HOWARD AVE.	10	1
2	NEW YORK EAST AVE. FROM HOWARD AVE. TO MOTHER GASTON BLVD.	195	13
3	NEW YORK EAST AVE. FROM MOTHER GASTON BLVD TO JUNIUS ST.	45	3
4	NEW YORK EAST AVE. AND JUNIUS ST.	2	1
5	NEW YORK EAST AVE. FROM ATLANTIC AVE. TO WILLIAMS AVE.	30	2
6	JAMAICA AVE. FROM WILLIAMS AVE. TO VERMONT ST.	60	4
	TOTAL	342	24

DISCUSSION

The coated steel water main piping associated with project BED 776 consists of approximately 7,113-ft of 48-inch steel trunk water main. Testing was completed in and around East New York Avenue and Jamaica Avenue, following the layout of the piping system.

The purpose of the pre-constructing testing and subsequent evaluation is to quantify the levels of stray traction DC currents and to evaluate the area soil resistivity along the proposed construction route. Stray current testing was performed in and around the area where the new pipe will be installed. Moderate stray current effects were measured near the intersection of East New York Avenue and Howard Avenue, and at the intersection of Jamaica Avenue and Vermont Avenue (test locations 1 and 3). Moderate to severe stray current was monitored at the intersection of Williams Place and Atlantic Avenue (test location 3).

One (1) reference cell-to-reference cell potential profile obtained in the area indicate that potential variations may be considered moderate to severe. The potential measurements obtained indicated variations of approximately 0.52-volts or less (as monitored over a 40-minute period). The proposed area of construction for the new steel water main being installed as part of BED 776 will be subjected to adverse effects from stray traction DC currents. Mitigation techniques employed in this design include a dielectric coating of the pipe, the use of galvanic anodes for corrosion protection, and proper isolation of the piping segments subjected to the stray current.

Soil resistivity measurements were obtained at eighteen (18) locations using a Collins Rod and calibrated Wheatstone Bridge. Depths obtained ranged from 3-feet to 4-feet. The data obtained is shown in Appendix I of this report. Soil resistivity ranged from a low of 9k ohm-cm to a high of 32k ohm-cm. Lower resistivity areas likely exist at locations that are likely subject to accumulation of road salt, among other contaminants. The mean soil resistivity is approximately 18.5k ohm-cm. This is a reasonable representation of the average soil resistivity in this area.

The measurement of soil resistivity has been used for years as an indicator of the corrosivity of soil. Soil resistivity is the reciprocal of conductivity; the lower the resistivity, the easier current flows through the soil. Of the measurable soil characteristics, resistivity is generally accepted as the primary indicator of soil corrosivity. Resistivity is a property of the bulk volume of soil and electrolytes.

Although no universal standard has been accepted, (by an organization such as the American Society for Testing and Materials or the National Association of Corrosion Engineers), it is generally agreed that the classification shown below, or other similar classifications, reflect soil corrosivity.

<u>Resistivity (Ohm-Cm)</u>	<u>Classification</u>
< 1,000	Extremely Corrosive
1,000 to 3,000	Highly Corrosive
3,000 to 5,000	Corrosive
5,000 to 10,000	Moderately Corrosive
10,000 to 25,000	Mildly Corrosive
> 25,000	Progressively Less Corrosive

The above table provides qualitative insight to the expected corrosion exposure of a metallic structure in a soil of known resistivity. Accordingly, deterioration can generally be expected to be rapid and relatively severe in soils below 1,000 ohm-cm. This does not mean, however, that severe corrosion will not occur in soils of higher resistivity. In fact, depending on chemical conditions, severe corrosion can occur in soils above 25,000 ohm-cm. The table only indicates that the latter occurrence is generally not observed.

The review of the plans for the new steel water main indicates that there are multiple ties to existing structures. The installation of insulating flanges is required for any/all tie-ins to the existing water supply network, as well as any butterfly valve connections and at any/all ductile iron or cast-iron distribution tie-in points. The installation of electrical isolation flange assemblies contains the cathodic protection to only the in-scope piping, which in turn produces a more concise, manageable cathodic protection system.

Segment 6 of BED 776 is to be connected to an existing 48-inch water main without an insulating flange, CorrTech is under the assumption that the existing 48-inch water main has adequate cathodic protection. Thus, will not affect the design parameters for the new 48-inch water main. In addition, there is approximately 45-ft of new 48-inch pipe that is being installed on Bergen Street that does not have an insulating flange, CorrTech is under the assumption that the existing 48-inch water main has adequate cathodic protection to protect this small section of pipe. These locations are not being electrically isolated from the existing pipe requiring that functional and effective cathodic protection is existing on those pipes.

The cathodic protection design created by CorrTech, Inc. assumes that the piping will be electrically isolated and provided with a high-quality dielectric coating system (such as a tape wrap or polyurethane coating system) and installed on all steel piping in contact with the soil environment. The piping associated with air cock hydrants and blow-offs should be coated with this coating system as well as electrically isolated from the steel trunk water main. There will be a total of 6 distinct segments associated with the BED 776 project installation relative to cathodic protection. Please refer to Appendix II for the associated Ground Bed Design Worksheets.

DESIGN PARAMETERS

The following NYC DEP cathodic protection design criteria have been applied to facilitate the final design calculations:

- Percent of bare pipe 1.00%.
- Required current density 1.5 mA/ft² for direct buried piping.
- Pipe coating quality 25,000 ohm-cm
- 50-year design life for the cathodic protection anodes
- Anode consumption rate of 17-pounds per ampere-year
- 50% anode consumption utilization factor

The current density of 1.5mA/ft², coupled with the percentage of bare piping of 1.00%, are relatively conservative parameters for design calculations in higher resistivity soils. For higher resistivity soils, more anodes are required to meet the current density requirement. Industry experience confirms that in higher resistivity soils, current density requirements are reduced.

Conversely, in lower resistivity soils, more anodes are required to meet the 50-year design life, given the same parameters.

The magnesium anodes will be divided into groups and these groups will be distributed along the isolated piping segments. Installing the anodes in individual groups enables current distribution to the 48-in piping in each segment and provides multiple ground beds as backup in the event of damage to one groundbed. The additional groundbed test stations also provide for a more thorough assessment of the piping.

The cathodic protection design has been prepared in accordance with NACE Standard Practice SP0169 (formerly RP0169), "Control of External Corrosion on Underground or Submerged Metallic Piping Systems". This standard practice presents procedures and practices for achieving effective control of external corrosion on buried or submerged metallic piping systems.

These recommendations are also applicable to many other buried or submerged metallic structures. They are intended for use by corrosion control personnel concerned with the corrosion of buried or submerged piping systems, including oil, gas, water, and similar structures. This standard describes the use of electrically insulating coatings, electrical isolation, and cathodic protection as external corrosion control methods. The standard contains specific provisions for the application of cathodic protection to existing bare, existing coated and to new piping systems. Also included are procedures for control of interference currents on pipelines.

Sacrificial anode cathodic protection provides protection with no external power source or rectifier. Sacrificial anodes are designed to corrode, thereby protecting the steel structure being installed. Energy for the sacrificial anode system is provided by the difference in the electrochemical level between the anode and the structure being protected. Typically, magnesium anodes are utilized to protect steel structures. The magnesium anode will corrode preferentially when connected to steel as part of a cathodic protection system. This is due to the fact that it sits at a higher electrochemical level.

A sacrificial anode installation is also a DC circuit with positive current supplied by the anodes and a return negative current supplied from the structure. The driving voltage of the sacrificial anode circuits is approximately 1.2 volt, the difference between magnesium and steel, although for more active steel and less active magnesium, this value can be lower (and vice versa). A conservative parameter of 0.9 volt has been used in the design of this system.

Ohm's Law ($E=IR$) is valid for DC circuits, where E is the driving voltage, or rectifier output, of the circuit, I is the resulting current magnitude and R is the resistance of the circuit. Proper system design seeks to minimize the resistance of the circuit through the use of an anode ground bed design. Sacrificial anode systems do not provide as much energy output as the impressed current design and therefore do not function properly in some applications where cathodic protection is required. Sacrificial systems require that the structure is first coated with a tightly adhered coating system and is also electrically isolated from all other metallic structures and system components. It is important to understand that pipe coating alone is not sufficient to provide complete corrosion control. Coatings must be supplemented with cathodic protection.²

² However, as defined in Sections 4 and 5 of NACE SP0169, cathodic protection can be provided to uncoated structures under certain conditions.

NACE requirements specify that the cathodic protection of buried steel structures must be evidenced by two criteria. Firstly, adequate steel polarization is needed to ensure that the electrochemical processes have been established in order to arrest corrosion of the steel surface. Secondly, the cathodic protection design should be constructed and implemented in order to allow for field-testing protocol. Protection levels with respect to polarization criteria can then be verified. All testing is performed in order to demonstrate that adequate cathodic polarization exists on the protected structure. Polarization criteria must take into account any significant drop in the field measurements conducted. This is important both to satisfy the regulations as well as to ensure the preservation of pipe integrity. The primary focus of testing protocol and system design is to ensure that corrosion of any exposed steel has been mitigated.

Sacrificial anode design utilizes a number of electrical parameters as input to the CorrTech, Inc. design calculation worksheet. The calculation worksheets for the total pipe section is included in this report as Appendix II.

In addition to the soil resistivity data, pipe geometry and anode dimensions and weight, the above design criteria are inputs to the design. The anode-to-remote earth resistance calculation is based on Dwight's Equation for a single horizontal anode.

$$R = \left(\frac{0.00521\rho}{L} \right) \left(\ln \left(\frac{4L^2 + 4L\sqrt{S^2 + L^2}}{dS} \right) + \frac{S}{L} - \frac{\sqrt{S^2 + L^2}}{L} - 1 \right)$$

Where:

- R = resistance in ohms
- L = anode length in feet
- S = twice the depth of anode in feet
- d = anode diameter in feet
- ρ = resistivity in ohm-cm
- ln is the natural logarithm function

This calculation provides the resistance for one (1) anode set in the measured average soil resistivity. The resistance to ground of the pipe is also calculated in the worksheet. Both the theoretical current requirement based on current density applied to the percentage of bare steel pipe, and also the theoretical current output based on the circuit resistance of the pipe and anodes, are calculated and compared in the worksheet. The number of anodes to be installed is a variable input in the worksheet that determines total anode circuit resistance based on parallel resistance theory. The check in the design calculation worksheet indicates that the comparison of theoretical current output of the design (determined by number of anodes, soil resistivity, anode dimensions, and other parameters), is at least between -25% and 25% of the required current given by the current density and percentage bare piping parameters.

The final total anode current output value is used to calculate the life of the anode system based on the magnesium anode consumption rate and 50% utilization. The life expectancy of anodes on these cathodically protected piping segments is in excess of 90 years.

Based on the cathodic protection design worksheets and pipe network, the following table summarizes the direct buried pipe segments for BED 776:

Pipe Segment	Location and Description	No. of Anodes	No. of Anode Test Stations
1	NEW YORK EAST AVE. FROM PITKIN AVE. TO HOWARD AVE.	10	1
2	NEW YORK EAST AVE. FROM HOWARD AVE. TO MOTHER GASTON BLVD.	195	13
3	NEW YORK EAST AVE. FROM MOTHER GASTON BLVD TO JUNIUS ST.	45	3
4	NEW YORK EAST AVE. AND JUNIUS ST.	2	1
5	NEW YORK EAST AVE. FROM ATLANTIC AVE. TO WILLIAMS AVE.	30	2
6	JAMAICA AVE. FROM WILLIAMS AVE. TO VERMONT ST.	60	4
	TOTAL	342	24

APPENDIX I

Soil Resistivity Tabulations

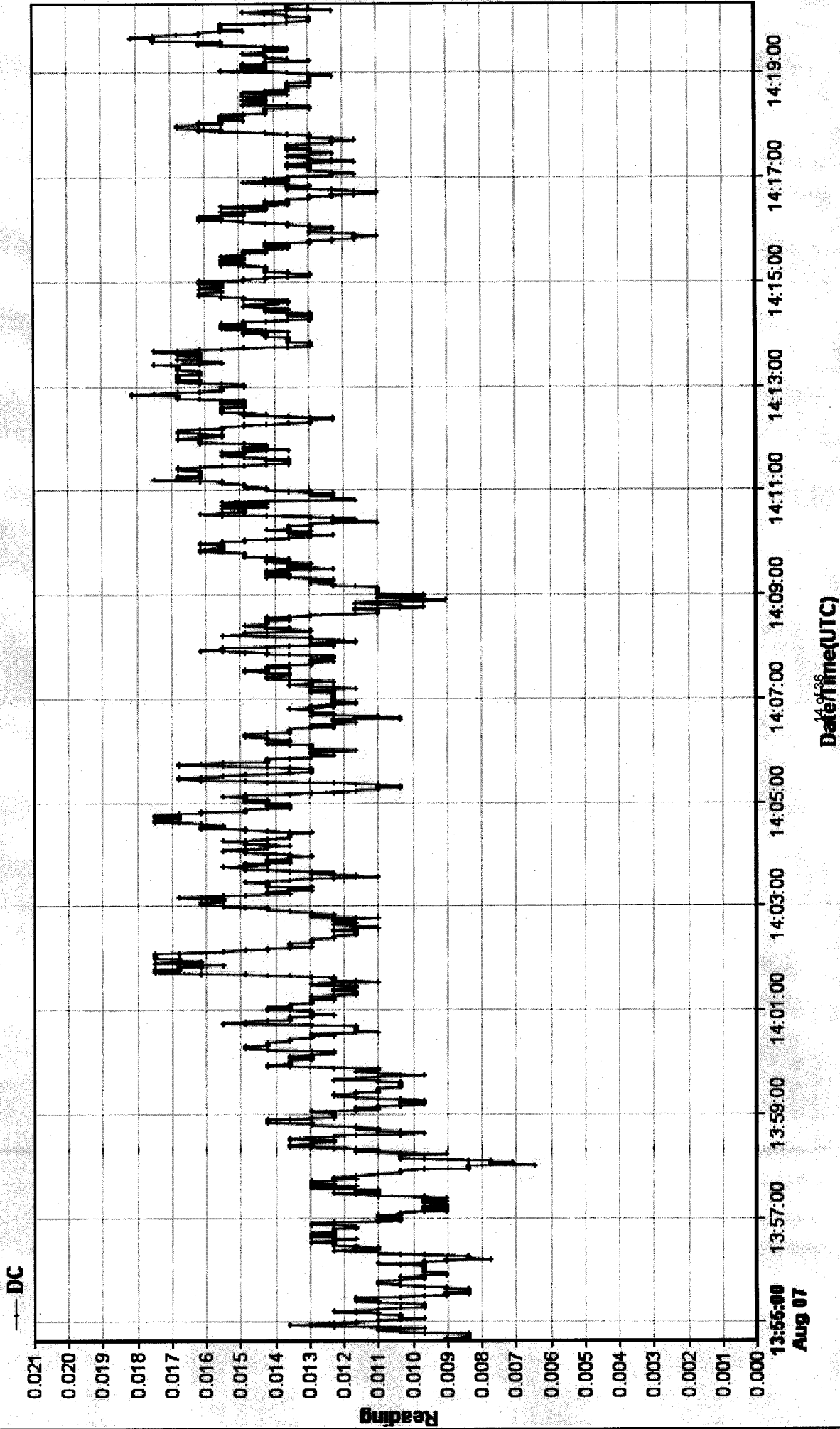
Stray Current Test Results

Cathodic Protection Design Worksheet, Segments 1 through 6

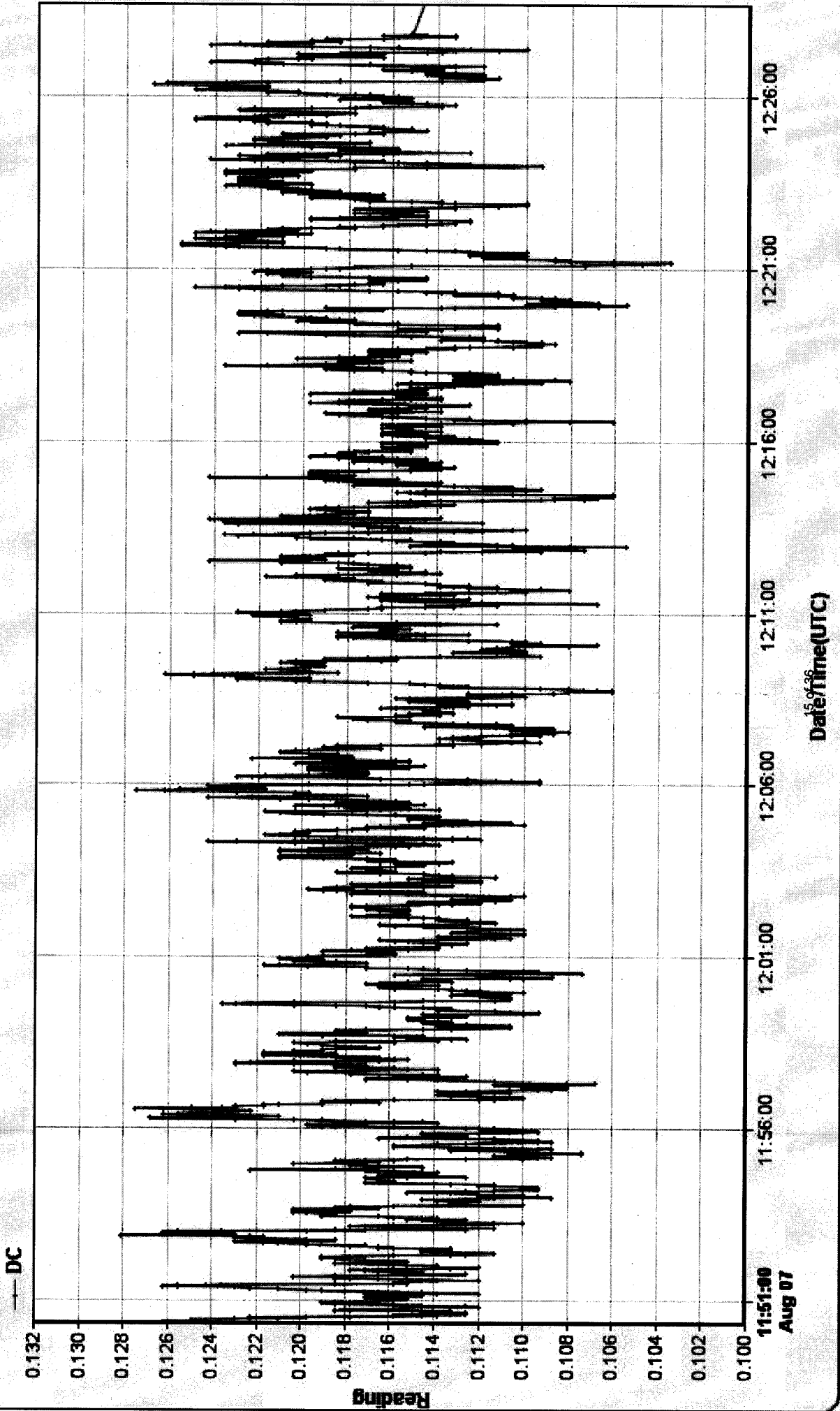
Material List - Engineers Estimate

Client:	NYC DDC	CorrTech Job Number:	8285
Project:	BED776	Date:	8/7/2018
Test Number	Resistivity (ohm-cm)	Location	Soil Type
1	29,000	Vermont Ave and Jamaica Ave	Grass
2	9,000	Pennsylvania Ave and Jamaica Ave	Soil
3	31,000	Sheffield Ave and Jamaica Ave	Soil
4	18,000	Georgia Ave and Jamaica Ave	Soil
5	23,000	Williams Ave and Jamaica Ave	Treebed
6	14,000	Alabama Ave and Atlantic Ave	Grass
7	17,000	Hinsdale St and Atlantic Ave	Soil
8	32,000	Van Sinderan Ave and Atlantic Ave	Soil
9	12,000	Powell St and East New York Ave	Grass
10	23,000	Mother Gaston Blvd and East New York Ave	Soil
11	10,000	Rockaway Ave and East New York Ave	Soil
12	9,000	Bristol St and East New York Ave	Soil
13	18,000	Thomas Boyland St and East New York Ave	Soil
14	22,000	Himrod St and Grandview Ave	Tree bed
15	18,000	Amboy St and East New York Ave	Grass
16	24,000	Saratoga Ave and East New York Ave	Tree bed
17	11,000	Lincoln Place and East New York Ave	Soil
18	14,000	Howard Ave and East New York Ave	Tree bed
AVG:	18,556	(ohm-cm)	TOTAL AVERAGE (1-18)

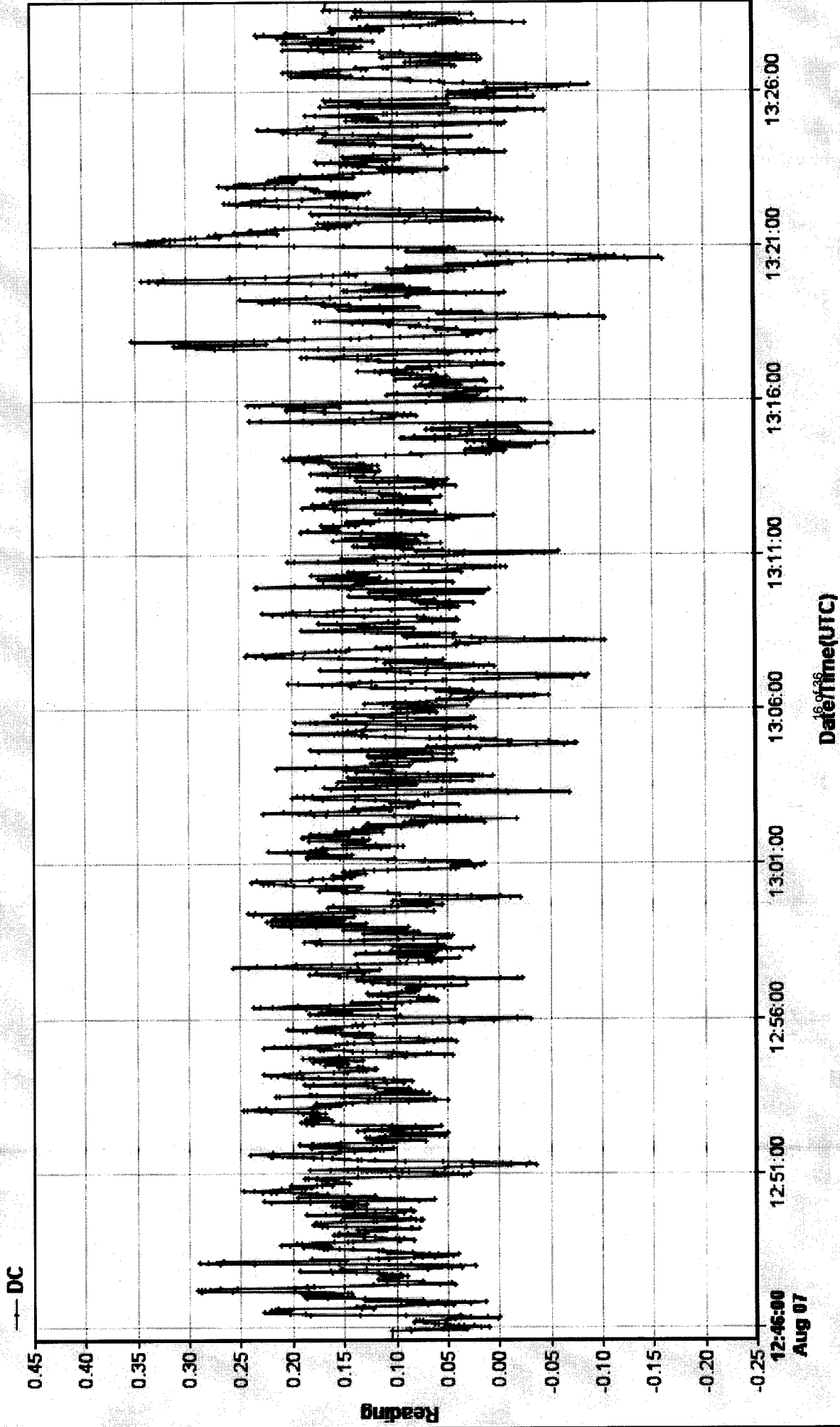
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File: ndH_sn002968 - after BED776 3.7.13.csv



CorrTech Inc., Groundbed Design Worksheet
 NYC DDC Water Trunk Main Cathodic Protection

Client: NYC DDC Project: BED-776
 Date: 8/14/18 NEW YORK EAST AVE. FROM
 Description: 203-ft of 48-in Water Trunk Main PITKIN AVE. TO HOWARD AVE.
 Segment: 1

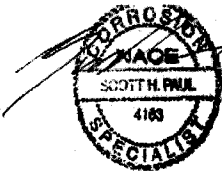
Structure Calculations		ENTER	SURFACE AREA
Length of pipe	ft	203.66	2,558 ft ²
Diameter	ft	4	
Length of pipe	ft		0 ft ²
Diameter	ft		
			2,558 ft ²

Circuit Calculations			
Soil Resistivity (ohm-cm)		14,000 ohm-cm	*average of 2 resistivities
Coating Quality (% bare)		1.00%	
Pipe Surface requiring protection		25.58 FT ²	
Pipe electrically isolated (yes/no)		yes	
Coating quality OHM-FT ²		25000 OHM-FT ²	
Pipe to Earth Resistance		9.77 OHM	
Theoretical Current Required (ma/ft ²)		1.5 mA/ft ²	
Theoretical Current Requirements		0.0384 AMPS	0.030696

Anode Parameters			Individual anode resistance
Anode Type		Magnesium anode, prepackaged	20.11 square of S2+L2 factor
Anode Weight (lbs)		17	34.60 resistivity x .0052 factor
Anode Ingot Diameter (feet)		0.292 see notes below	1.51 log value
Anode Ingot Length (feet)		2.104 see notes below	83.42 Horizontal anode resistance
2 time anode depth (feet)		20	105.56 Vertical anode resistance

Circuit Resistance Current Requirements			
Anode Resistance to Earth	plug in Resistance value	<input type="text" value="83.42"/>	OHMS
Driving Potential (v)		0.9	VOLTS
Individual anode output		0.011	AMPS
Number of anodes to be installed		10	
Total circuit resistance		18.12	OHMS
Current output of system		0.0497	AMPS
Consumption Rate (lb/A-yr)		17.00	
			Check Between 0% and 25%
			-29.48% Yes
			Gnd Beds 1
Anode life based on anodes to be installed		100.64 YEARS	considers 50% anode efficiency

Design conforms to the following standards:
 National Association of Corrosion Engineers (NACE)
 Standard Recommended Practice SP 0169 latest revision



NOTES on anode dimensions: Bare anode dimensions were considered due to the fact that the life of the anode is more dependent on the actual anode size than the packaging backfill.

The backfill may leech into surrounding earth as time progresses, which will cause depletion not related to the anode performance or cathodic protection mechanisms.

Other than erosion / leeching effects described above, the anode backfill is NOT consumable and will remain stable throughout the operational life of the anode.

Dwight's formula, utilized above, does not consider the inherent resistivity of the backfill.

For this reason, bare anode dimensions, when factored into the calculations, offer more conservative estimates as to the number of anodes required.

CorrTech Inc., Groundbed Design Worksheet
 NYC DDC Water Trunk Main Cathodic Protection

Client: NYC DDC Project: BED-776
 Date: 8/14/18 HOWARD AVE. TO MOTHER GASTON
 Description: 3991-ft of 48-in Water Trunk Main BLVD.
 Segment: 2

Structure Calculations		ENTER	SURFACE AREA
Length of pipe	ft	3991.88	50,138 ft ²
Diameter	ft	4	
Length of pipe	ft		0 ft ²
Diameter	ft		
			50,138 ft ²

Circuit Calculations			
Soil Resistivity (ohm-cm)		16,875 ohm-cm	*average of 7 resistivities
Coating Quality (% bare)		1.00%	
Pipe Surface requiring protection		501.38 FT ²	
Pipe electrically isolated (yes/no)		yes	
Coating quality OHM-FT ²		25000 OHM-FT ²	
Pipe to Earth Resistance		0.50 OHM	
Theoretical Current Required (ma/ft ²)		1.5 mA/ft ²	
Theoretical Current Requirements		0.7521 AMPS	0.601656

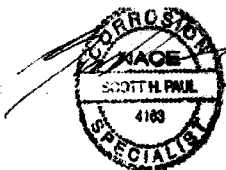
Anode Parameters			Individual anode resistance
Anode Type		Magnesium anode, prepackaged	20.11 square of S2+L2 factor
Anode Weight (lbs)		17	41.70 resistivity x .0052 factor
Anode Ingot Diameter (feet)		0.292 see notes below	1.51 log value
Anode Ingot Length (feet)		2.104 see notes below	100.55 Horizontal anode resistance
2 time anode depth (feet)		20	127.23 Vertical anode resistance

Circuit Resistance Current Requirements			
Anode Resistance to Earth	plug in Resistance value	100.55	OHMS
Driving Potential (v)		0.9	VOLTS
Individual anode output		0.009	AMPS
Number of anodes to be installed		195	
Total circuit resistance		1.01	OHMS
Current output of system		0.8874	AMPS
Consumption Rate (lb/A-yr)		17.00	

Check Between 0% and 25%
 -17.99% Yes
 Gnd Beds 13

Anode life based on anodes to be installed 109.88 YEARS considers 50% anode efficiency

Design conforms to the following standards:
 National Association of Corrosion Engineers (NACE)
 Standard Recommended Practice SP 0169 latest revis



NOTES on anode dimensions: Bare anode dimensions were considered due to the fact that the life of the anode is more dependent on the actual anode size than the packaging backfill.

The backfill may leech into surrounding earth as time progresses, which will cause depletion not related to the anode performance or cathodic protection mechanisms.

Other than erosion / leaching effects described above, the anode backfill is NOT consumable and will remain stable throughout the operational life of the anode.

Dwight's formula, utilized above, does not consider the inherent resistivity of the backfill.

For this reason, bare anode dimensions, when factored into the calculations, offer more conservative estimates as to the number of anodes required.

CorrTech Inc., Groundbed Design Worksheet
 NYC DDC Water Trunk Main Cathodic Protection

Client: NYC DDC Project: BED-776
 Date: 8/14/18 MOTHER GASTON BLVD TO JUNIUS ST.
 Description: 1123-ft of 48-in Water Trunk Main
 Segment: 3

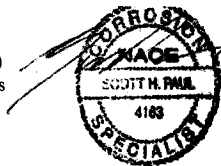
Structure Calculations		ENTER	SURFACE AREA
Length of pipe	ft	1087.32	13,657 ft ²
Diameter	ft	4	
Length of pipe	ft		0 ft ²
Diameter	ft		
			<hr/>
			13,657 ft ²

Circuit Calculations			
Soil Resistivity (ohm-cm)		17,500 ohm-cm	*average of 2 resistivities
Coating Quality (% bare)		1.00%	
Pipe Surface requiring protection		136.57 FT ²	
Pipe electrically isolated (yes/no)		yes	
Coating quality OHM-FT ²		25000 OHM-FT ²	
Pipe to Earth Resistance		1.83 OHM	
Theoretical Current Required (ma/ft ²)		1.5 mA/ft ²	
Theoretical Current Requirements		0.2049 AMPS	0.163881

Anode Parameters			Individual anode resistance
Anode Type		Magnesium anode, prepackaged	20.11 square of S2+L2 factor
Anode Weight (lbs)		17	43.25 resistivity x .0052 factor
Anode Metal Diameter (feet)		0.292 see notes below	1.51 log value
Anode Metal Length (feet)		2.104 see notes below	104.27 Horizontal anode resistance
2 time anode depth (feet)		20	131.95 Vertical anode resistance

Circuit Resistance Current Requirements			
Anode Resistance to Earth	plug in Resistance value	104.27	OHMS
Driving Potential (v)		0.9	VOLTS
Individual anode output		0.009	AMPS
Number of anodes to be installed		45	Check Between 0% and 25%
Total circuit resistance		4.15	-5.92% Yes
Current output of system		0.2170	OHMS
Consumption Rate (lb/A-yr)		17.00	AMPS
			Gnd Beds 3
Anode life based on anodes to be installed		103.69	YEARS
			considers 50% anode efficiency

Design conforms to the following standards:
 National Association of Corrosion Engineers (NACE)
 Standard Recommended Practice SP 0169 latest revis



NOTES on anode dimensions: Bare anode dimensions were considered due to the fact that the life of the anode is more dependent on the actual anode size than the packaging backfill.

The backfill may leech into surrounding earth as time progresses, which will cause depletion not related to the anode performance or cathodic protection mechanisms.

Other than erosion / leeching effects described above, the anode backfill is NOT consumable and will remain stable throughout the operational life of the anode.

Dwight's formula, utilized above, does not consider the inherent resistivity of the backfill.

For this reason, bare anode dimensions, when factored into the calculations, offer more conservative estimates as to the number of anodes required.

CorrTech Inc., Groundbed Design Worksheet
 NYC DDC Water Trunk Main Cathodic Protection

Client: NYC DDC Project: BED-776
 Date: 8/14/18
 Description: 36-ft of 48-in Water Trunk Main NEW YORK EAST AVE. AND JUNIUS ST.
 Segment: 4

Structure Calculations		ENTER	SURFACE AREA
Length of pipe	ft	36.48	458 ft ²
Diameter	ft	4	
Length of pipe	ft		0 ft ²
Diameter	ft		
			<hr/> 458 ft ²
Circuit Calculations			
Soil Resistivity (ohm-cm)		32,000 ohm-cm	* average of 1 resistivities
Coating Quality (% bare)		1.00%	
Pipe Surface requiring protection		4.58 FT ²	
Pipe electrically isolated (yes/no)		yes	
Coating quality OHM-FT ²		25000 OHM-FT ²	
Pipe to Earth Resistance		54.56 OHM	
Theoretical Current Required (ma/ft ²)		1.5 mA/ft ²	
Theoretical Current Requirements		0.0069 AMPS	0.005498

Anode Parameters		Individual anode resistance
Anode Type	Magnesium anode, prepackaged	20.11 square of S ₂ +L ₂ factor
Anode Weight (lbs)	17	79.08 resistivity x .0052 factor
Anode Metal Diameter (feet)	0.292 see notes below	1.51 log value
Anode Metal Length (feet)	2.104 see notes below	190.67 Horizontal anode resistance
2 time anode depth (feet)	20	241.27 Vertical anode resistance

Circuit Resistance Current Requirements			
Anode Resistance to Earth	plug in Resistance value	190.67	OHMS
Driving Potential (v)		0.9	VOLTS
Individual anode output		0.005	AMPS
Number of anodes to be installed		2	
Total circuit resistance		149.90	OHMS
Current output of system		0.0060	AMPS
Consumption Rate (lb/A-yr)		17.00	
Anode life based on anodes to be installed		166.55 YEARS	considers 50% anode efficiency

Design conforms to the following standards:
 National Association of Corrosion Engineers (NACE)
 Standard Recommended Practice SP 0169 latest revis



NOTES on anode dimensions: Bare anode dimensions were considered due to the fact that the life of the anode is more dependent on the actual anode size than the packaging backfill.

The backfill may leech into surrounding earth as time progresses, which will cause depletion not related to the anode performance or cathodic protection mechanisms.

Other than erosion / leeching effects described above, the anode backfill is NOT consumable and will remain stable throughout the operational life of the anode.

Dwight's formula, utilized above, does not consider the inherent resistivity of the backfill.

For this reason, bare anode dimensions, when factored into the calculations, offer more conservative estimates as to the number of anodes required.

CorrTech Inc., Groundbed Design Worksheet
 NYC DDC Water Trunk Main Cathodic Protection

Client: NYC DDC Project: BED-776
 Date: 8/14/18 ATLANTIC AVE. TO WILLIAMS AVE.
 Description: 459-ft of 48-in Water Trunk Main
 Segment: 5

Structure Calculations		ENTER	SURFACE AREA
Length of pipe	ft	459.89	5,776 ft ²
Diameter	ft	4	
Length of pipe	ft		0 ft ²
Diameter	ft		
			5,776 ft ²

Circuit Calculations		
Soil Resistivity (ohm-cm)	22,000 ohm-cm	*average of 3 resistivities
Coating Quality (% bare)	1.00%	
Pipe Surface requiring protection	57.76 FT ²	
Pipe electrically isolated (yes/no)	yes	
Coating quality OHM-FT ²	25000 OHM-FT ²	
Pipe to Earth Resistance	4.33 OHM	
Theoretical Current Required (ma/ft ²)	1.5 mA/ft ²	
Theoretical Current Requirements	0.0866 AMPS	0.069315

Anode Parameters		Individual anode resistance	
Anode Type	Magnesium anode, prepackaged	20.11	square of S ² +L ² factor
Anode Weight (lbs)	17	54.37	resistivity x .0052 factor
Anode Metal Diameter (feet)	0.292 see notes below	1.51	log value
Anode Metal Length (feet)	2.104 see notes below	131.08	Horizontal anode resistance
2 time anode depth (feet)	20	165.88	Vertical anode resistance

Circuit Resistance Current Requirements			
Anode Resistance to Earth	plug in Resistance value	131.08	OHMS
Driving Potential (v)		0.9	VOLTS
Individual anode output		0.007	AMPS
Number of anodes to be installed		30	
Total circuit resistance		8.70	OHMS
Current output of system		0.1035	AMPS
Consumption Rate (lb/A-yr)		17.00	
Anode life based on anodes to be installed		144.96	YEARS
			considers 50% anode efficiency

Design conforms to the following standards:
 National Association of Corrosion Engineers (NACE)
 Standard Recommended Practice SP 0169 latest revis



NOTES on anode dimensions: Bare anode dimensions were considered due to the fact that the life of the anode is more dependent on the actual anode size than the packaging backfill.

The backfill may leech into surrounding earth as time progresses, which will cause depletion not related to the anode performance or cathodic protection mechanisms.

Other than erosion / leeching effects described above, the anode backfill is NOT consumable and will remain stable throughout the operational life of the anode.

Dwight's formula, utilized above, does not consider the inherent resistivity of the backfill.

For this reason, bare anode dimensions, when factored into the calculations, offer more conservative estimates as to the number of anodes required.

CorrTech Inc., Groundbed Design Worksheet
 NYC DDC Water Trunk Main Cathodic Protection

Client: NYC DDC Project: BED-776
 Date: 8/14/18 JAMAICA AVE. FROM WILLIAMS
 Description: 1537-ft of 48-in Water Trunk Main AVE. TO VERMONT ST.
 Segment: 6

Structure Calculations		ENTER	SURFACE AREA
Length of pipe	ft	1537.94	19,317 ft ²
Diameter	ft	4	
Length of pipe	ft		0 ft ²
Diameter	ft		
			19,317 ft ²

Circuit Calculations			*average of 5 resistivities
Soil Resistivity (ohm-cm)		22,000 ohm-cm	
Coating Quality (% bare)		1.00%	
Pipe Surface requiring protection		193.17 FT ²	
Pipe electrically isolated (yes/no)		yes	
Coating quality OHM-FT ²		25000 OHM-FT ²	
Pipe to Earth Resistance		1.29 OHM	
Theoretical Current Required (ma/ft ²)		1.5 mA/ft ²	
Theoretical Current Requirements		0.2897 AMPS	0.231798

Anode Parameters			Individual anode resistance
Anode Type		Magnesium anode, prepackaged	20.11 square of S2+L2 factor
Anode Weight (lbs)		17	54.37 resistivity x .0052 factor
Anode Metal Diameter (feet)		0.292 see notes below	1.51 log value
Anode Metal Length (feet)		2.104 see notes below	131.08 Horizontal anode resistance
2 time anode depth (feet)		20	165.88 Vertical anode resistance

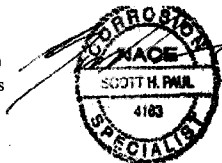
Circuit Resistance Current Requirements			
Anode Resistance to Earth	plug in Resistance value	131.08	OHMS
Driving Potential (v)		0.9	VOLTS
Individual anode output		0.007	AMPS
Number of anodes to be installed		60	
Total circuit resistance		3.48	OHMS
Current output of system		0.2587	AMPS
Consumption Rate (lb/A-yr)		17.00	

Check Between 0% and 25%
 10.72% Yes

Gnd Beds 4

Anode life based on anodes to be installed 115.96 YEARS considers 50% anode efficiency

Design conforms to the following standards:
 National Association of Corrosion Engineers (NACE)
 Standard Recommended Practice SP 0169 latest revis



NOTES on anode dimensions: Bare anode dimensions were considered due to the fact that the life of the anode is more dependent on the actual anode size than the packaging backfill.

The backfill may leech into surrounding earth as time progresses, which will cause depletion not related to the anode performance or cathodic protection mechanisms.

Other than erosion / leeching effects described above, the anode backfill is NOT consumable and will remain stable throughout the operational life of the anode.

Dwight's formula, utilized above, does not consider the inherent resistivity of the backfill.

For this reason, bare anode dimensions, when factored into the calculations, offer more conservative estimates as to the number of anodes required.

APPENDIX II

Cathodic Protection Design Drawings

BED-776-CP-1 through BED-776-CP-9
BED-776-CPD-1 through BED-776-CPD-3

MATCHLINE A



EAST NEW YORK AVE.

LINCOLN PL.

LEGION ST.

PITKIN AVE.

GRAFTON ST.

NEW 48" WATER MAIN

HOWARD AVE.

PITKIN AVE.

TAPSCOTT ST.

BED776-TS-7
ANODES
WITH 10 ANODES
(SEGMENT 2)

BED776-TS-8
ANODE GROUNDING
WITH 10 ANODES
(SEGMENT 3)

BED776-TS-4
JOB
(BONDED)

EXISTING 48" PIPE
(EXISTING HAS CATHODIC PROTECTION)

BED776-TS-1
JOB

BED776-TS-2
ANODE GROUNDING
WITH 10 ANODES
(SEGMENT 4)

BED776-TS-3
BUTTERFLY VALVE
INSTALL 2 ANODES AND
CONNECT TO T

BED776-TS-4
BUTTERFLY VALVE

NO.	DATE	DESCRIPTIONS	BY

CATHODIC PROTECTION SYSTEM	
DATE: 8/18/13	SCALE: 1" = 10'
DESIGNER: J. B. BROWN	SHEET NUMBER: 0
DRAWN: J. B. BROWN	TOTAL SHEETS: 0

CLIENT: BUREAU OF DESIGN & CONSTRUCTION
 DEPARTMENT OF INFRASTRUCTURE
 BUREAU OF DESIGN

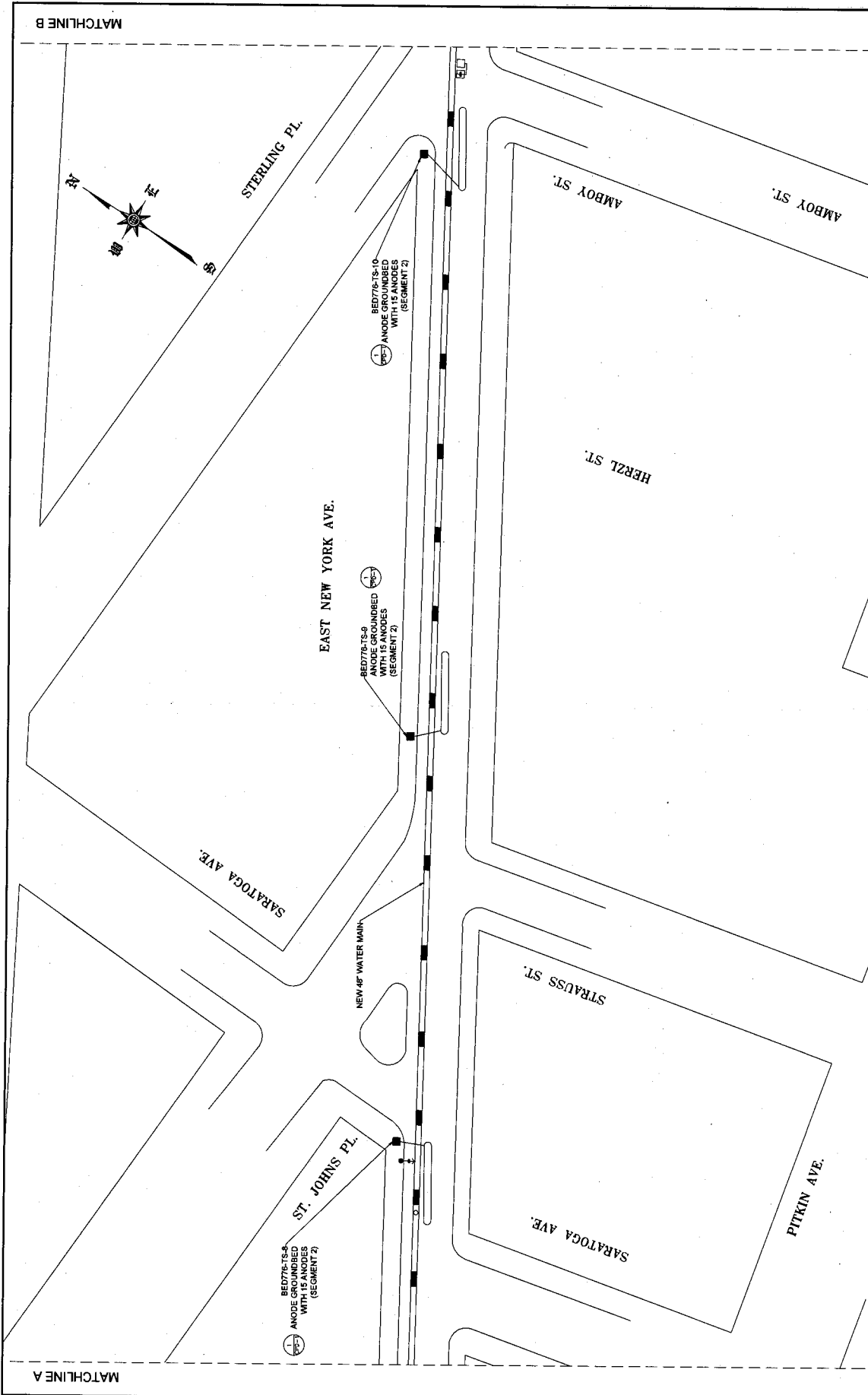
INSTALLATION OF 48" TRUNK WATER MAIN IN EAST
 NEW YORK AVE. & JAMAICA AVE.
 BOROUGH OF BROOKLYN

DESIGNED BY: SCOTT ZAM
 DRAWN BY: J. B. BROWN
 CHECKED BY: J. B. BROWN



25 SOUTH STREET
 BOSTON, MA 02116
 www.corrtech.com

CORRTECH
 CORROSION UNDERSTOOD



NO.	DATE	DESCRIPTION	BY

CATHODIC PROTECTION SYSTEM
 DATE: 8/10/16
 DRAWING NUMBER: BED-776-CP-2
 SHEET NUMBER: 2 OF 12
 REV: 0

CLIENT:
 DEPARTMENT OF DESIGN & CONSTRUCTION
 DIVISION OF INFRASTRUCTURE
 BUREAU OF DESIGN

INSTALLATION OF 48" TRUNK WATER MAIN IN EAST NEW YORK AVE. & JAMAICA AVE.
 BOROUGH OF BROOKLYN

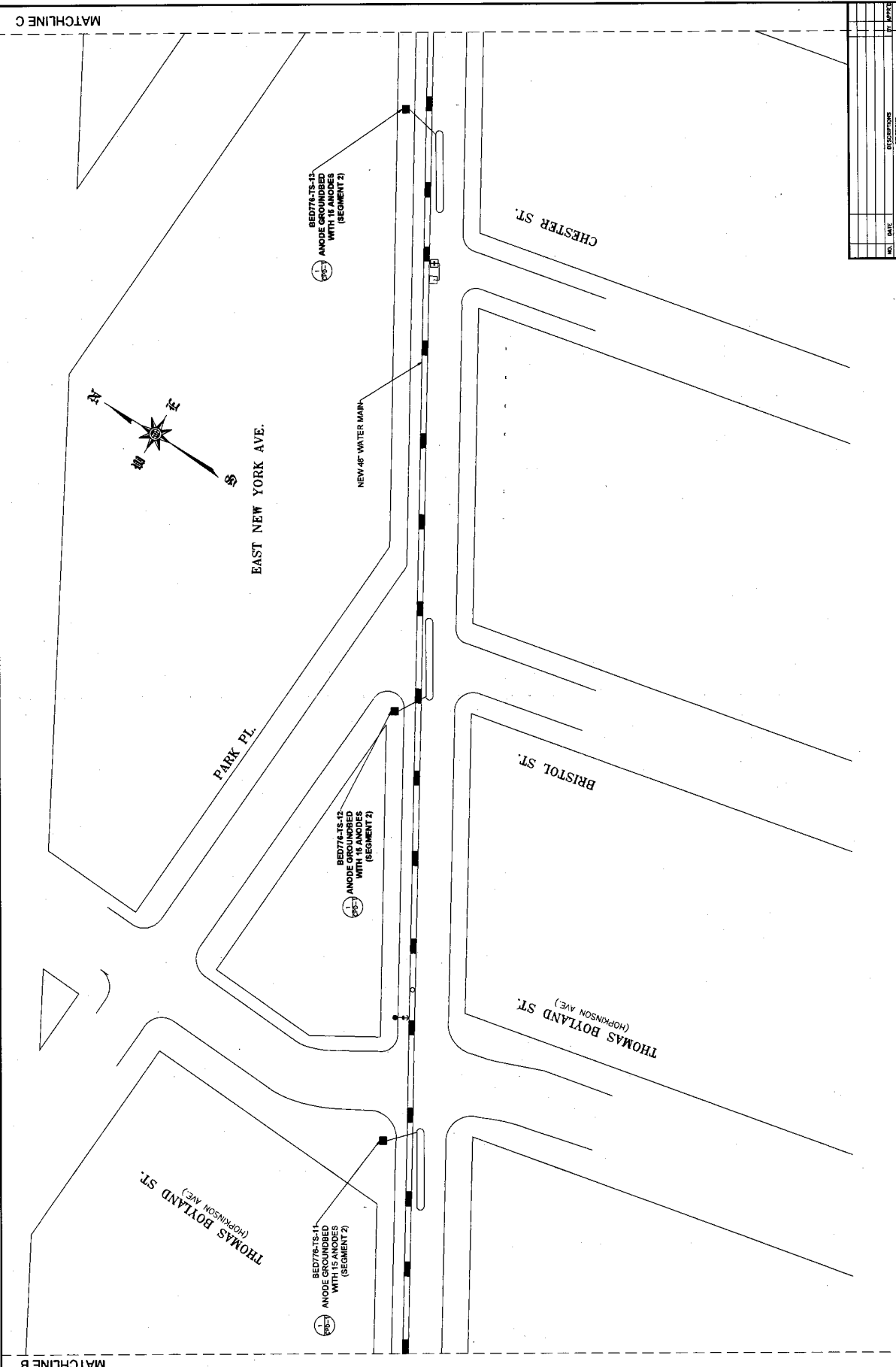
ENGINEER-IN-CHARGE
 DIRECTOR



DESIGNED BY: SCOTT ZHAI
 DRAWN BY: ROBERT LELU
 CHECKED BY: BAL BUN

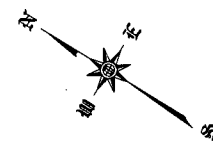
25 SOUTH STREET
 BROOKLYN, NY 11211
 WWW.CORRTECH-INC.COM

CORRTECH
 CORROSION UNDERSTOOD



MATCHLINE C

MATCHLINE B



EAST NEW YORK AVE.

PARK PL.

THOMAS BOYLAND ST.
(HOPKINSON AVE.)

BRISTOL ST.

THOMAS BOYLAND ST.
(HOPKINSON AVE.)

CHESTER ST.

BED76-TS-11
ANODE GROUNDED
WITH 16 ANODES
(SEGMENT 2)

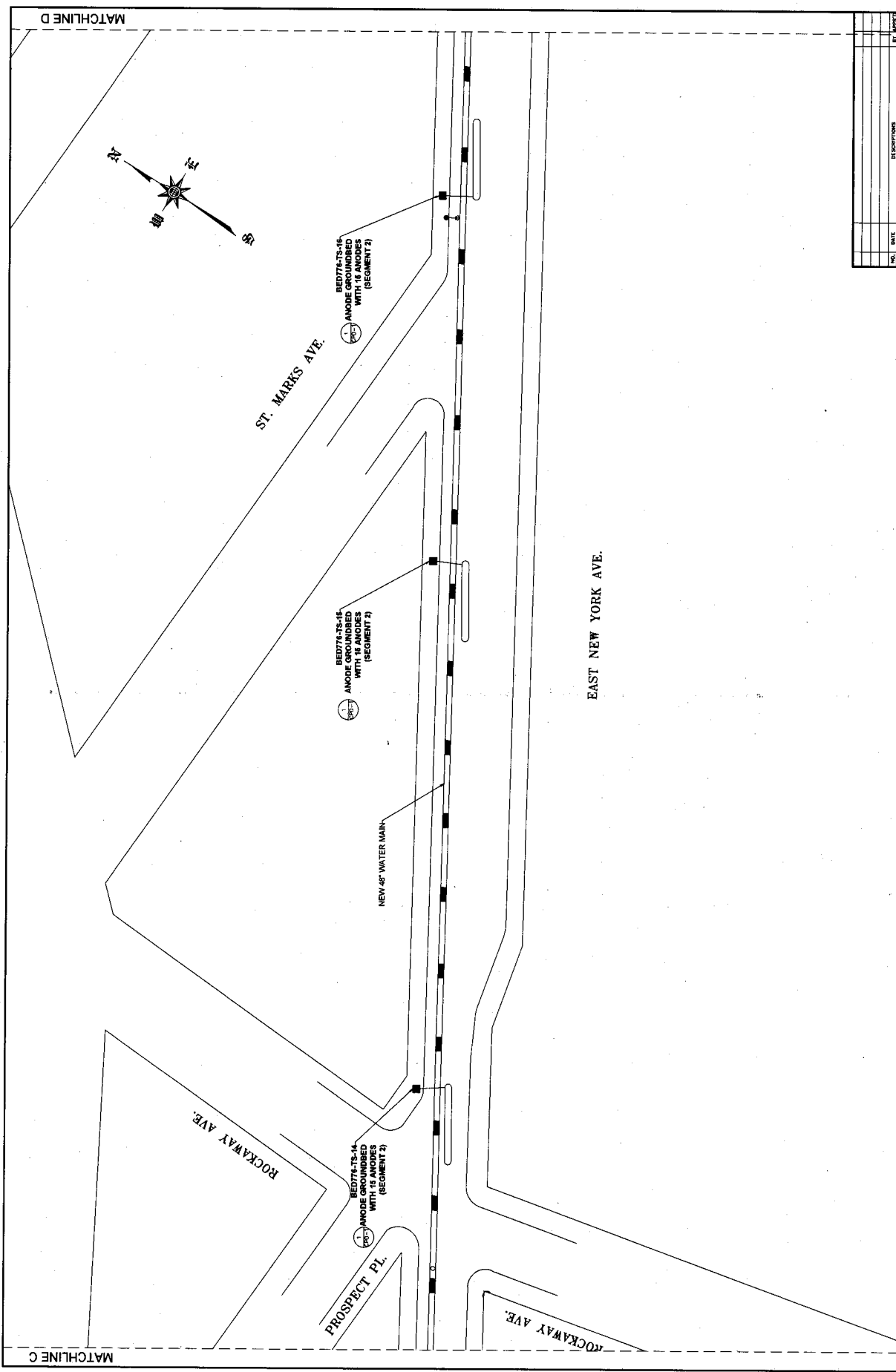
BED76-TS-12
ANODE GROUNDED
WITH 16 ANODES
(SEGMENT 2)

BED76-TS-13
ANODE GROUNDED
WITH 16 ANODES
(SEGMENT 2)

NEW 48" WATER MAIN

	DESIGNER: SCOTT FAIN DRAWN: JEROME LUKU CHECKED: DAL BUN	CLIENT: DEPARTMENT OF DESIGN & CONSTRUCTION DIVISION OF INFRASTRUCTURE BUREAU OF DESIGN	PROJECT NUMBER: 2019-01-001	PROJECT NAME: INSTALLATION OF 48" TRUNK WATER MAIN IN EAST NEW YORK AVE. & JAMAICA AVE. BOROUGH OF BROOKLYN	PROJECT TYPE: CATHODIC PROTECTION SYSTEM
	25 SOUTH STREET BROOKLYN, NY 11214 WWW.CORRTECH-INC.COM	DATE: 07/10/18	DRAWING NUMBER: 2019-01-001-03	SHEET NUMBER: 3 OF 12	DATE: 07/10/18

CORRTECH
CORROSION UNDERFOOT



15 SOUTH STREET
 NEW YORK, NY 10038
 (212) 633-6996
 www.corrtech-usa.com

DESIGNED: SCOTT PAUL
 DRAWN: BRIGGS LUDL
 CHECKED: PAT BLUM



ENGINEER-IN-CHARGE
 PROJECT

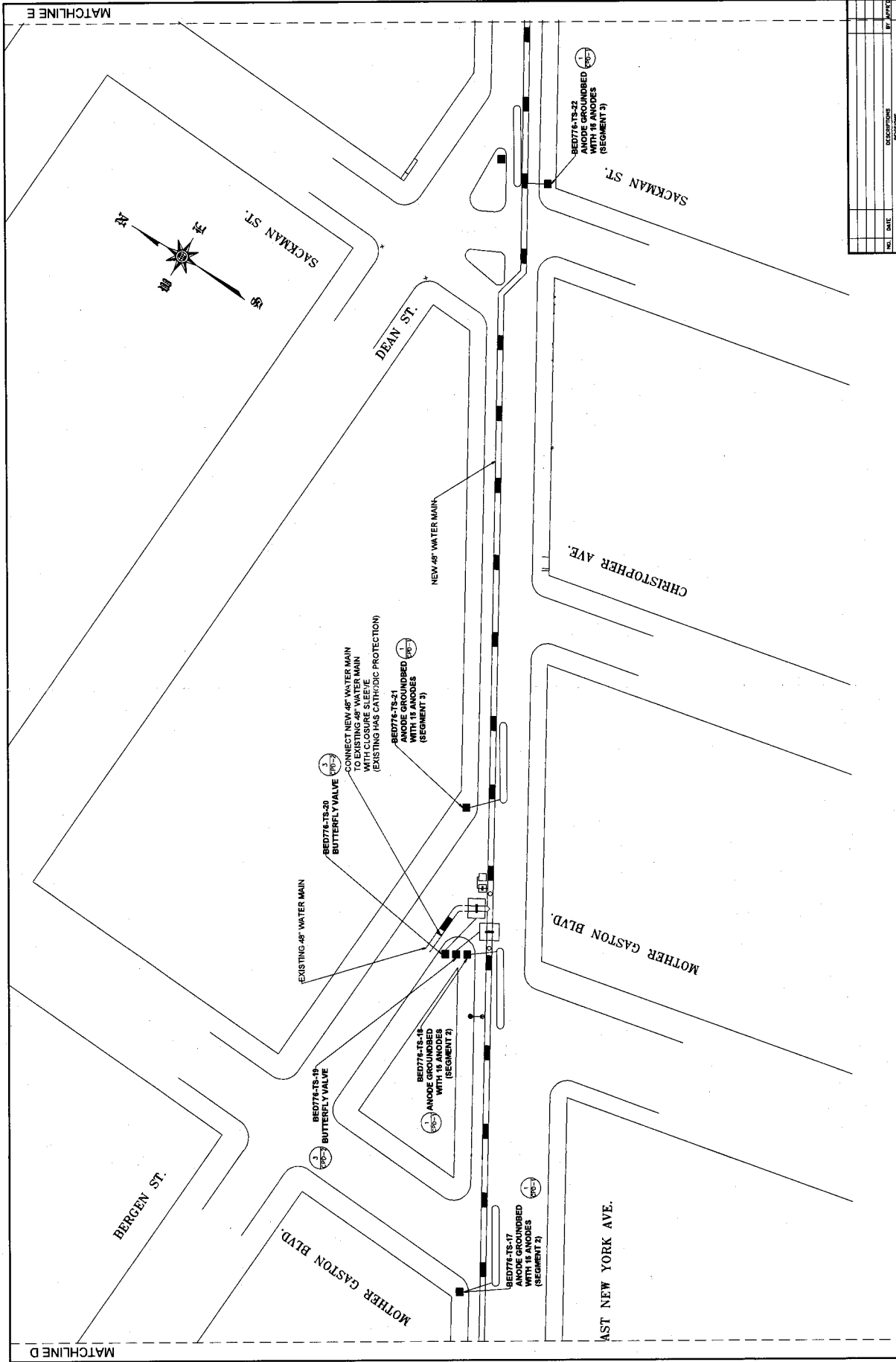
CLIENT:
 DEPARTMENT OF DESIGN & CONSTRUCTION
 DIVISION OF INFRASTRUCTURE
 BUREAU OF DESIGN

INSTALLATION OF 48" TRUNK WATER MAIN IN EAST
 NEW YORK AVE. & JAMAICA AVE.
 BOROUGH OF BROOKLYN

NO.	DATE	DESCRIPTIONS	BY	MARK

CATHODIC PROTECTION SYSTEM

DATE: 12/16/16 DRAWING NUMBER: BED-776-CP 4 SHEET NUMBER: 4 OF 12 REV: 0



MATCHLINE E

MATCHLINE D



NO.	DATE	DESCRIPTION	BY	DATE

CATHODIC PROTECTION SYSTEM
 DATE: 8/7/18
 DRAWING NUMBER: BED-774-CP-5
 SHEET NUMBER: 5 OF 12
 REV: 0

INSTALLATION OF 48" TRUNK WATER MAIN IN EAST NEW YORK AVE. & JAMAICA AVE.
 BOROUGH OF BROOKLYN

CLIENT:
 DEPARTMENT OF DESIGN & CONSTRUCTION
 DIVISION OF INFRASTRUCTURE
 BUREAU OF DESIGN

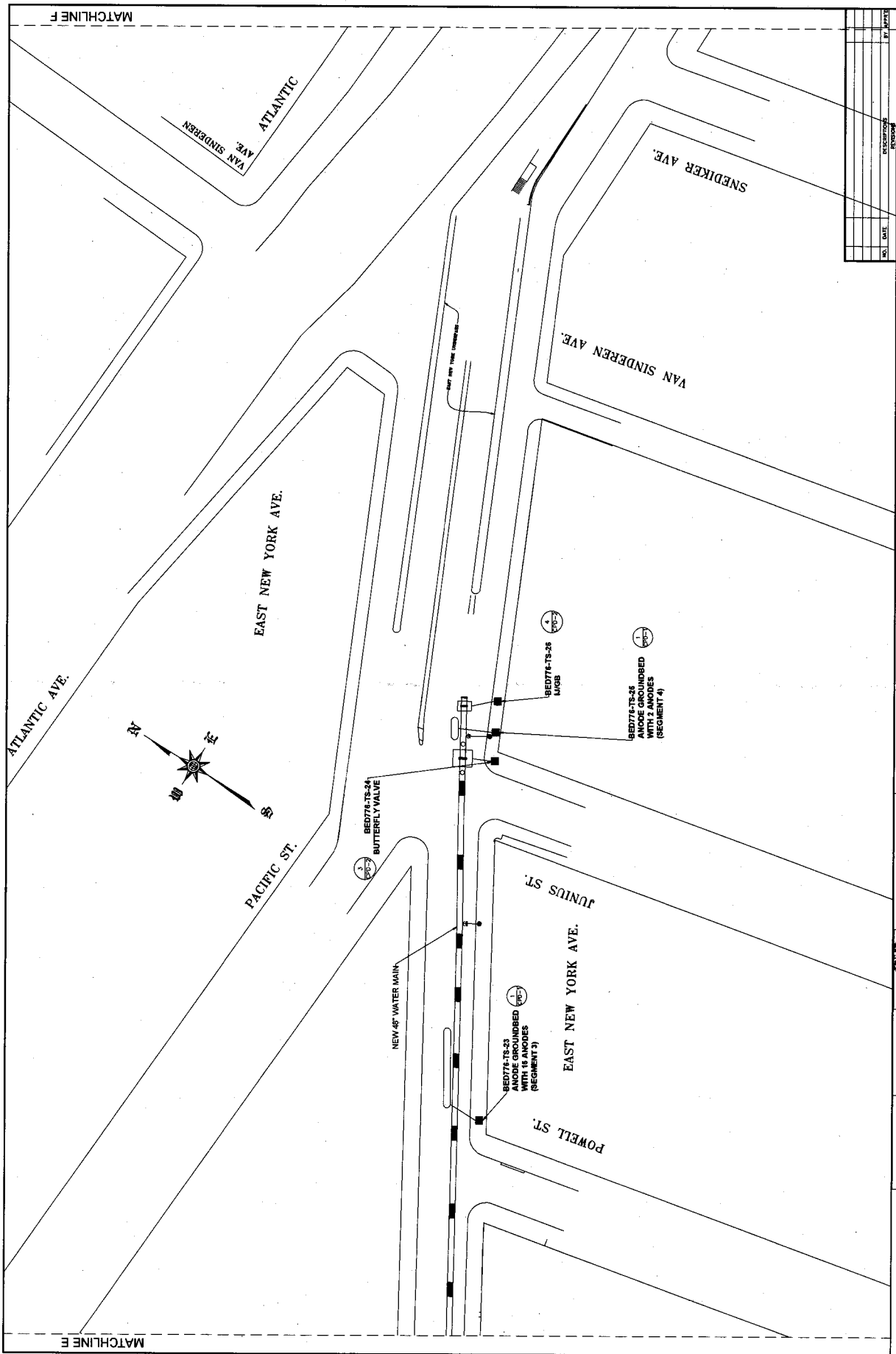
DESIGNED BY: SCOTT ZAHN
 CHECKED BY: GREGORY LILLI
 ENGINEER-IN-CHARGE
 DIRECTOR



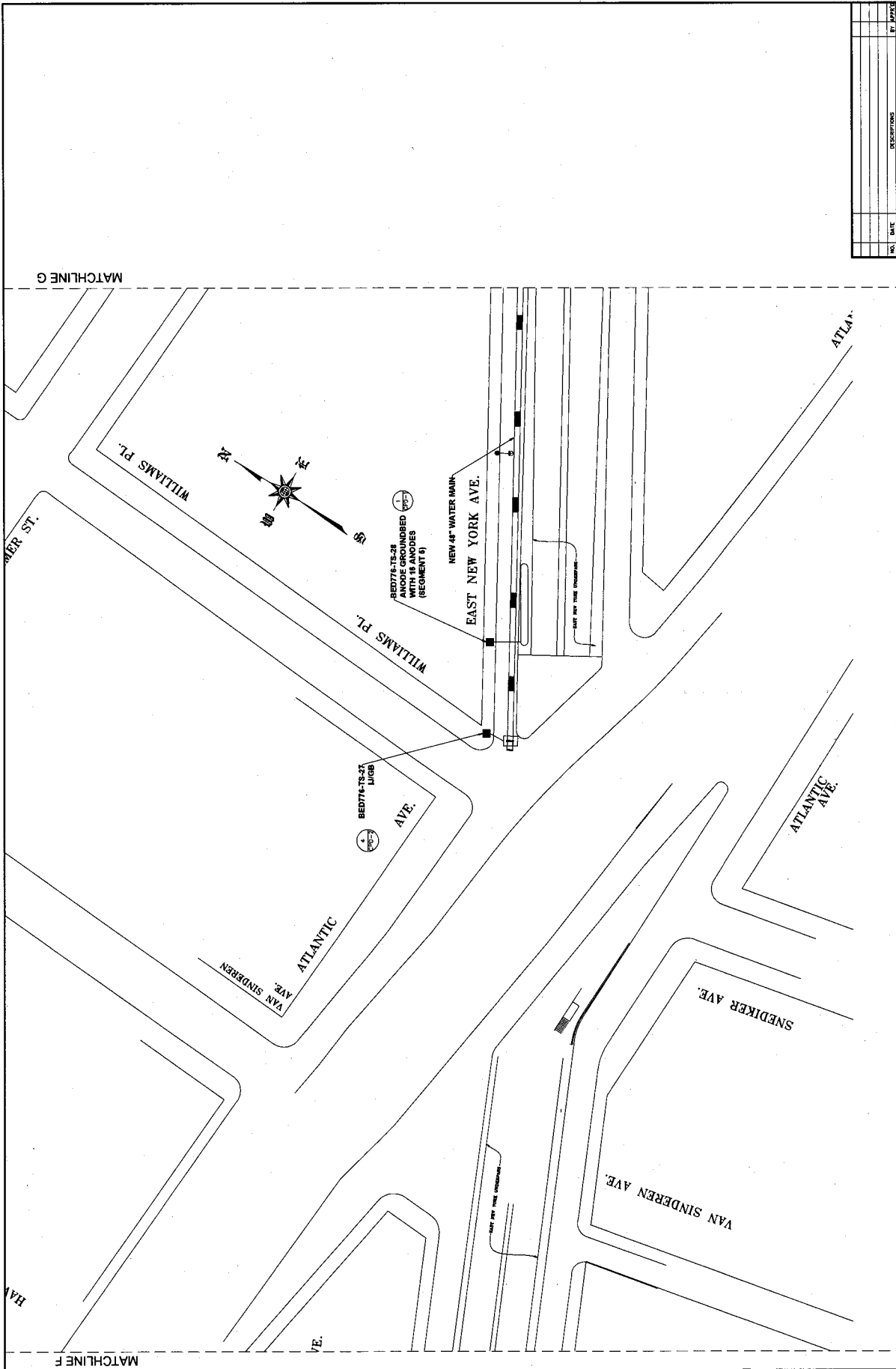
DESIGNED BY: SCOTT ZAHN
 CHECKED BY: GREGORY LILLI
 ENGINEER-IN-CHARGE
 DIRECTOR

15 JAMES STREET
 BROOKLYN, NY 11201
 (718) 453-0000
 www.corrtech-usa.com

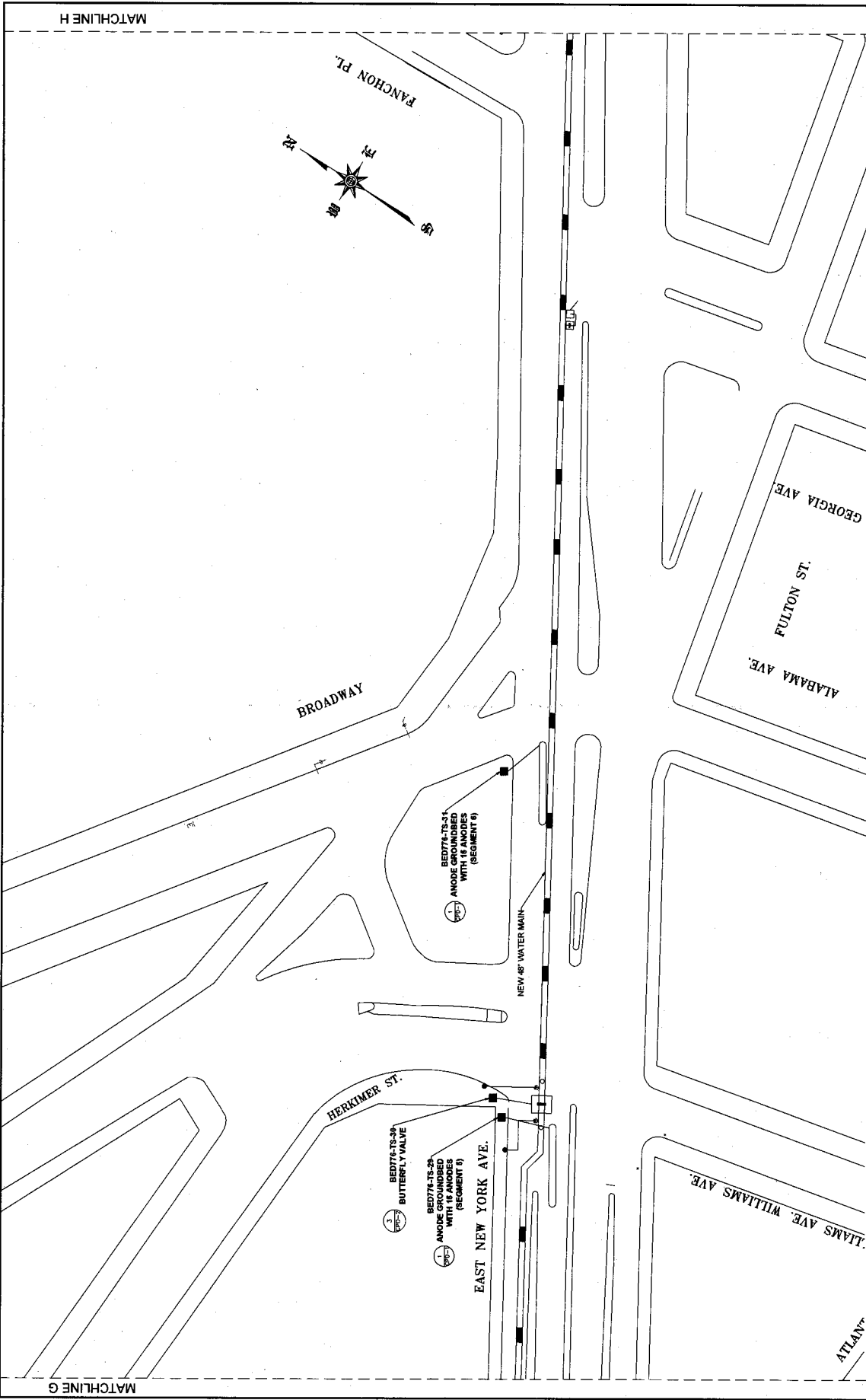




	25 SOUTH STREET (206) 435-0000 www.corrtech-inc.com	RESPOND, SOLVE FAST! BURNHAM, SEARS & LIDL OPERATIONAL EXCELLENCE		SCOTT PAUL ENGINEER-IN-CHARGE DIRECTOR	CLIENT DEPARTMENT OF DESIGN & CONSTRUCTION DIVISION OF INFRASTRUCTURE BUREAU OF DESIGN	PROJECT INSTALLATION OF 48" TRUNK WATER MAIN IN EAST NEW YORK AVE. & JAMAICA AVE. BOROUGH OF BROOKLYN	DATE 9/15/10	DRAWING NUMBER BED-776-CP-6	SHEET NUMBER 6 OF 12	REV. 0
	REVISIONS NO. DATE DESCRIPTION BY MARK									



NO.	DATE	DESCRIPTIONS	BY	DATE



MATCHLINE H

MATCHLINE G

NO.	DATE	DESCRIPTIONS	BY

CATHODIC PROTECTION SYSTEM
 DATE: 6/19/18
 DRAWING NUMBER: BED-776-CP-8
 SHEET NUMBER: 8 OF 12
 REV: 0

INSTALLATION OF 48" TRUNK WATER MAIN IN EAST NEW YORK AVE. & JAMAICA AVE.
 Borough of Brooklyn

CLIENT:
 DEPARTMENT OF DESIGN & CONSTRUCTION
 DIVISION OF INFRASTRUCTURE
 BUREAU OF DESIGN

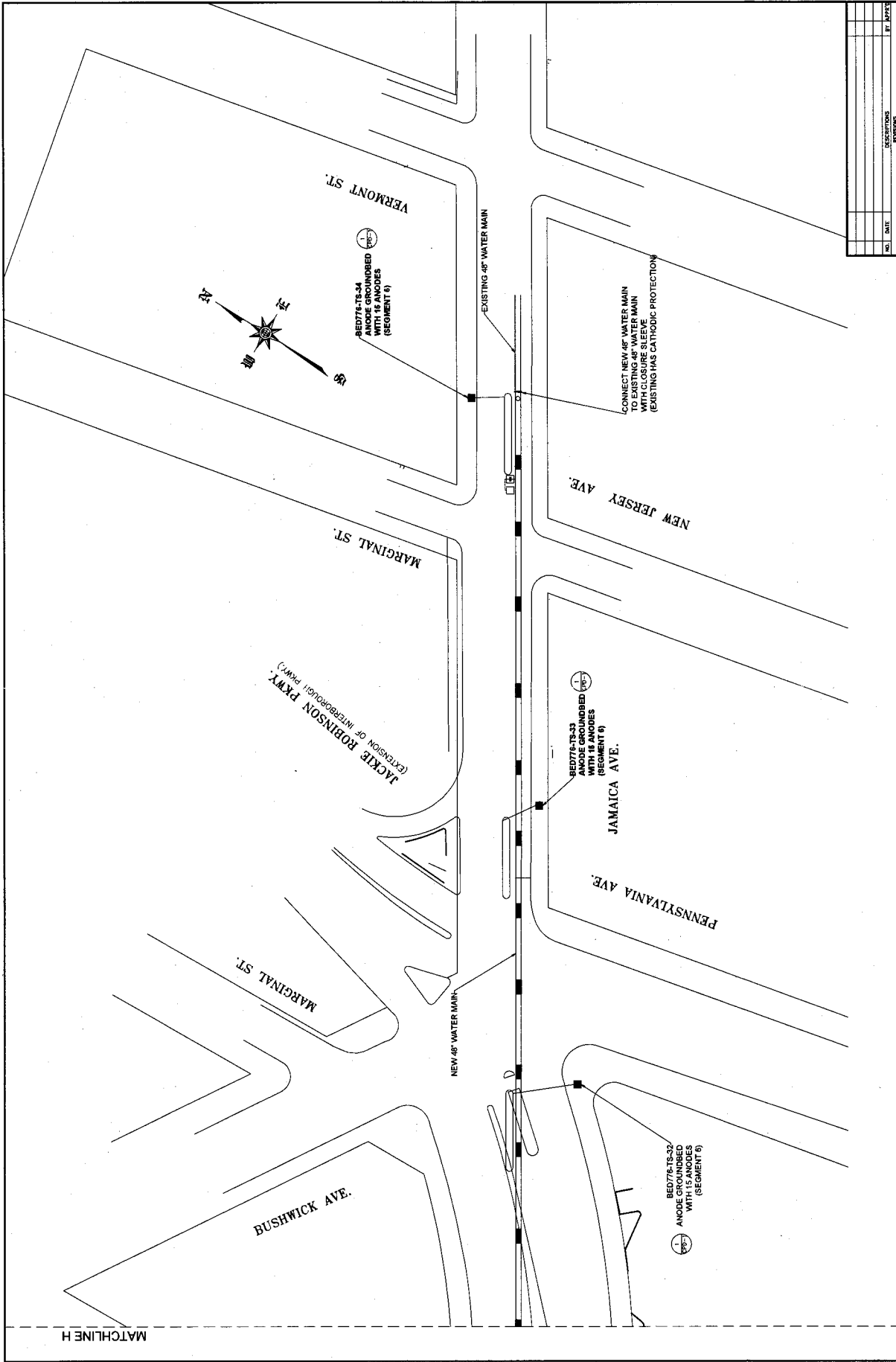
DESIGNED BY: CHASE
 CHECKED BY: BUN
 DIRECTOR



RICHARD SCOTT ZINK
 ENGINEER
 23 SOUTH STREET
 BROOKLYN, NY 11201
 WWW.CORRTECH-INC.COM

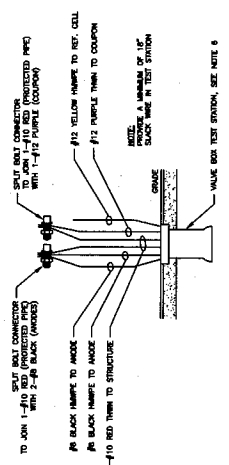
23 SOUTH STREET
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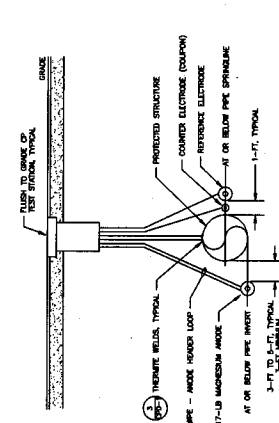


CORRTECH CONSTRUCTION UNDERSTOOD	25 SOUTH STREET CORPORATION, MA 01748 800-452-6262 www.corrtech.com	DRAWING: SCOTT JAMM DRAWN: ROBERT LELU CHECKED: PAUL BLUM		EXAMINED BY: CHAIRMAN DIRECTOR	CLIENT: DEPARTMENT OF DESIGN & CONSTRUCTION DIVISION OF INFRASTRUCTURE BUREAU OF DESIGN	BROUGH OF BROOKLYN INSTALLATION OF 48" TRUNK WATER MAIN IN EAST NEW YORK AVE. & JAMAICA AVE.	CATHODIC PROTECTION SYSTEM
						DATE: 12/16/18 DRAWING NUMBER: BE0-776-CP-9 SHEET NUMBER: 9 OF 12 REV: 0	

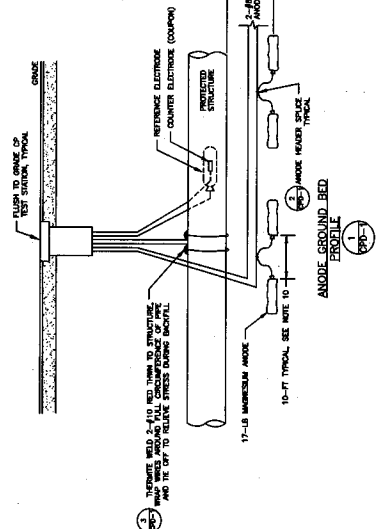
NO.	DATE	DESCRIPTIONS	BY: APPROV.



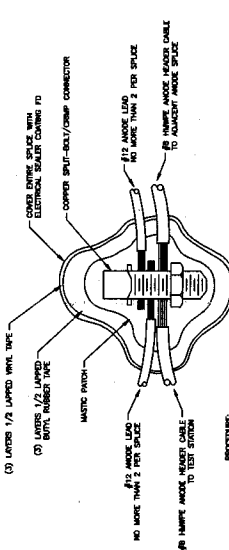
ANODE GROUNDING TEST STATION WIRING



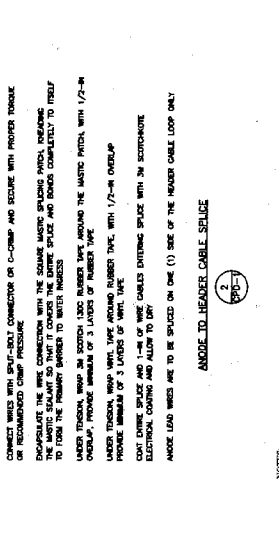
ANODE TO HEADER CABLE SPLICE



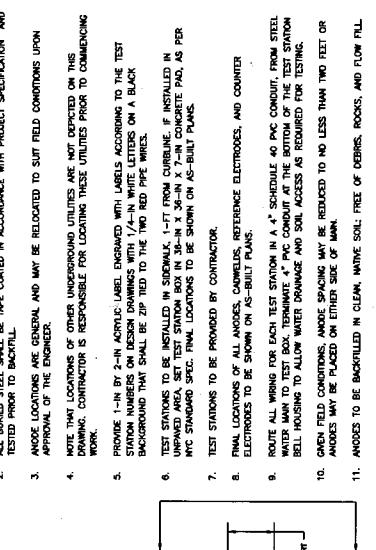
INSULATING FLANGE TEST STATION WIRING



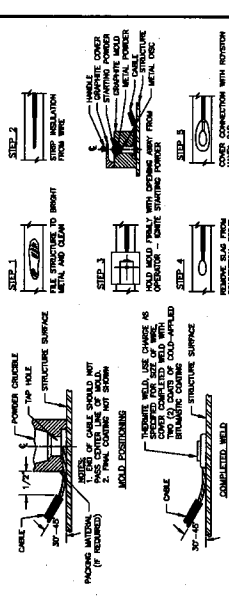
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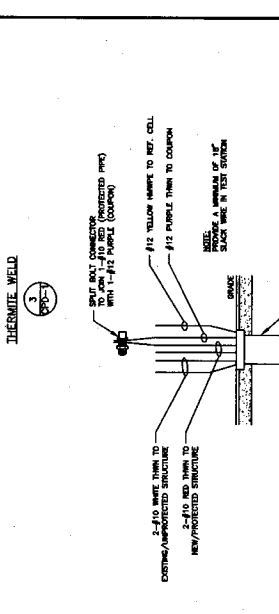
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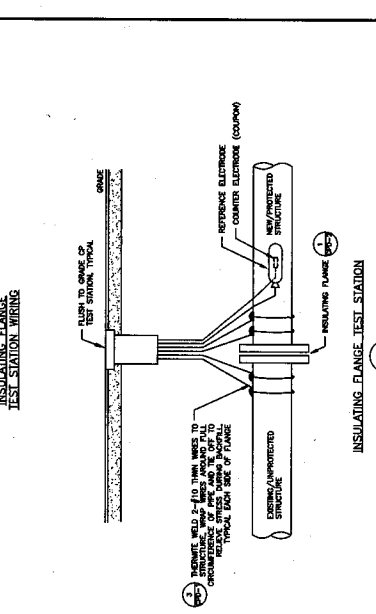
INSULATING FLANGE TEST STATION



CONNECTING CABLE TO STRUCTURE



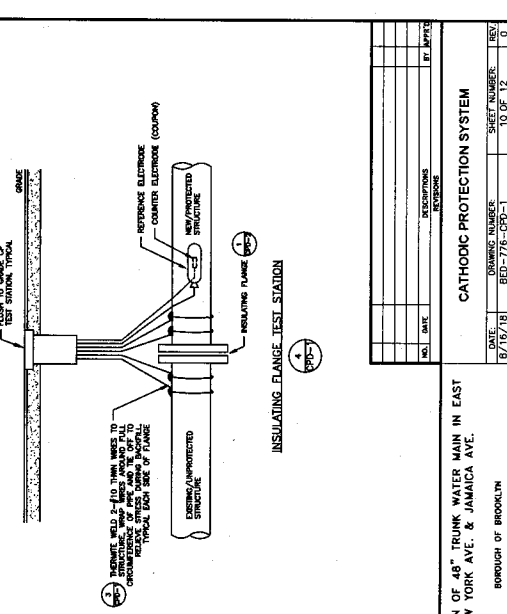
CONNECTING CABLE TO STRUCTURE



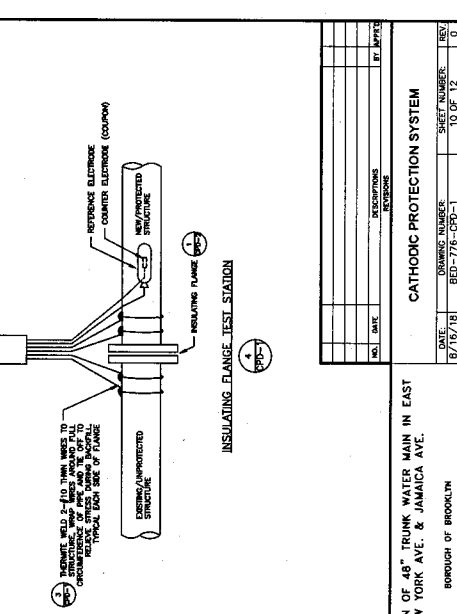
CONNECTING CABLE TO STRUCTURE

- PROCEDURE:
1. CUT BACK CABLE INSULATION TO SUITABLE LENGTH WITHOUT REMOVING COPPER WIRE STRANDS
 2. SAND CABLE INSULATION ALONG 3-IN FROM END OF THE WIRE
 3. CONNECT WIRES WITH SPLIT-BOLT CONNECTOR OR C-CRIMP AND SECURE WITH PROPER TORQUE
 4. COVER WITH PROTECTIVE SHEATHING
 5. ENCASE THE WIRE ASSEMBLY WITH THE SAME MORTAR MIXTURE AS USED FOR THE ANODES
 6. THE MORTAR SHALL BE APPLIED TO THE ENTIRE SURFACE AND BLENDED SMOOTHLY TO ITSELF TO FORM THE PRIMARY BARRIER TO WATER INGRESS
 7. UNDER TORQUES, MOUNT THE ANODES TO THE MASTIC PATCH WITH 1/2-IN OVERLAP, PROVIDE MINIMUM OF 3 LAYERS OF NUMBER 10
 8. UNDER TORQUES, MOUNT THE ANODES TO THE MASTIC PATCH WITH 1/2-IN OVERLAP
 9. PROVIDE MINIMUM OF 3 LAYERS OF MORTAR
 10. CUT OFF EXCESS MORTAR AND 1-IN OF WIRE CABLES EXISTING SPACE WITH AN SCRAPER
 11. ELECTRODES, COUPLERS AND WELDS TO BE TESTED
 12. ANODE LEAD WIRES ARE TO BE SPACED ON ONE (1) SIDE OF THE ANODE CABLE LOOP ONLY

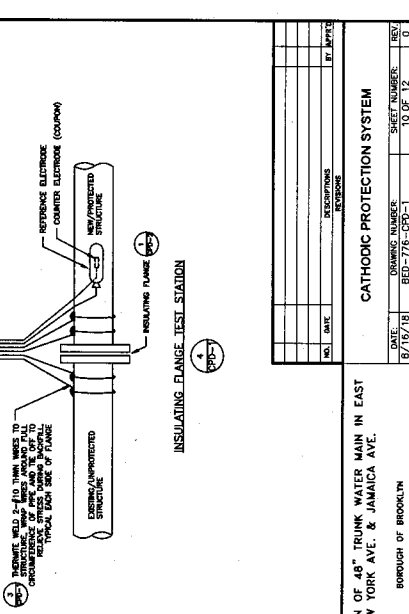
- NOTES:
1. IDENTIFY TEST STATION NUMBERS IN ACCORDANCE WITH THESE DESIGN DRAWINGS.
 2. ALL BURRED STEEL SHALL BE TYPE COATED IN ACCORDANCE WITH PROJECT SPECIFICATION AND TESTED PRIOR TO BACKFILL.
 3. ANODE LOCATIONS ARE GENERAL AND MAY BE RELOCATED TO SUIT FIELD CONDITIONS UPON APPROVAL OF THE ENGINEER.
 4. NOTE THAT LOCATIONS OF OTHER UNDERGROUND UTILITIES ARE NOT DEPICTED ON THIS DRAWING. CONTRACTOR IS RESPONSIBLE FOR LOCATING THESE UTILITIES PRIOR TO COMMENCING WORK.
 5. PROVIDE 1-IN BY 2-IN ACRYLIC LABEL ENGRAVED WITH LABELS ACCORDING TO THE TEST STATION NUMBERS ON DESIGN DRAWINGS WITH 1/4-IN WHITE LETTERS ON A BLACK BACKGROUND THAT SHALL BE EP PAINT TO THE TWO RED PIPE WIRES.
 6. TEST STATIONS TO BE INSTALLED IN SIDEWALK, 1-FT FROM CURBLINE. IF INSTALLED IN WATER MAIN TO TEST BOX TERMINATE IN AN ANODE HOUSING WITH AN ANODE HOUSING WATER HOUSING TO ALLOW WATER DRAINAGE AND SOIL ACCESS AS REQUIRED FOR TESTING.
 7. TEST STATIONS TO BE PROVIDED BY CONTRACTOR.
 8. FINAL LOCATIONS OF ALL ANODES, COUNTERS, REFERENCE ELECTRODES, AND COUNTER ELECTRODES TO BE SHOWN ON AS-BUILT PLANS.
 9. COUPLER ALL WIRING FOR EACH TEST STATION IN A 3" SCHEDULE 40 PVC CONDUIT, FROM STEEL WATER MAIN TO TEST BOX TERMINATE IN AN ANODE HOUSING WITH AN ANODE HOUSING WATER HOUSING TO ALLOW WATER DRAINAGE AND SOIL ACCESS AS REQUIRED FOR TESTING.
 10. BENCH FIELD CONDITIONS, ANODE SPACINGS MAY BE REDUCED TO NO LESS THAN TWO FEET OR ANODES MAY BE PLACED ON EITHER SIDE OF MAIN.
 11. ANODES TO BE BACKFILLED IN CLEAN, IMPURE SOIL: FREE OF DEBRIS, ROCKS, AND FLOW FILL.
 12. ANODES MAY BE PLACED ON EITHER SIDE OF PIPE AND/OR STAGGERED EITHER SIDE.



A-A GROUND BED TEST STATION PROFILE



A-A GROUND BED TEST STATION PROFILE



A-A GROUND BED TEST STATION PROFILE

NO.	DATE	DESCRIPTION	BY	APPROVED

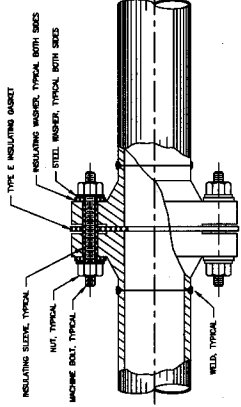
CATHODIC PROTECTION SYSTEM
 DRAWING NUMBER: BED-77E-CPO-1
 SHEET NUMBER: 10 OF 12
 DATE: 8/19/18
 CLIENT: INSTALLATION OF 48" TRUNK WATER MAIN IN EAST NEW YORK AVE. & JAMAICA AVE.
 BUREAU OF DESIGN: BUREAU OF BROOKLYN

CORRTECH
 CORROSION UNDERSTOOD

25 SOUTH STREET
 CORPORATION, MA 01748
 WWW.CORRTECH-INC.COM

DESIGNED BY: SCOTT PAUL
 DRAWN BY: GREGORY LUKU
 CHECKED BY: DAVID BLUM
 ENGINEER-IN-CHARGE
 DIRECTOR

REGISTERED PROFESSIONAL ENGINEER
 STATE OF MASSACHUSETTS
 LICENSE NO. 10000



INSULATING FLANGE WITH ANODES

FOR DIRECT BURY SOLUTION FLANGE THE FOLLOWING PROCEDURE APPLS:

THIS PROCEDURE APPLS TO ALL BURED INSULATING FLANGES

REMOVE PROTECTIVE COVERING OF INSULATED FLANGE COMPONENTS AS FOLLOWS:

THE FLANGE AND GASKET AREA OF THE INSULATING FLANGES SHALL BE FIRST TRIMED AROUND THE OUTER FLANGE EDGE WITH CHISEL TO REMOVE ALL EXCESS INSULATION.

ONCE IN PLACE OVER THE GAP OF FLANGE INTERFACE, PUNCH INSERT/EXIT HOLES IN THE FLANGE TYPE AS APPROPRIATELY 1" TO 2" INTERVALS

TRIM THE CARTRIDGE TIP FOR DESIRED BEAD

INSERT THE CARTRIDGE TIP THROUGH THE HOLE AND PUMP CHALK UNTIL COVERING FLANGE OVER BOLTS/WASHERS ON BOTH SIDES

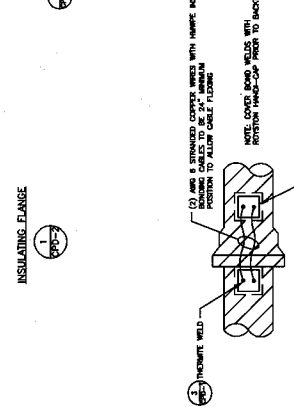
REPEAT PROCEDURE UNTIL THE SPACE BETWEEN THE FLANGES IS FILLED COMPLETELY WITH NO Voids

REMOVE FLANGE TAPE AND SMOOTH OUT CHALK MATERIAL

COVER THE FLANGE EDGES WITH COLD APPLIED SEAL AND STICK TAPE TO SEAL FLANGE/GASKET MATERIAL, DO NOT WAX THE EXPOSED AREA OF THE INSULATING FLANGE

FULL SWAP ON BOLT COVER WITH CHALK AND SWAP ON TO EACH BOLT AND NUT ASSEMBLY

INSTALL INSULATING FLANGE TEST STATION COMPONENTS AND TERMINATE IN TEST STATION



BUTTERFLY VALVE TEST STATION WIRING

2-#10 GREEN THIN VALVE BODY SOUTH OR EAST SIDE OF INSULATOR

2-#10 BLUE THIN VALVE BODY NORTH OR WEST SIDE OF INSULATOR

BUTTERFLY VALVE

INSULATING FLANGE

VALVE CHAMBER

PROTECTED STRUCTURE

HERMETIC WELD, TYPICAL - INSULATE WELD THROUGH VALVE BODY AND GASKET TO TEST STATION. TERMINATE WELD WIRE TO TEST STATION. TERMINATE WELD WIRE WITH WIRE MATH BE ATTACHED TO BARRIED PIPE SECTION AND WIRE MATH BE ATTACHED TO MECHANICALLY CONNECTED PIPE.

INSULATING FLANGE WITH ANODES

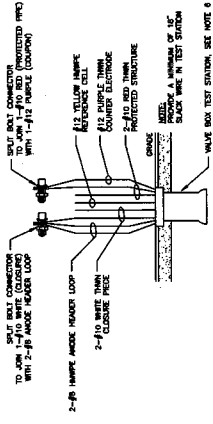
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INSULATING FLANGE JOINT TEST STATION WITH ANODES PROFILE

SPLIT BOLT CONNECTOR WITH 2-#8 ANODE HANGER LOOP

2-#8 ANODE HANGER LOOP

2-#10 WHITE THIN CLOSURE PIECE

2-#10 RED THIN PROTECTED STRUCTURE

SPLIT BOLT CONNECTOR WITH 1-#12 ANODE (COUPON) TO JOIN TO 2-#8 ANODE HANGER LOOP

1-#12 YELLOW ANODE REFERENCE CELL

2-#10 RED THIN ANODE

2-#10 RED THIN PROTECTED STRUCTURE

VALVE BOX TEST STATION, SEE NOTE 6

INSULATING FLANGE JOINT TEST STATION WITH ANODES

HERMETIC WELD, TYPICAL, INSULATE WELD THROUGH VALVE BODY AND GASKET TO TEST STATION. TERMINATE WELD WIRE TO TEST STATION. TERMINATE WELD WIRE WITH WIRE MATH BE ATTACHED TO BARRIED PIPE SECTION AND WIRE MATH BE ATTACHED TO MECHANICALLY CONNECTED PIPE.

INSULATING FLANGE WITH ANODES

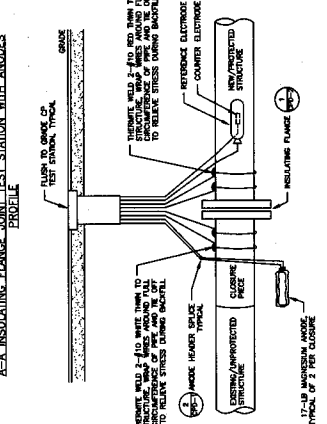
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INSULATING FLANGE JOINT TEST STATION WITH ANODES CROSS SECTION

17-1/2 INCHES ANODE AT OR BELOW PIPE CENTERLINE

3-#10 TO 5-#10, TYPICAL

A-A INSULATING FLANGE JOINT TEST STATION WITH ANODES PROFILE

17-1/2 INCHES ANODE AT OR BELOW PIPE CENTERLINE

3-#10 TO 5-#10, TYPICAL

HERMETIC WELD, TYPICAL, INSULATE WELD THROUGH VALVE BODY AND GASKET TO TEST STATION. TERMINATE WELD WIRE TO TEST STATION. TERMINATE WELD WIRE WITH WIRE MATH BE ATTACHED TO BARRIED PIPE SECTION AND WIRE MATH BE ATTACHED TO MECHANICALLY CONNECTED PIPE.

INSULATING FLANGE JOINT TEST STATION WITH ANODES

HERMETIC WELD, TYPICAL, INSULATE WELD THROUGH VALVE BODY AND GASKET TO TEST STATION. TERMINATE WELD WIRE TO TEST STATION. TERMINATE WELD WIRE WITH WIRE MATH BE ATTACHED TO BARRIED PIPE SECTION AND WIRE MATH BE ATTACHED TO MECHANICALLY CONNECTED PIPE.

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INSULATING FLANGE WITH ANODES

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NO.	DATE	DESCRIPTIONS	BY	CHKD

CATHODIC PROTECTION SYSTEM

DATE: 8/16/18
DRAWING NUMBER: BC-776-CR-2
SHEET NUMBER: 11 OF 12
REV: 0

CLIENT: BUREAU OF DESIGN & CONSTRUCTION
DIVISION OF INFRASTRUCTURE
BUREAU OF DESIGN

INSTALLATION OF 48" TRUNK WATER MAIN IN EAST NEW YORK AVE. & JAMAICA AVE.
BOROUGH OF BROOKLYN

DESIGNED BY: SEBASTIAN PAUL
DRAWN BY: GEORGE J. BULL
CHECKED BY: BILL BULL

25 SOUTH STREET
ROSELAND, NJ 07068
WWW.CORRTECH.COM



PROJECT SPECIFIC SPECIFICATIONS:

The Pipe Installation Contractor shall utilize and follow the cathodic protection design and specifications that have been developed for this piping network and included in the design package generated by the NYDC.

The contractor shall work with a cathodic protection materials supplier who has been providing technical support to the NYDC through for a minimum of 10-years to assist in system material procurement and procurement. The selected supplier shall provide on-site manufacturer representation to the Contractor during the construction project.

The Contractor shall provide new materials and equipment unless otherwise specifically indicated and specified. New materials and equipment to be provided shall be essentially the standard cathodic protection of a manufacturer regularly equipped in the manufacturer's full product line. Materials and equipment shall meet the applicable requirements of the specification. All materials and equipment shall have evidence of UL approval when UL Standards exist.

The Contractor shall use equipment models, installed along the water main in above, as approved design drawings. The system shall include associated test stations, insulating joints and all wiring and connections.

All sections of the water main installed under this contract shall be isolated from the remainder of the distribution system at the contract limits by installing flange joints or insulating couplings. The water main being installed shall be divided into individual sections by installing joints. Insulating joints shall be installed at handily valves, cleanout points, blow-offs and air vent connections.

The new water main shall be installed from above, concrete, reinforcing steel, curbs and all other structures by physical means, or by the use of high strength obstructs materials. Test stations shall be placed at specific crossings, as required or approved by the Engineer. The Contractor shall use equipment models, installed along the water main to be covered in a casing or steel reinforcing or other tested install structures not part of the cathodic protection system.

All locations where crossings are required, the pipelines shall be isolated from the casing by installing approved insulating devices such as non-weldable spacers.

Eighteen inches of clear shall be left on each side of each test station. In the event a vein is less than eighteen inches it shall be extended with a vein of the same color and same gage or lower gage with an installed electrical connector approved by the Engineer.

Test stations wiring shall be placed in PVC conduit at all roadway crossings.

QUALITY CONTROL, INSPECTION AND TESTING:

To ensure that the cathodic protection system is functioning properly, and that the cathodic protection is installed in accordance with the NYDC NACE Corrosion Specialist's (CSP) review of the design, field tests shall be performed by the NYDC NACE Corrosion Specialist in concert with and in support of the BEI team. The BEI shall contact Chief Test 888-492-3944 for cathodic protection system, inspection, field inspection, system testing and final testing and report. Chief Test shall support the BEI in ensuring that the cathodic protection is installed properly, is inspected and tested at key milestones and is connected and functional at the end of the project.

DEP-SW004650A shall be informed about the testing work at the option, may visit the installa facility, however the responsible party for the contract is DEP shall witness all final testing.

The access to header cable splicing is a critical item and initial installation of work and others must be observed by the NYDC NACE Corrosion Specialist to ensure work and in support of the BEI team. During installation the access to header cable splicing must be protected and installed pipe section or group of sections of completed pipe over 2,000 feet in length.

An insulating pipe for each section shall be installed to the BEI Team. Insulating flange has used to seal for disconnections by the NYDC NACE Corrosion Specialist prior to backfill for final insulating flange assembly. The complete cathodic protection system shall be tested prior to final installation, and pipe-to-soil potential testing shall be repeated following final installation.

The cathodic protection system shall not be considered complete until a Final Report and As-Built Drawings have been prepared and submitted by the NYDC NACE Corrosion Specialist and accepted by DEP-SW004650A. The report shall be prepared in an orderly chronological order.

Segment No.	Starting	Contract	Location	48 inch Pipe Length (ft)	Old pipe	As-built	CROSS Ref. Code	Notes
SEGMENT 1	82076-C-1	82076	NEW YORK EAST AVE FROM PITHAN AVE TO HOWARD AVE	3646	1	10	2	2
SEGMENT 2	82076-C-1	82076	NEW YORK EAST AVE FROM HOWARD AVE TO BROTHER GASTON BLVD.	3911.25	13	10	14	14
SEGMENT 3	82076-C-2	82076	NEW YORK EAST AVE FROM BROTHER GASTON BLVD TO JENNIS ST.	1087.32	3	4	4	4
SEGMENT 4	82076-C-2	82077	NEW YORK EAST AVE AND JENNIS ST.	34.48	1	2	2	2
SEGMENT 5	82076-C-3	82076	NEW YORK EAST AVE FROM ATLANTIC AVE TO WELLS AVE	493.0	2	20	3	3
SEGMENT 6	82076-C-4	82076	JAVANCA AVE FROM WELLS AVE TO VERMONT ST.	1397.24	4	0	5	5
TOTALS				7145.81	24	32	20	20

NYDC
 Project: DEP SW 04650A
 Job Number: 025
 Date: 11/28/11

CORRTECH
 CORROSION UNDERSTOOD

14 BROADWAY
 NEW YORK, NY 10004
 TEL: 212-692-1100
 FAX: 212-692-1101
 WWW.CORRTECH.COM

DESIGNED BY: CORRTECH
 DRAWN BY: CORRTECH
 CHECKED BY: CORRTECH
 APPROVED BY: CORRTECH

CLIENT:
 DEPARTMENT OF DESIGN & CONSTRUCTION
 DIVISION OF INFRASTRUCTURE
 BUREAU OF DESIGN

INSTALLATION OF 48" TRUNK WATER MAIN IN EAST
 NEW YORK AVE. & JAVANCA AVE.
 REGION OF BROOKLYN

CATHODIC PROTECTION SYSTEM

DATE: 6/10/11
 REVISION: 02
 SHEET NUMBER: 32 OF 32

35 of 36

CorrTech Inc.
 Client
 Project
 Contract
 Prepared

Task Order 024
 NYC DDC
 BROOKLYN, NY, New York East AVE. From Howard AVE. to New Jersey AVE.
 BED 776
 12/5/2019

Quantity and Cost Estimating

TOTAL-FURNISH AND INSTALL CATHODIC PROTECTION

Item No	Description	Quantity	Measure	Unit Price Materials	Sub Total mtl's	Unit Price Installation	Sub Total Instl	Total
1	17-pound high potential magnesium anodes	346	each					
2	Stuart Steel Type S Splice Kit	172	each					
3	AWG 8 HMWPE, Black (anode header cable)	8,940	feet					
4	AWG 10 THWN, Red	4,270	feet					
5	AWG 10 THWN, White	650	feet					
6	AWG 10 THWN, Blue	650	feet					
7	AWG 10 THWN, Green	650	feet					
8	Thermite welds, CA-15	96	each					
9	Copper-copper sulfate reference cells w/50-ft HMWPE 12 yellow	31	each					
10	Counter electrodes w/50-ft AWG 12 THWN Purple	31	each					
11	Burndy KS-17 Copper Split bolts (for anode splicing and test stations)	182	each					
12	3M Supper 88- Black Electrical Tape (used with splice kit)	30	each					
13	3M 130 C Rubber Tape (used with splice kit)	30	each					
14	Cans 3M scotchkote electrical coating FD (used with splice kit)	25	each					
15	Royston Handi-Caps (cover thermite weld)	96	each					
16	Test station housing (NYC DEP Standard)	34	each					
17	Acrylic Tags for Labeling Test Stations	34	sets					

ASB - PAGES

**SPECIFICATIONS FOR
ABATEMENT OF COAL TAR
WRAP ASBESTOS CONTAINING
MATERIALS**

NOTICE

THE PAGES CONTAINED IN THIS SECTION ARE ISSUED FOR THE PURPOSE OF SPECIFYING THE REQUIREMENTS OF THE CONTRACT DOCUMENTS AND HEREBY MADE PART OF SAID CONTRACT DOCUMENTS.

**Abatement Of Coal Tar Wrap Asbestos Containing Materials
ASSOCIATED WITH THE CONSTRUCTION OF ACCELERATED WATER MAIN
REPLACEMENT AND SEWER REHABILITATION AND REPLACEMENT
BOROUGH OF BROOKLYN**

Prepared By:

Bureau of Environmental and Geotechnical Services
30-30 Thomson Avenue, 5th Floor
Long Island City, New York 11101

Revision #: 00 or Final Submission

Date: 10/16/2009

(NO TEXT ON THIS PAGE)

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**SECTION 67.11
INCREMENTAL COST FOR ASBESTOS ABATEMENT WORK PERFORMED ON
EXISTING STEEL PIPE WATER MAIN TO BE REMOVED**

67.11.1 GENERAL

67.11.1.1 DESCRIPTION

- (A) The contract documents are as defined in the "Standard Construction Contract". The General Conditions shall apply to all work of this section.
- (B) Work specified herein shall be the removal and disposal of water main pipe of the specified diameter covered with Coal Tar Wrap Asbestos-Containing Materials (ACM) and asbestos-contaminated materials from designated areas of the water main replacement on this project.
- (C) The phasing and scheduling of work for this project shall be coordinated with and approved by the Engineer. The Engineer will make the final determination on all issues under this contract covered by this specification in coordination with NYC Department of Design and Construction's Bureau of Environmental and Geotechnical Services (BEGS).

67.11.1.2 SCOPE OF WORK

- (A) The Contractor is to provide all labor, materials, equipment, services, testing, appurtenances, permits and agreements necessary to perform the work required for the abatement of ACM and removal of pipe covered with asbestos-containing Coal Tar Wrap as required by these contract documents. All work shall be performed in accordance with this specification, EPA regulations, OSHA regulations, New York City Local Law 70, Title 15, Chapter 1 RCNY, New York State Industrial Code 56, NIOSH recommendations, and any other applicable federal, state or local government regulations. Whenever there is a conflict or overlap of the above references the most stringent provisions are applicable.
- (B) The intent of this section is to ensure that the Contractor is responsible for the following:
 - (1) Abatement of all ACM.
 - (2) Cleaning and decontamination of the entire affected area.
 - (3) Removal of various sections of pipe in varying lengths, as necessary, that may be required to access ACM in each excavated area. The Contractor shall dispose of all debris associated with such removal activities as ACM waste.
 - (4) Removal and disposal of all ACM found within these areas such as soil within excavated area, section of pipes, and coal tar wrap, etc.
 - (5) Provide all scaffolding, platform installation, equipment, tools, transportation and any other equipment required and/or necessary to complete all work described in the contract documents.
 - (6) The Contractor shall be responsible for and shall include in the Contractor's bid any and all fees or changes imposed by Local, State or Federal Law, Rule or Regulation applicable to the work specified herein, including fees or charges which may be imposed subsequent to the date of the Bid Opening.
- (C) The Contractor shall perform the following work as described below and indicated on the drawings. The drawings are only a diagrammatic representation of the work areas and do not constitute the actual quantities of material and or size of the pipe. Contractor is responsible for the confirmation of the actual total quantities of the work to be performed prior to bidding.

WORK AREA EXCAVATION:

Remove and dispose of asbestos-containing coal tar pipe wrap within work area. Asbestos-containing coal tar wrap shall be removed utilizing the approved NYCDEP procedure outlined below. Variance for utilizing this procedure within the work area shall be applied for by the Contractor and approved by the New York City Department of Environmental Protection (NYCDEP) prior to the start of abatement activities. In areas where coal tar wrap and pipe with coating of same are to be removed, the Contractor shall be responsible to remove all coal tar wrap material within the soil below the area where the pipe has to be removed. Repeating this procedure at several locations will not be cause for additional compensation to the Contractor. All piping and associated materials as well as impacted soil shall be disposed of as contaminated waste.

- (D) The Contractor's attention is directed to the fact that patents cover certain methods of asbestos abatement indicated in the specifications. To date, patents have been issued with regard to negative pressure enclosures or negative or reduced pressure and glove-bag.
- (E) The Contractor shall be solely responsible for and shall hold the City of New York Department of Design and Construction and the City harmless from any and all damages, losses and expenses resulting from any infringement by Contractor of any patent including, but not limited to, the patents described above, used by Contractor during performance of this agreement.
- (F) Prior to starting, the Contractor must notify the Commissioner of the City of New York Department of Design and Construction if the Contractor anticipates any difficulty in performing the work as directed and required by these specifications. The Contractor shall be required to attend an on-site job meeting with the Engineer prior to start of work to examine conditions of the site for removal and plan the sequence for removal operations.
- (G) The Contractor is responsible for amending the Asbestos Inspection Report (ACP-7) and resubmitting it to the NYCDEP Asbestos Control Program prior to abatement work as per Title 15, Chapter 1 of RCNY for any changes in quantities and/or starting date.
- (H) If more than one (1) year has elapsed since the original ACP-7 was submitted to the Department of Environmental Protection, the Contractor is responsible for preparing and submitting a new ACP-7 to the Department of Environmental Protection as well as providing all other notifications to various regulatory agencies as required.
- (I) In addition, the Contractor is also responsible for preparing, amending and submitting any Asbestos Variance Applications (ACP-9) that may be required for the completion of the contract or incidental work.
- (J) The Contractor is also responsible for preparing and submitting all filings, notifications, etc. required by all City, State and Federal regulatory agencies having jurisdiction.
- (K) For coordination with other contractors, see the General Conditions governing all contracts.
- (L) Related Asbestos Removal Work Under Other Contracts:
 - (1) Each contractor shall be responsible for the removal of incidental asbestos not identified in this section and found prior to or during the work.
 - (2) Incidental asbestos is defined as ACM that is discovered during the course of their work that must be abated to enable contractors to perform the work of their contract.
- (M) Work Hours:

- (1) The Contractor shall establish the Contractor's work schedule in a way that avoids interference or conflict with the normal activities of the area. Work in the evenings shall be done at no additional cost to the City.
- (2) All work shall be done during regular working hours unless the Contractor requests authorization to work in other than regular working hours and such authorization is granted by the Commissioner. (Regular working hours are those during which any given facility in which work is to be done is customarily open and functioning). If such work schedule is authorized by the Commissioner the work shall be done at no additional cost to the City.
- (3) The order of phases and start dates associated with each will be determined by the Engineer.
- (4) Waste transfer must be approved by the Engineer.

(N) Stages Of Asbestos Removal Work:

The Abatement Contractor or Subcontractor will be required to perform the work and it is the intent of this specification to remove all asbestos-containing and asbestos contaminated materials from the work area. The Contractor is responsible for verifying all quantities of materials listed here and bid accordingly.

- (O) Certain equipment in the work area may need to remain operational during removal. Therefore, the removal of ACM from this equipment shall be performed as the last removal activities within the work area. The Contractor shall coordinate the scheduling for the removal of ACM on functioning equipment with the Engineer.

67.11.1.3 SPECIAL EXPERIENCE REQUIREMENTS FOR ASBESTOS ABATEMENT

- (A) General: The special experience requirements set forth in Paragraph (B) below apply to the contractor who will be performing the Asbestos Abatement work under this contract. If the bidder intends to perform such work itself, it must demonstrate compliance with the special experience requirements. If the bidder intends to subcontract this work, the proposed subcontractor must demonstrate compliance with the special experience requirements. Once approved, no substitution will be permitted, unless the qualifications of the proposed replacement have been approved in writing in advance by the City.

- (1) Evaluation: Compliance with the special experience requirements for Asbestos Abatement must be submitted for evaluation a minimum of thirty (30) days prior to commencement of that phase of work which may require removal coal tar wrap asbestos-containing materials. The Contractor is advised that the Contractor will not be permitted to commence excavation work at the site for that phase of construction which may require possible removal of coal tar wrap asbestos-containing materials, should the Contractor's Asbestos Abatement contractor fail to comply with the special experience requirements. Compliance with the experience requirements set forth herein will be determined solely by the City.
- (2) Compliance By The Asbestos Abatement Contractor As An Entity: Compliance with the special experience requirements must be demonstrated by the Asbestos Abatement contractor. The Asbestos Abatement contractor itself must have been in existence as the same entity for the three (3) year period prior to the bid opening. During such period, the bidding entity itself must have achieved compliance with the special experience requirements. The Asbestos Abatement contractor entity may not use or rely on the experience or credentials of any other entity regardless of any relationship such other entity may have to the Asbestos Abatement contractor.

- (B) Requirements: The Asbestos Abatement contractor must demonstrate compliance with the special experience requirements set forth in subparagraphs (1) through (5) below. The Asbestos Abatement contractor must submit documentation demonstrating compliance with all listed requirements. 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 (3) year period prior to the bid opening, that it has been licensed by the New York State Department of Labor, as an "Asbestos Contractor".
 - (2) The Asbestos Abatement contractor must, for the three (3) year period prior to the bid opening, 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 provide evidence of having successfully performed and completed in a timely fashion at least 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 (3) 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 of the owner or the owner's representative who is familiar with the Asbestos Abatement contractor's work; brief description of the work completed as a prime or sub-contractor; amount of contract or subcontract; and, the date of completion.
 - (5) The Asbestos Abatement contractor must demonstrate that it has the financial resources, 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.
- (C) Throughout the specifications, reference is made to codes and standards which establish qualities and types of workmanship and materials, methods for testing and reporting on the pertinent characteristics thereof to provide materials or workmanship that meet or exceed the specifically named codes or standards where required by these specifications.
- (D) Site Investigation: The 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) 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.

67.11.1.4 WORK BY OTHERS

The City reserves the right during the term of this contract to have work performed on asbestos abatement projects by other contractors as the situation warrants.

67.11.1.5 DEFINITIONS

(A) General Explanation: Certain terms used in this specification are defined below. Definitions and explanations of this specification are not necessarily complete or exclusive, but are general for the work to the extent they are not stated more explicitly in another element of the contract documents.

(B) Definitions In General Use:

- (1) Approve: Where used in conjunction with Engineer's response to submittals, requests, applications, inquiries, reports and claims by Contractor, the meaning of term "approved" will be held to limitations of Engineer's responsibilities and duties as specified in contract documents. In no case will "approval" by Engineer be interpreted as a release of Contractor from responsibilities to fulfill requirements of contract documents.
- (2) Directed, Requested, Etc.: Where not otherwise explained, terms such as "directed," "requested," "authorized," "selected," "approved," "required," "accepted," and "permitted" mean "directed by Engineer," "requested by Engineer," and similar phrases. However, no such implied meaning will be interpreted to extend Engineer's responsibility into Contractor's responsibility for construction supervision.
- (3) Furnish: Except as otherwise defined in greater detail, term "furnish" is used to mean supply and deliver to project site, ready for unloading, unpacking, assembly, installation, etc., as applicable in each instance.
- (4) Indicated: The term "indicated" is a cross-reference to graphic representations, notes or schedules on drawings, to other paragraphs or schedules in the specifications, and to similar means of recording requirements in contract documents. Where terms such as "shown," "noted," "scheduled," and "specified" are used in lieu of "indicated," it is for purpose of helping reader locate cross-reference, and no limitation of location is intended except as specifically noted.
- (5) Install: Except as otherwise defined in greater detail, term "install" is used to describe operations at project site including unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning and similar operations, as applicable in each instance.
- (6) Installer: The term "installer" is defined as the entity (person or firm) engaged by Contractor, or its subcontractor or sub-subcontractor for performance of a particular unit of work at project site, including installation, erection, application and similar required operations. It is a general requirement that such entities (installers) be expert in operations they are engaged to perform.
- (7) Provide: Except as otherwise defined in greater detail, term "provide" means furnish and install, complete and ready for intended use, as applicable in each instance.
- (8) Testing Laboratory: The term "Testing Laboratory" is defined as an entity engaged by the City to perform specific inspections or tests of the work, either at project site or elsewhere; and to report and (if required) interpret results of those inspections or tests.

(C) Definitions Relative To Asbestos Abatement:

- (1) Abatement: Procedures physically taken to control fiber release from ACM. This includes removal, encapsulation, enclosure, and repair.
- (2) Aggressive Sampling: Method of sampling in which the individual collecting the air sample creates activity by the use of mechanical equipment during the sampling period to stir up settled dust and simulate activity in that area of the building.
- (3) AIHA: American Industrial Hygiene Association.

- (4) Airlock: System for permitting entrance and exit while restricting air movement between a contaminated area and an uncontaminated area. It consists of two (2) curtained doorways separated by a distance of at least three (3) feet such that one passes through one doorway into the airlock, allowing the doorway sheeting to overlap and close off the opening before proceeding through the second doorway, thereby preventing flow-through contamination.
- (5) Air Sampling: Process of measuring the fiber content of a known volume of air collected during a specific period. The procedure utilized for asbestos follows the NIOSH Standard Analytical Method 7400, or the provisional transmission electron microscopy methods developed by the US EPA which is utilized for lower detection levels and specific fiber identification.
- (6) Amended Water: Water to which a surfactant has been added.
- (7) ANSI: American National Standards Institute.
- (8) Area Air Sampling: Any form of air sampling or monitoring where the sampling device is placed at some stationary location.
- (9) Asbestos: Any hydrated mineral silicate separable into commercially usable fibers, including but not limited to chrysotile (serpentine), amosite (cumingtonite-grunerite), crocidolite (riebeckite), tremolite, anthophyllite and actinolite.
- (10) Asbestos-Containing Material (ACM): Asbestos or any material containing more than one percent (1%) asbestos.
- (11) Asbestos-Containing Waste Material: ACM or asbestos-contaminated objects requiring disposal.
- (12) Asbestos Handler: Individual who disturbs, removes, repairs, or encloses friable asbestos material. This individual shall have completed approved training course(s) and be in possession of certification issued by NYCDEP and NYSDOL.
- (13) Asbestos Handler Supervisor: Individual who supervises the handlers during an asbestos project and ensures that proper asbestos abatement procedures as well as individual safety procedures are being adhered to. This individual shall have completed approved training course(s) and be in possession of certification issued by NYCDEP and NYSDOL.
- (14) Asbestos Handling Certificate: Certificate(s) issued to individuals who have met the criteria established by NYCDEP and/or NYSDOL.
- (15) Asbestos Inspection Report: A report on the condition of a building or structure in relation to the presence and condition of asbestos therein.
- (16) Asbestos Investigator: An individual certified by NYCDEP as having successfully demonstrated the ability to identify the presence of and evaluate the condition of asbestos in a building or structure.
- (17) Asbestos Project: Any form of work performed in connection with the alteration, innovation, modification, or demolition of a building or structure which will disturb (e.g. remove, enclose, encapsulate) more than three (3) linear feet or more than three (3) square feet of friable ACM.
- (18) ASTM: The American Society for Testing and Materials International.
- (19) Authorized Visitor: Authorized visitor shall mean the Commissioner and the Commissioner's representative, and any representative of a regulatory or other agency having jurisdiction over the project.

- (20) Certified Industrial Hygienist (CIH): Individual with a minimum of five (5) years experience as an industrial hygienist and who has successfully completed both levels of the examination administered by the American Board of Industrial Hygiene and who is currently certified by that board.
- (21) Certified Safety Professional (CSP): Individual having a bachelor's degree from an accredited college or university and a minimum of four (4) years experience as a safety professional and who has successfully completed both levels of the examination administered by the Board of Certified Safety Professionals and who is currently certified by that board.
- (22) City: Shall mean the City of New York.
- (23) Clean Room: An uncontaminated area or room that is part of worker decontamination enclosure system with provisions for storage of workers' street clothes and protective equipment.
- (24) Clearance Air Monitoring: Employment of aggressive sampling techniques with a volume of air collected to determine the airborne concentration of residual fibers and shall be performed as the final abatement activity.
- (25) Commissioner: Shall mean the head of the Agency that has entered into this contract or a duly authorized representative.
- (26) Competent Person: Shall mean the designated person as defined in OSHA 29CFR 1926.1101.
- (27) Curtained Doorway: Device that consists of at least three (3) overlapping sheets of polyethylene over an existing or temporarily framed doorway. One sheet shall be secured at the top and left side, the second sheet at the top and right side, and the third sheet at the top and left side. All sheets shall have weights attached to the bottom to ensure that the sheets hang straight and maintain a seal over the doorway when not in use.
- (28) Decontamination Enclosure System: Series of connected rooms, separated from the work area and from each other by air locks, for the decontamination of workers, materials, waste containers, and equipment.
- (29) Encapsulant (Sealant) or Encapsulating Agent: Liquid material which can be applied to ACM and which temporarily controls the possible release of asbestos fibers from the material either by creating a membrane over the surface (bridging encapsulant) or by penetrating into the material and binding its components together (penetrating encapsulant). This may also be used to seal surfaces from which ACM has been removed.
- (30) Encapsulation: Coating or spraying of ACM with a sealant.
- (31) Enclosure: Construction of airtight walls and/or ceilings between ACM and the facility environment, or around surfaces coated with ACM, or any other appropriate procedure as determined by the NYCDEP which prevents the release of asbestos fibers.
- (32) ELAP: Environmental Laboratory Approval Program administered by the New York State Department of Health.
- (33) EPA or USEPA: United States Environmental Protection Agency.
- (34) Equipment Room: Contaminated area or room that is part of the worker decontamination enclosure system with provisions for the storage of contaminated clothing and equipment.
- (35) Fixed Object: Utility or associated piping within the work area that cannot be removed from the work area.

- (36) Friable Asbestos Material: Asbestos or any ACM that can be crumbled, pulverized, or reduced to powder when dry, by hand or other mechanical pressure.
- (37) Glove-Bag Technique: Method for removing friable ACM from heating, ventilation, and air conditioning (HVAC) ducts, short piping runs, valves, joints, elbows, and other nonplanar surfaces in a noncontained work area. The glove-bag assembly is a manufactured device consisting of a glove-bag (constructed of at least 6-mil transparent polyethylene), two inward-projecting long sleeve gloves, one inward-projecting water wand sleeve, an internal tool pouch, and an attached, labeled receptacle for asbestos waste. The glove-bag is constructed and installed in such a manner that it surrounds the object or area to be decontaminated and contains all asbestos fibers released during the removal process.
- (38) HEPA-Filter: High efficiency particulate air filter capable of trapping and retaining 99.97-percent of particles (asbestos fibers) greater than 0.3-micrometers mass median aerodynamic equivalent diameter.
- (39) Holding Area: Chamber in the equipment decontamination enclosure located between the washroom and an uncontaminated area.
- (40) Homogeneous Work Area: Portion of the work area that contains one type of ACM and/or where one type of abatement is used.
- (41) Industrial Hygiene: Science and art devoted to the recognition, evaluation, and control of those environmental factors or stresses, arising in or from the work place, which may cause sickness, impaired health and well being, or significant discomfort and inefficiency among worker or among the citizens of the community.
- (42) Industrial Hygienist: Individual having a college or university degree or degrees in Engineering, Chemistry, Physics or Medicine, or related Biological Sciences who, by virtue of special studies and training, has acquired competence in industrial hygiene. Such special studies and training must have been sufficient in all of the above cognate sciences to provide the abilities:
- (a) To recognize the environmental factors and to understand their effect on people and their well being; and,
 - (b) To evaluate, on the basis of experience and with the aid of quantitative measurement techniques, the magnitude of these stresses in terms of ability to impair people's health and well being; and,
 - (c) To prescribe methods to eliminate, control, or reduce such stresses when necessary to alleviate their efforts.
- (43) Large Asbestos Project: Asbestos project involving the disturbances (e.g. removal, enclosure, encapsulation) of 260-linear feet or more of friable ACM or 160-square feet or more of friable ACM.
- (44) Major Violation: Any action, on the job performance or lack of performance that may place any individual at risk other than the worker who commits the violation. A major violation is equivalent to two (2) violation points.
- (45) Minor Asbestos Project: Project involving the disturbance (e.g. removal, enclosure, encapsulation, repair) of more than three (3) linear feet, but not more than twenty-five (25) linear feet of friable ACM or more than three (3) square feet, but not more than ten (10) square feet of friable ACM.
- (46) Minor Violation: Any action, on the job performance or lack of performance that may place the worker at risk. A minor violation is equivalent to one (1) violation point.

- (47)Movable Object: Any equipment or utility in the work area that can be removed from the work area.
- (48)Negative Air Pressure Equipment: Portable local exhaust system equipped with HEPA filtration. The system shall be capable of creating a negative pressure differential between the outside and inside of the work area.
- (49)NESHAPS: National Emission Standards for Hazardous Air Pollutants.
- (50)NIOSH: National Institute for Occupational Safety and Health.
- (51)NYCDEP: New York City Department of Environmental Protection.
- (52)NYSDOL: New York State Department of Labor.
- (53)Occupied Area: Area of the work site where abatement is not taking place and where personnel or occupants normally function or where workers are not required to use personal protective equipment.
- (54)OSHA: Occupational Safety and Health Administration.
- (55)Person: Individual, partnership, company, corporation, association, firm, organization, governmental agency, administration, or the NYCDEP, or any other group of individuals, or any officer or employee thereof.
- (56)Personal Air Monitoring: Method used to determine employees' exposure to airborne fibers. The sample is collected outside the respirator in the worker's breathing zone.
- (57)Personal Protective Equipment (PPE): Appropriate protective clothing, gloves, eye protection, footwear, and head gear.
- (58)Physician: Person licensed or otherwise authorized under Article 131 Section 65.22 of the New York State Education Law.
- (59)Plasticize: Cover floors and walls with polyethylene sheeting as herein specified or by using spray plastics as acceptable to the NYCDEP.
- (60)Professional Engineer (PE): Individual having, at a minimum, a Bachelor's Degree in Engineering from an accredited college or university with four (4) years acceptable experience as an engineer and who has successfully completed both levels of the Professional Engineers Examination administered by the State of New York Department of Education, Division of Professional Licensing.
- (61)Qualitative Fit Test: Individual test subject's responding (either voluntarily or involuntarily) to a chemical challenge outside the respirator face-piece. Three of the most popular methods include: (1) irritant smoke test; (2) odorous vapor test; and (3) taste test.
- (62)Quantitative Fit Test: Exposing the respiratory wearer to a test atmosphere containing an easily detectable, nontoxic aerosol, vapor or gas as the test agent. Instrumentation, which samples the test atmosphere and the air inside the face-piece of the respirator, is used to measure quantitatively the leakage into the respirator. There are a number of test atmospheres, test agents, and exercises to perform during the test.
- (63)Registered Architect (RA): Individual having, at a minimum, a Bachelor's Degree in Architecture from an accredited college or university with three (3) years acceptable experience as an architect and who has successfully completed both levels of the Architects Registration

Examination administered by the State of New York Department of Education, Division of Professional Licensing.

- (64)Removal: Stripping of any asbestos-containing materials from surfaces or components of a structure or taking out structural components in accordance with 40 CFR 61 Subparts A and M.
- (65)Shower Room: Room between the clean room and the equipment room in the worker decontamination enclosure with hot and cold running water controllable at the tap and arranged for complete showering during decontamination.
- (66)Small Asbestos Project: Asbestos project involving the disturbance (e.g. removal, enclosure, encapsulation) of more than 25-linear feet and less than 260-linear feet of friable ACM or more than 10-square feet and less than 160-square feet of friable ACM.
- (67)Staging Area: Work area near the waste transfer airlock where containerized asbestos waste has been placed prior to removal from the work area.
- (68)Structural Member: Load-supporting member of a facility, such as beams and load-supporting walls, or any nonload-supporting member, such as ceiling and nonload-supporting walls.
- (69)Surfactant: Chemical wetting agent added to water to improve penetration.
- (70)Visible Emissions: Emissions containing particulate material that are visually detectable without the aid of instruments.
- (71)Washroom: Room between the work area and the holding area in the equipment decontamination enclosure system where equipment and waste containers are wet cleaned and/or HEPA-vacuumed prior to disposal.
- (72)Wet Cleaning: Removal of asbestos fibers from building surfaces and objects by using cloths, mops, or other cleaning tools which have been dampened with amended water.
- (73)Work Area: Designated excavation, spaces, or areas within a trench or structure where asbestos abatement activities take(s) place.
- (74)Worker Decontamination Enclosure System: Portion of a decontamination enclosure system designed for controlled passage of workers and authorized visitors, consisting of a clean room, a shower room, and an equipment room separated from each other and from the work area by airlocks and curtained doorways.
- (75)Work Site: Area where abatement activity is being performed. May be composed of one or more work areas.

67.11.1.6 STANDARD OPERATING PROCEDURES

- (A) Develop and implement a written standard procedure for abatement work to ensure maximum protection and safeguard from asbestos exposure of the workers, visitors, employees, public, and environment.

(B) TELEPHONE PAGING DEVICE:

The Contractor or the Contractor's authorized representative shall, at all times during the normal workday or during periods of overtime work under this contract, carry a digital telephone paging device ("Beeper") and/or cellular telephones which can be activated by a telephone number in the 212 or 646 or 718 or 917 area code. The Contractor shall supply the Department of Design and Construction with the activation number for the device and the Contractor is liable to respond back to the calls from DDC within the next one (1) hour period after the Contractor receives calls from DDC.

The cost to the Contractor for this device and all charges accruing thereto is deemed included in the price(s) bid for item(s) labeled, "INCREMENTAL COST FOR ASBESTOS ABATEMENT WORK PERFORMED ON EXISTING STEEL PIPE WATER MAIN TO BE REMOVED, COMPLETE".

(C) The standard operating procedure shall ensure:

- (1) Tight security from unauthorized entry into the workspace.
- (2) Restriction of Contractor's personnel to the immediate work area and access/egress routes.
- (3) Donning of proper protective clothing and respiratory protection prior to entering the work area.
- (4) Safe work practices in the work place, including provisions for inter-room communications, exclusion of eating, drinking, smoking, or in any way breaking the respiratory protection.
- (5) Proper exit practices from the work space to the outside through the showering and decontamination facilities.
- (6) Removing asbestos in ways that minimize release of fibers.
- (7) Packing, labeling, loading, transporting, and disposing of contaminated material in a way that minimize exposure and contamination.
- (8) Emergency evacuation procedures, for medical or safety situations, to minimize the potential exposure to airborne asbestos fibers for emergency personnel, and building environment.
- (9) Safety from accidents in the workspace, especially from electrical shocks, fall hazards associated with scaffolding, slippery surfaces, and entanglements in loose hoses and equipment.
- (10) Provisions for effective supervision, air monitoring and personnel monitoring for exposure during the work.
- (11) Engineering systems that minimize exposure to fibers within the workspace.

(D) Provide an Asbestos Handler Supervisor to provide continuous supervision of all work, and to be responsible for the following:

- (1) Ensure that individuals are using proper personal protective equipment and are trained in its use.
- (2) Maintain entry log records and ensure that they are recorded in accordance with the provisions of Title 15, Chapter 1 of RCNY.
- (3) Surveillance of the work areas at a minimum of once per work shift or as required by Title 15, Chapter 1 of RCNY, to ensure that the workers personal protective equipment is not torn or ripped and that respiratory protection is worn at all times.
- (4) Ensure that sufficient personal protective equipment is stored in the clean room.
- (5) Take precautions to prevent heat stress. Precautions include, but are not limited to, selecting lightweight protective clothing, reducing the work rate, and providing adequate fluid breaks.

(E) ENGINEERING CONTROLS:

- (1) The 8-hour time weighted average airborne concentration of fibers to which any passerby may be exposed shall not exceed 0.01-fibers per cubic centimeter of air when fibers have a physical dimension longer than 5-micrometers as determined by the method prescribed in these specifications.

- (2) All large asbestos projects shall utilize negative pressure ventilation equipment.
- (3) The negative pressure ventilation equipment shall operate continuously, 24-hours a day, from the establishment of isolation barriers through successful clearance air monitoring. If such equipment shuts off, adjacent areas shall be monitored for asbestos fibers.
- (4) On loss of negative pressure or electric power to the negative pressure ventilating units, abatement shall stop immediately and shall not resume until power is restored and negative pressure ventilation equipment is operating again.
- (5) Negative pressure ventilation equipment shall be exhausted to the outside of the tent enclosure away from passer-by and/or sidewalks.
 - (a) At no time shall the negative pressure ventilation unit exhaust within 40-feet of a receptor or adversely affect the intake ports, louvers, or entrances for the adjacent buildings.
 - (b) Heavy duty ducting of equivalent, or larger, shape and dimension as that of the negative pressure ventilation exhaust port shall be used to exhaust to the structure.
 - (c) All ducting shall be sealed and braced or supported to maintain airtight joints.
- (6) Where ducting to the outside is not possible, a second negative pressure ventilation unit compatible with the primary unit's capacity shall be connected in series. The area receiving the exhaust shall have sufficient, nonrecycling exhaust capacity to the outside of the structure.
- (7) In the event that there is a failure of the containment system or a breach in the Isolation Barriers, all abatement work will cease and the Contractor will immediately correct the condition. Abatement work will not resume until the work area has been smoke tested by the third party laboratory and approved by the Project Monitor.

(F) LOCKDOWN ENCAPSULATION PROCEDURES:

The following procedures shall be followed to seal in nonvisible residue while conducting lockdown encapsulation on all surfaces from which ACM is removed:

- (a) Only encapsulants rated as acceptable or marginally acceptable on the basis of Battelle Columbus Laboratory test procedures and rating requirements developed under the 1978 USEPA Contract shall be used for lockdown encapsulation.
- (b) The encapsulant solvent or vehicle shall not contain a volatile hydrocarbon unless reviewed and approved by DEP.
- (c) Latex paint with solids content greater than 15-percent shall be considered a lockdown sealant for coating all nonmetallic surfaces.
- (d) Encapsulants shall be applied using airless spray equipment. Spraying is to occur at the lowest pressure range possible to minimize fiber release from encapsulant impact at the surface. It shall be applied with a consistent horizontal or vertical motion.

67.11.1.7 NOTIFICATIONS, PERMITS, WARNING SIGNS, LABELS, AND POSTERS

- (A) Erect bilingual (English-Spanish) warning signs around the excavation and at every point of potential entry from the street level which can be viewed by the public without obstruction, in accordance with OSHA 29 CFR 1926.1101 (K) (Sign Specifications) and Title 15, Chapter 1 of RCNY. The warning

signs shall be a bright color so that they will be easily noticeable. The size of the sign and the size of the lettering shall be no less than OSHA requirements.

- (B) Provide the required labels for all polyethylene bags and all drums utilized to transport contaminated material to the landfill in accordance with OSHA 29 CFR 1926.1101 (K)(2) and by 49 CFR Parts 171 and 172 of the Department of Transportation regulations.
- (C) Provide any other signs, labels, warnings, and posted instructions that are necessary to protect, inform and warn people of the hazard from asbestos exposure. Post in a prominent and convenient place for the workers a copy of the latest applicable regulations from OSHA, EPA, NIOSH, State of New York and New York City and any additional items mandated for posting by the aforementioned regulations.
- (D) Furnish all permits, variances and notices required to perform the work.

67.11.1.8 EMERGENCY PRECAUTIONS

- (A) Establish emergency exit(s) from the work area. The clean side of all emergency exits shall be equipped with two full sets of protective clothing and respirators at all times.
- (B) Notify local medical emergency personnel, both ambulance crews and hospital emergency room staff prior to commencement of abatement operations as to the possibility of having to handle contaminated or injured workmen, and shall be advised on safe decontamination.
- (C) Prepare to administer first aid to injured personnel after decontamination. Seriously injured personnel shall be treated immediately or evacuated immediately for decontamination. When an injury occurs, precautions shall be taken to reduce airborne fiber concentrations (i.e. misting of the air with water) until the injured person has been removed from the work area.
- (D) Notify, before actual removal of the asbestos material, the local police and fire departments to the danger of entering the excavated area where removal is taking place. Contractor shall make every effort to help these agencies form plans of action should their personnel need to enter the contaminated area.

67.11.1.9 SUBMITTALS

- (A) Pre-Construction Submittals:

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 and the Engineer. At this meeting, the Contractor shall present three (3) copies of the following items, bound and indexed. The detailed plan of action must be submitted at least five (5) days prior to the pre-construction meeting.

- (a) Contractor's scope of work, work plan and schedule.
- (b) Notifications to Government Agencies.
- (c) Copies of permits, clearance and licenses if required.
- (d) Schedules: The Contractor shall provide to the Engineer a copy of the following schedules for approval. Once approved, schedules shall be maintained and updated as received. The 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 Engineer prior to implementation.
- (4) A schedule of equipment to be used including numbers and types of all major equipment such as HEPA Air Filtration Units, HEPA-vacuums, airless sprayers, Water Atomizing Devices and Type "C" compressors.
- (e) A written plan and shop drawings for preparation of work site and decontamination chamber.
- (f) Description of protective clothing and approved respirator to be used, make, model, NIOSH approval numbers.
- (g) Delineation of responsibility of work site supervision, including competent person, with names, resumes, and home telephone numbers.
- (h) Explanation of decontamination sequence and isolation techniques.
- (i) Description of specific equipment to be utilized, including make and model number of air filtration devices, vacuums, sprayers, etc.
- (j) Description of any prepared methods, procedures, techniques, or equipment other than those specified in the contract documents.
- (k) Explanation of the handling of contaminated wastes including EPA and NYCDEP identification numbers of Waste Hauler.
- (l) Description of the final clean-up procedures to be used.
- (m) Name and qualifications of Contractor's testing laboratory including AIHA accreditation, and proof of NIOSH PAT and NIST/NVLAP Bulk Quality Assurance Proficiency of OSHA samples for approval by the City of New York Department of Design and Construction.
- (n) 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) 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.
- (o) Material Safety Data Sheets (MSDS) 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 MSDS are reviewed.
- (p) Worker Training And Medical Surveillance: Contractor shall submit a list of the persons who will be employed by The Contractor and the Contractor's Subcontractors in 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.
- (q) Logs: Specimen copies of daily progress log, visitor's log, and disposal log.
 - (1) The 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 Environmental Control Representative; name, address and phone number of Abatement Contractor; name, address and phone number of Contractor and City's air testing entity; and, emergency numbers including, but not limited to local Fire/Rescue Department. Log book shall contain a list of personnel approved by the laboratory for entry into the work area.

- (2) All entries into the log shall be made in nonwashable, 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 Contractor shall submit the logbook containing a day-to-day record of personnel log entries countersigned by the Project Monitor everyday.

- (r) 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) Submit copies of the following items to the Project Monitor during the work:

- (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 Engineer.
- (3) Contractor's current work progress shall be submitted for review by the Engineer at weekly progress meetings.
- (4) All Contractors' air monitoring and inspection results.

(C) Project Closeout Submittals:

Upon completion of the project and as a condition of acceptance, the Contractor shall present two (2) copies of the following items, bound and indexed:

- (1) Lien Waivers from Contractor, Subcontractors 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) 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,
- (6) All Warranties as stated in the specifications,
- (7) Fully executed disposal certificates and transportation manifest.

67.11.1.10 QUALITY ASSURANCE

- (A) All work required for the completion of this project or called for in this specification must be executed in a workmanlike manner by using the appropriate methods established by regulatory requirements

and/or industrial standards. All workmanship or work methods are subject to review and acceptance by the Engineer. Throughout the specification, reference is made to codes and standards which establish qualities, levels or types of workmanship which will be considered acceptable. It is the Abatement Contractor's responsibility to comply with these codes and standards during the execution of this work.

- (B) All materials and equipment required or consumed during the work of this contract must meet the minimum acceptable criteria established by codes and standards referenced elsewhere in this specification. Materials and equipment must be submitted for prior approval as part of the Contractor's "Shop Drawings".
- (C) It is the Abatement Contractor's responsibility, when so required by the specification or upon written request from the Commissioner or the Commissioner's representative to furnish all required proof that workmanship, materials and/or equipment meet or exceed the codes and standards referenced. Such proof shall be in the form requested, typically a certified report or test conducted by a testing entity approved for that purpose by DDC.
- (D) The Contractor shall furnish proof that employees working under the Contractor's supervision have had instruction on the dangers of asbestos exposure, on respirator use, decontamination, and OSHA regulations. This proof shall be in the form of a notarized affidavit to the effect that the above requirements have been satisfied.
- (E) The Contractor will have at all times in the Contractor's possession and in view at the job site the OSHA regulations 29 CFR 1910.1001, and 1926.1101 Asbestos, and Environmental Protection Agency 40 CFR, Part 61, subpart B: National Emission Standard for asbestos, asbestos stripping, work practices and disposal of asbestos waste. The Contractor shall also have one copy of NYC Title 15, Chapter 1 of RCNY and NYS DOL ICR 56 at the job site at all times.
- (F) Familiarity With Pertinent Codes And Standards: In procuring all items used in this work, it is the Contractor's responsibility to verify the detailed requirements of the specifically named codes and standards and to verify that the items procured for use in this work meet or exceed the specified requirements, and are suitable for their intended use.
- (G) Rejection Of Noncomplying Items: The Commissioner reserves the right to reject items incorporated into the work that fail to meet the specified minimum requirements. The Commissioner further reserves the right, and without prejudice to other recourse that maybe taken, to accept noncomplying items subject to an adjustment in the contract amount as approved by the City.
- (H) Applicable Regulations, Codes And Standards: Applicable standards listed in these specifications include, but are not necessarily limited to, standards promulgated by the following agencies and organizations:
 - (1) United States Environmental Protection Agency (EPA or USEPA)
Region II
Asbestos NESHAPS Contact
Air And Waste Management Division
(Air Compliance Branch) - USEPA
290 Broadway, 21st Floor
New York, New York 10007-1866
212-637-3660
 - (2) Occupational Safety and Health Administration (OSHA)
Region II - Regional Office
201 Varick Street, Room 908
New York, New York 10014
212-337-2378

- (3) National Electrical Code (NEC)
See NFPA
 - (4) National Fire Protection Association (NFPA)
1 Batterymarch Park
Quincy, Massachusetts 02169-7471
617-770-3000
 - (5) National Institute for Occupational Safety and Health (NIOSH)
Robert A. Taft Laboratory
4676 Columbia Parkway
Mailstop R12 Cincinnati, Ohio 45226
513-841-4428
 - (6) Department of Health and Mental Hygiene (DOHMH)
Environmental Investigation
125 Worth Street
New York, New York 10013
212-442-3372
 - (7) American National Standards Institute (ANSI)
(Successor to USASI and ASA)
25 West 43rd Street (between 5th and 6th Avenue), 4th Floor
New York, New York 10036
212-642-4900
 - (8) American Society for Testing and Materials (ASTM)
100 Bar Harbor Drive
West Conshohocken, Pennsylvania 19428-2959
610-832-9500
 - (9) New York City Department of Environmental Protection (NYCDEP)
Bureau of Environmental Compliance
Asbestos Control Program
59-17 Junction Boulevard, 8th Floor
Corona, New York 11368
718-595-3682
 - (10) New York City Department of Sanitation
125 Worth Street, Room 714
New York, New York 10013
212-566-1066
 - (11) New York State Department of Labor (NYSDOL)
Division Of Safety And Health
Engineering Services Unit
State Office Building Campus
Albany, New York 12240-0010
- (I) Post all applicable regulations in a conspicuous place at the job site. Assure that the regulations are not altered, defaced or covered by other materials. One copy of each regulation must also be kept at the Contractor's office.

67.11.1.11 CITY/CONTRACTOR RESPONSIBILITIES

- (A) The City will not enter the portions of the excavation, in which work is being performed during the entire asbestos removal operation, including completion of clean up.

- (B) The Contractor shall provide a plan for 24-hours job security both for prevention of theft and for barring entry of curious but unprotected personnel into work areas.
- (C) The Contractor shall provide own means of power if needed and the City will not be held responsible for the downtime due to faulty Contractor's equipment.
- (D) The Contractor shall provide, at Contractor's own expense, all electrical, water, and waste connections, tie-ins, extensions, and construction materials, supplies, etc. At the end of each shift, the Contractor shall disconnect all hoses within the work zone and place in equipment room of the worker decontamination unit. The Contractor shall ensure positive shutoff of all water to work area during nonworking hours.
- (E) All temporary facilities required to be installed, shall be subject to the approval of the Commissioner. Prior to starting the work at any site; specify clearly the temporary locations of facilities preferably with sketches and submit the same to the Engineer for approval.
- (F) The Contractor shall provide water needed to conduct the required asbestos abatement. All temporary plumbing or adaptations to supply the needs of the work area shall be installed and removed by the Contractor and the cost thereof included in the unit price bid for abatement work. Shower water for the decontamination unit shall be provided hot. Heating of water, if necessary, shall be provided by the Contractor.
- (G) Any additional electrical equipment (i.e. transformers, etc.), which is necessary shall be at the Contractor's expense.
- (H) The Contractor shall provide fire protection in accordance with all State and Local fire codes.
- (I) Any parts of the service lines, within the excavated work area, disturbed or damaged by the installation and/or removal of the temporary service lines, shall be restored to their original condition by the Contractor to the satisfaction of the respective utility company.
- (J) Contractor shall supply hot shower water necessary for use in the decontamination unit.

67.11.1.12 USE OF THE AREA

- (A) The Contractor shall confine Contractor's apparatus, the storage of materials, and supplies, and the operation of the Contractor's workmen to limits established by law, ordinances, and the directions of the Engineer. All flammable or combustible materials shall be properly stored to obviate fire and in areas approved by the Engineer.
- (B) The Contractor shall assure of a clear path out of the excavated area, that appropriate safety barriers are established to prevent access, and that work areas are kept neat, clean, and safe.
- (C) All surrounding work, fixtures, soil lines, drains, water lines, gas pipes, electrical conduit, wires, utilities, etc. which are to remain in place shall be carefully protected and, if disturbed or damaged, shall be repaired or replaced as directed by the City in accordance with the terms of this contract.
- (D) Attention is specifically drawn to the fact that other contractors, performing the work of other contracts, may be (or are) brought upon any of the work sites of this contract. Therefore, the Contractor shall not have exclusive rights to any site of work and shall fully cooperate and coordinate Contractor's work with the work of other contractors who may be on (or are on) any site of the work of this contract. Regulated area exempted.
- (E) Temporary toilet facilities must be provided by the Contractor on the site. Coordinate location of such facilities with the Engineer.

67.11.1.13 PROTECTION AND DAMAGE

- (A) The Contractor is responsible to cover and protect all equipment that cannot be removed from work areas.
- (B) No materials or debris shall be thrown within the excavated area.
- (C) Debris shall be removed from the work site daily. Work area shall be left neat and clean after each work shift, so that work may proceed the next regular workday without interruption. Limited bag storage may take place within the work area when approved by the Engineer.

67.11.1.14 RESPIRATORY PROTECTION REQUIREMENTS

- (A) Respiratory protection shall be worn by all individuals who may be exposed to asbestos fibers from the initiation of the asbestos project until all areas have successfully passed clearance air monitoring in accordance with regulations and these specifications.
- (B) The Contractor shall develop and implement a written respiratory protection program with required site-specific procedures and elements. The program shall be administered by a properly trained individual. The written respiratory protection program shall include the requirements set forth in OSHA Standard 29 CFR 1910.134, at a minimum.
- (C) The Contractor shall provide workers with individually issued and marked respiratory equipment. Respiratory equipment shall be suitable for the asbestos exposure level(s) in the work area(s), as specified in OSHA Standards 26 CFR 1910.134 and 29 CFR 1926.1101, NIOSH Standard 42 CFR 84, or as more stringently specified otherwise, herein.
- (D) Where respirators with disposable filter parts are employed, the Contractor will provide sufficient filter parts for replacement as necessary or as required by the applicable regulation.
- (E) All respiratory protection shall be NIOSH approved. All respiratory protection shall be provided by the Contractor, and used by workers in conjunction with the written respiratory protection program.
- (F) Contractor shall provide respirators selected by an Industrial Hygienist that meet the following requirements:

AIRBORNE CONCENTRATION OF ASBESTOS OR CONDITIONS OF USE	REQUIRED RESPIRATOR
Not in excess of 1-fibers per cubic centimeter (f/cc), ten (10) times Permissible Exposure Level (PEL)	Half-mask air purifying respirator, other than a disposable respirator, equipped with high efficiency filters.
Not in excess of 5-f/cc, 50 times PEL	Full face-piece air-purifying respirator equipped with high efficiency filters.
Not in excess of 100-f/cc, 1,000 times PEL	Powered air purifying respirator equipped with equipped with high efficiency filters or any supplied air respirator operated in continuous flow mode.
Not in excess of 100-f/cc, 1,000 times PEL	Full face-piece supplied air respirator operate in pressure demand mode.
Greater than 1,000-f/cc, 10,000 times PEL, or unknown concentration	Full face-piece supplied air respirator operate in pressure demand mode, equipped with an auxiliary positive pressure self-contained breathing apparatus.

- (G) Selection of high efficiency filters:

- (1) All high efficiency filters shall have a nominal efficiency rating of 100 (99.97-percent effective) when tested against 0.3-micrometer monodisperse diethyl-hexyl phthalate (DOP) particles.
- (2) Choose N-, R-, or P- series filters based upon the presence or absence of oil particles.
 - (a) N- series filters shall only be used for non-oil solid and water based aerosols or fumes.
 - (b) R- and P -series filters shall be used when oil aerosols or fumes (i.e., lubricants, cutting fluids, glycerin, etc.) are present. The R- series filters are oil resistant and the P- series filters are oil proof.
 - (c) Follow filter manufacture recommendations.
- (3) If a vapor hazard exists, use an organic vapor cartridge in combination with the high efficiency filter.
- (H) Historical airborne fiber level data may serve as the basis for selection of the level of respiratory protection to be used for an abatement task. Historical data provided by the Contractor shall be based on personal air monitoring performed during work operations closely resembling the processes, type of material, control methods, work practices, and environmental conditions present at the site. Documentation of aforementioned results may be requested by the City and/or Testing Laboratory for review. This will not relieve the Contractor from providing personal air monitoring to determine the time-weighted average (TWA) for the work under contract. The TWA shall be determined in accordance with 29 CFR 1926.1101.
- (I) At no time during actual removal operations shall half-mask air purifying respirators be allowed unless a full 8-hour TWA and excursion limit have been conducted, and reviewed by the Project Monitor. Use of single use dust respirators is prohibited for the above respiratory protection.
- (J) Workers shall be provided with personally issued and individually marked respirators. Respirators shall not be marked with any equipment that will alter the fit of the respirator in any way. Only waterproof identification markers shall be used.
- (K) The Contractor shall ensure that the workers are qualitatively or quantitatively fit tested by an Industrial Hygienist initially and every 12-months thereafter with the type of respirator the Contractor will be using.
- (L) Whenever the respirator design permits, workers shall perform the positive and negative air pressure fit test each time a respirator is worn. Powered air-purifying respirators shall be tested for adequate flow as specified by the manufacturer.
- (M) No facial hairs (beards) shall be permitted to be worn when wearing respiratory protection that requires a mask-to-face seal.
- (N) If a worker wears glasses, a spectacle kit to fit their respirator shall be provided by the Contractor at the Contractor's expense.
- (O) Respiratory protection maintenance and decontamination procedures shall meet the following requirements:
 - (1) Respirators shall be inspected and decontaminated on a daily basis in accordance with OSHA 29 CFR 1910.134 (b); and,
 - (2) High efficiency filters for negative pressure respirators shall be changed after each shower; and,

- (3) Respiratory protection shall be the last piece of worker protection equipment to be removed. Workers must wear respirators in the shower when going through decontamination procedures as stated in Subsection 67.11.3.3; and,
 - (4) Airline respirators with high efficiency filtered disconnect shall be disconnected in the equipment room and worn into the shower. Powered air-purifying respirator face pieces shall be worn into the shower. Filtered/power pack assemblies shall be decontaminated in accordance with manufacturers recommendations; and,
 - (5) Respirators shall be stored in a dry place and in such a manner that the face-piece and exhalation valves are not distorted; and,
 - (6) Organic solvents shall not be used for washing of respirators.
- (P) Authorized visitors shall be provided with suitable respirators and instruction on the proper use of respirators whenever entering the work area. Qualitative fit test shall be done to ensure proper fit of respirator.

67.11.1.15 PROTECTIVE CLOTHING

- (A) Provide worker protection as required by the most stringent OSHA and/or EPA standards applicable to the work. Provide to all workers, foremen, superintendents, authorized visitors and inspectors, protective disposable clothing consisting of full-body coveralls, head covers, gloves and 18-inch high boot type covers or reusable footwear.
- (B) In addition to personal protective equipment for workers, the Contractor shall make available at each worksite at least four (4) additional uniforms and required respiratory equipment each day for personnel who are authorized to inspect the work site. The Contractor shall also provide, for the duration of the work at any site involving a decontamination unit for worksite access, a lockable storage locker for use by the Engineer. In addition to respiratory masks for workers, the Contractor must have on hand at the beginning of each work day, at least four (4) masks each with two (2) sets of fresh filters, for use by personnel who are authorized to inspect the worksite. The Contractor shall check for proper fit of the respirators of all City personnel authorized to enter the work area.
- (C) Asbestos handlers involved in tent procedures shall wear two (2) disposable suits, including gloves, hood and footwear, and appropriate respiratory equipment. All street clothes shall be removed and stored in a clean room within the work site. The double layer personal protective equipment shall be used for installation of the tent and throughout the procedure, if a decontamination unit (with shower and clean room) is contiguous to the work area, only one (1) layer of disposable personal protective equipment shall be required; in this case, prior to exiting the tent the worker shall HEPA vacuum and wet clean the disposable suit.

The outer disposable suit (if two (2) suits are worn) shall be removed and remain in the tent upon exiting. Following the tent disposal and work site clean up the workers shall immediately proceed to a shower at the work site. The inner disposal unit and respirator shall be removed in the shower after appropriate wetting. The disposal clothing shall be disposed of as asbestos-containing waste material. The workers shall then fully and vigorously shower with supplied liquid bath soap, shampoo, and clean dry towels.

- (D) Coveralls: Provide disposable full-body coveralls and disposable head covers. Require that they be worn by all workers in the work area. Provide a sufficient number for all required changes for all workers in the work area.
- (E) Boots: Provide work boots with non-skid soles, and where required by OSHA, foot protection, for all workers. Provide boots at no cost to workers. Paint uppers of all boots yellow with waterproof enamel. Do not allow boots to be removed from the work area for any reason after being contaminated with ACM and/or dust.

- (F) Hard Hats: Provide hard hats as required by OSHA for all workers, and provide a minimum of four (4) spares for Inspectors, visitors, etc. Label all hats with same warning label as used on disposal bags. Require hard hats to be worn at all times that work is in progress that may cause potential head injury. Provide hard hats of the type with polyethylene strap suspension. Require hats to remain in the work area throughout the work. Thoroughly clean and decontaminate and bag hard hats prior to removing them from the work area at the end of the work.
- (G) Goggles: Provide eye protection (goggles) as required by OSHA for all workers involved in any activity that may potentially cause eye injury. Require them to be worn at all times during these activities. Thoroughly clean and decontaminate goggles before removing them from the work area.
- (H) Gloves: Provide work gloves to all workers, of the type dictated by the work and OSHA Standards. Do not remove gloves from the work area. Dispose of as asbestos-contaminated waste at the end of the work. Gloves shall be worn at all times, except during work area preparation activities that do not disturb ACM.
- (I) Reusable footwear, hard hats and eye protection devices shall be left in the contaminated Equipment Room until the end of the asbestos abatement work.
- (J) Disposable protective clothing shall be discarded and disposed of as asbestos waste every time the wearer exits from the workspace to the outside through the decontamination facility.
- (K) Respirators, disposable coveralls, head covers and foot covers shall be provided by the Contractor for the Project Monitor, Engineer and any other authorized representative who may inspect the work area. Provide two (2) respirators and six (6) respirator filter changes per day.

67.11.1.16 AIR MONITORING - CONTRACTOR

- (A) The Contractor shall employ a qualified Industrial Hygiene Laboratory to analyze air samples in accordance with OSHA Regulations, 1926.1101 (Asbestos Standards for Construction) and New York City regulations. All costs for this work shall be deemed included in the price(s) bid for item(s) labeled, "INCREMENTAL COST FOR ASBESTOS ABATEMENT WORK PERFORMED ON EXISTING STEEL PIPE WATER MAIN TO BE REMOVED, COMPLETE".
- (B) 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).
- (C) The Industrial Hygiene Laboratory shall also be a current proficient participant in the NIST/NVLAP Quality Assurance Program for the identification of bulk samples. Laboratory identification number shall be submitted to and approved by the City.
- (D) The Contractor shall require a competent person (as defined in OSHA 1926.1101) to perform the following functions and to be on-site continuously for the duration of the project:
 - (1) Monitor the set up of the work area enclosure and ensure its integrity.
 - (2) Control entry and exit into the work enclosure.
 - (3) Ensure that employees are adequately trained in the use of engineering controls, proper work practices, proper personal protective equipment and in decontamination procedures.
 - (4) Insure that employees use proper engineering controls, proper work practices, proper personal protective equipment and proper decontamination procedures.

- (5) The competent person (as defined in OSHA1926.1101) shall check for rips and tears in work suits, and ensure that they are mended immediately or replaced.
- (E) Air monitoring responsibilities, shall be performed by a representative of the testing laboratory retained by the Contractor.
- (F) Contractor shall submit to the City all credentials of the designated (as defined in OSHA 1926.1101) and Industrial Hygiene Laboratory representative for approval.
- (G) Air monitoring and inspection shall be conducted by the Contractor's competent person (as defined in OSHA 1926.1101).
- (H) Continuous (daily or per shift) monitoring and inspection will include work area samples, personnel samples from the breathing zone of a worker to accurately determine the employees' 8-hour TWA (unless Type C respirators are used) and decontamination unit clean room samples.
- (I) Work area samples and employee personnel samples shall be taken using pumps whose flow rates can be determined to an accuracy of ± 5 -percent, at a minimum of two (2) liters per minute. This must be demonstrated at the job site.
- (J) Sampling and analysis methods shall be per NIOSH 7400A.
- (K) Test Reports:
 - (1) Promptly process and distribute one (1) copy of the test results, to the Commissioner.
 - (2) Prompt reports are necessary so that if required, modifications to work methods and/or practices may be implemented as soon as possible.
 - (3) Contractor shall by facsimile notify the Commissioner within 24-hours of the results of each test, followed by written notification within three (3) days.
- (L) The Contractor's competent person shall conduct inspections and provide written reports daily. Inspections will include checking the standard operating procedures, engineering control systems, respiratory protection and decontamination systems, packaging and disposal of asbestos waste, and any other aspects of the project which may affect the health and safety of the people and environment.
- (M) All costs for required air monitoring by the Contractor's competent person shall be borne by the Contractor.
- (N) The City reserves the right to conduct air and surface dust sampling in conjunction with and separate from the Testing Laboratory for the purposes of Quality Assurance.
- (O) All samples shall be accompanied by a Chain of Custody Record that shall be submitted to the Project Monitor upon completion of analysis.

67.11.1.17 TESTING LABORATORY

- (A) The City, at its own expense, will employ the services of an Independent Testing Laboratory. The Testing Laboratory will perform air sampling activities at the site and perform periodic observations of the work site.
- (B) The Laboratory will perform analysis of air samples utilizing phase contrast microscopy (PCM) and/or transmission electron microscopy (TEM). This laboratory shall meet the standards stated herein.

- (C) Observations will include, but not be limited to, checking the standard operating procedures, engineering control systems, respiratory protection, decontamination systems, packaging and disposal of asbestos waste, and any other aspects of the project that may affect the health and safety of the environment, Contractor, and/or facility occupants.
- (D) The Testing Laboratory shall have access to all areas of the asbestos removal project at all times and shall continuously inspect and monitor the performance of the Contractor to verify that said performance complies with this specification. The Testing Laboratory shall be on site throughout the entire abatement operation.
- (E) The City will be responsible for costs incurred with the required laboratory work. Any subsequent additional testing required due to limits exceeded during initial testing shall be paid for by the Contractor.
- (F) At a minimum, air sampling shall be conducted in accordance with the following schedule:

ABATEMENT ACTIVITY	PRE-ABATEMENT	DURING ABATEMENT	POST- ABATEMENT
Equal to or greater than 10,000-square feet or 10,000-linear feet of ACM	PCM	PCM	TEM
Less than 10,000-square feet or 10,000-linear feet of ACM	PCM	PCM	PCM
Exceptions to the above:			
Boiler Rooms	PCM	PCM	PCM
Tent and Glovebag Procedures	PCM	PCM	PCM
Demolitions	PCM	PCM	PCM

Note: TEM is acceptable wherever PCM is required.

- (G) Prior to commencement of abatement activities, the Testing Laboratory will collect a minimum number of area samples inside each homogeneous work area.
 - (1) Samples will be taken during normal activities and circumstances at the work site.
 - (2) Samplers shall be located within the proposed work area and at all proposed isolation barrier locations.
 - (3) Samples shall be analyzed using PCM.
 - (4) The number of samples to be collected will be determined by the size of the project.
- (H) Area air sampling during abatement shall be conducted as specified in the following documents except as restricted or modified herein:
 - (1) Measuring Airborne Asbestos Following An Abatement Action, US EPA document 600/4-85-049 (Nov., 1985);
 - (2) Guidance For Controlling Asbestos-Containing Materials In Buildings; US EPA Publication 560/5-85-024 (June, 1984);
 - (3) Methodology For The Measurement Of Airborne Asbestos By Electron Microscopy, US EPA Contract No. 68-02-3266;
 - (4) Mandatory And Nonmandatory Electron Microscopy Methods, set forth in 40 CFR Part 763, Subpart E, Appendix A;

- (5) NIOSH 7400 method using "A" counting rules.
- (I) In accordance with the above criteria, area samples (see NYCDEP Asbestos Control Program Regulations) shall conform to the following schedule:

AREA SAMPLES FOR ANALYSIS BY	MINIMUM VOLUME	FLOW RATE
PCM, 25-mm cassettes	560-liters	5 to 15-liters/minute
TEM, 25-mm cassettes	560-liters	1 to 10-liters/minute
TEM, 37-mm cassettes	1,250-liters	1 to 10-liters/minute

- (1) All costs resulting from additional air tests and observations shall be borne by the Contractor. These costs may include, but are not limited to, labor, analysis fees, materials, and expenses.
- (2) After the area has been found to be in compliance, the Contractor may remove Isolation Barriers, tents if any and perform final cleaning as specified.
- (J) Clearance And Excavation Re-entry Criteria:

- (1) The clearance criteria shall be applied to each excavated work area independently.
- (2) For PCM analysis, the clearance air monitoring shall be considered satisfactory when all of the samples regardless of the size of the project are less than or equal to 0.01-f/cc or the background concentrations, whichever is greater.
- (3) For TEM analysis, the clearance air monitoring shall be considered satisfactory when the requirements stated in 40 CFR Part 763, Subpart E, Appendix A, Section IV are met.
- (4) As soon as the air monitoring tests are completed, the Testing Laboratory will send the results of such tests to the City and notify the Contractor.
- (5) The Contractor shall cooperate fully with all aspects of air monitoring operations.

67.11.1.18 TAMPERING WITH TEST EQUIPMENT

All parties to this contract are hereby notified that any tampering with testing equipment will be considered an attempt at falsifying reports and records to federal and state agencies and each offense will be prosecuted under applicable state and federal criminal codes to the fullest extent possible.

67.11.2 PRODUCTS

67.11.2.1 MATERIALS

- (A) Wetting Agents: Surfactant shall consist of resin materials in a water base, that have been tested to ensure materials are nontoxic and nonhazardous. Surfactants shall be installed according to the manufacturer's written instructions.
- (B) Encapsulants (Sealants, Lockdown Encapsulants): Encapsulants shall consist of pigmented (nontransparent) liquid material which can be applied to asbestos containing materials or bare surfaces exposed after an abatement which temporarily controls the possible release of asbestos fibers from the material or surface either by creating a membrane over the surface (bridging encapsulant) or by penetrating into the material and binding its components together (penetrating encapsulant). The encapsulant shall be installed according to the manufacturer's written instructions. Sealing materials to be applied to structural members and decking assemblies scheduled to receive spray-applied fireproofing shall be approved by UL for use with the specified material.
- (C) Fire Retardant Polyethylene Sheeting: Minimum uniform thickness of 6-mil. Provide largest size possible to minimize seams.

- (D) Fire Retardant Reinforced Polyethylene Sheeting: For covering floor of decontamination units, provide translucent, nylon reinforced or woven polyethylene laminated, fire retardant polyethylene sheeting. Provide largest size possible to minimize seams, minimum uniform thickness 6-mil.
- (E) Drums: Asbestos-transporting drums, sealable and clearly marked with warning labels as required by OSHA and EPA.
- (F) Polyethylene Disposal Bags: Asbestos disposal bags, minimum of 6-mil thick. Bags shall be clearly marked with warning labels as required by OSHA and EPA.
- (G) Signs: Asbestos warning signs for posting at perimeter of work area, as required by OSHA and EPA.
- (H) Waste Container Bag Liners And Flexible Trailer Trays: One piece leak-resistant flexible tray with absorbent pad.
- (I) Tape: Provide tape which is of high quality with an adhesive that is formulated to aggressively stick to sheet polyethylene.
- (J) Spray Adhesive: Provide spray adhesive in aerosol cans which is specifically formulated to stick tenaciously to sheet polyethylene.
- (K) Flexible Duct: Spiral reinforced flex duct for air filtration devices.
- (L) Protective Clothing: Workers shall be provided with sufficient sets of properly fitting, full-body, disposable coveralls, head covers, gloves, and 18-inch high boot-type foot covers. Protective clothing shall conform to OSHA Standard 29 CFR 1926.1101.

67.11.2.2 TOOLS AND EQUIPMENT

- (A) Air Filtration Device (AFD): AFDs shall be equipped with High Efficiency Particulate Air (HEPA) filtration systems and shall be approved by and listed with Underwriter's Laboratory.
- (B) Transportation Equipment: Transportation Equipment, as required, shall be suitable for loading, temporary storage, transit and unloading of contaminated waste without exposure to persons or property. Any temporary storage containers positioned outside the excavated work area for temporary storage shall be metal, closed and locked.
- (C) Vacuum Equipment: All vacuum equipment utilized in the work area shall utilize HEPA filtration systems.
- (D) Vacuum Attachments: Soft Brush Attachment, Asbestos Scraper Tool, Drill Dust Control Kit.
- (E) Electric Sprayer: An electric airless sprayer suitable for application of encapsulating material and shall be approved by and listed with Underwriters Laboratory.
- (F) Water Sprayer: The water sprayer shall be an airless or other low-pressure sprayer for amended water application.
- (G) Water Atomizer: Powered air-misting device equipped with a ground fault interrupter and equipped to operate continuously.
- (H) Brushes: All brushes shall have nylon bristles. Wire brushes are excluded from use due to their potential to shred asbestos fibers into small, fine fibers. Wire brushes may be used for cleaning pipe joints within glove-bags upon written approval of the Engineer.

- (I) Hand Power Tools: Shall be equipped with HEPA-filtered local exhaust ventilation if used to drill, cut into or otherwise disturb ACM.
- (J) Other Tools And Equipment: The Contractor shall provide other suitable tools for the stripping, removal, encapsulation, and disposal activities including but not limited to: hand-held scrapers, sponges, rounded-edge shovels, brooms, and carts.
- (K) Fans And Leaf Blower: Provide Leaf Blower (one leaf blower per floor) and one 20-inch diameter fans for each 10,000-cubic feet of work area volume to be used for aggressive sampling technique for clearance air testing.
- (L) Fire Extinguishers: Provide type "A" fire extinguishers in spaces where there is minimal danger of electrical or grease-oil-flammable liquid fires. In other areas, provide type "ABC" dry chemical extinguishers of NFPA recommended types for the exposure in each case. All fire extinguishers shall comply with the applicable recommendations of NFPA Standard 10, "Standard For Portable Extinguishers." Provide a minimum of four (4) fire extinguishers in each work area; one in the equipment room of the decontamination unit, one outside the work area in the clean room or directly outside same, and two fire extinguishers where they are most effective for their intended purpose. Do not exceed seventy-five (75) feet between fire extinguishers within the workarea.
- (M) First Aid Kits: The Contractor shall maintain adequately stocked first aid kits in the clean rooms of the decontamination units and within work areas. The first aid kit shall be approved by a licensed physician for the work to be performed under this contract.

(N) Water Service:

Water Heater: Provide UL rated 40-gallon electric water heaters to supply hot water for Personal Decontamination Enclosure System Shower. Wiring of the water heater shall comply with NEMA, NECA, and UL standards.

(O) Telephone Paging Device:

The Contractor or the Contractor's authorized representative shall, at all times during the normal workday or during periods of overtime work under this contract, carry a digital telephone paging device (Beeper). The device shall be activated by a telephone number in the 718, 212, 646, 917, 800, or 888 area codes. The Contractor shall supply the City with the activation number for the device and respond to calls from the City within one (1) hour. The cost to Contractor for this device and all charges accruing thereto is deemed included in the price(s) bid for item(s) labeled, "INCREMENTAL COST FOR ASBESTOS ABATEMENT WORK PERFORMED ON EXISTING STEEL PIPE WATER MAIN TO BE REMOVED, COMPLETE".

67.11.2.3 CLEANING

- (A) Throughout the construction period, the Contractor shall maintain the work area as described in this section.
 - (1) The Contractor shall prevent excavated areas other than the work area from becoming contaminated with asbestos-containing dust or debris. Should areas outside the work area become contaminated with asbestos-containing dust or debris as a consequence of the Contractor's work practices, the Contractor shall be responsible for cleaning these areas in accordance with the procedures appended in Title 15, Chapter 1 of RCNY and NYSDOL ICR56. All costs incurred in cleaning or otherwise decontaminating nonwork areas and the contents thereof shall be borne by the Contractor at no additional cost to the City.
 - (2) The Contractor shall provide to all personnel and laborers the required equipment and materials needed to maintain the specified standard of cleanliness.

(B) General:

- (1) Waste water from asbestos removal operations, including shower water, may be discharged into the public sewer system only after approved filtration is on operation to remove asbestos fibers.
- (2) Asbestos wastes shall be double bagged in six (6) mil (0.006") polyethylene bags approved for ACM disposal and shall be properly labeled and handled before disposal.
- (3) The Contractor shall use corrugated cartons or drums for disposal of asbestos-containing waste having sharp edged components (e.g. nails, screws, metal lathe and tin sheeting) that may tear polyethylene bags and sheeting. The waste within the drums or cartons must be double bagged.
- (4) The Contractor shall transport all bags of waste to disposal site in thirty (30) gallon capacity metal or fiber drums with tight lids, or in locked steel dumpster.
- (5) Dumping of debris, waste or bagged waste will not be permitted.
- (6) Cleanup of visible accumulations of loose ACM shall occur whenever there is a sufficient amount to fill a single asbestos bag.
- (7) ACM shall be collected utilizing rubber dust pans and rubber squeegees.
- (8) HEPA vacuums shall not be used on wet materials unless specifically designed for that purpose.
- (9) Metal shovels shall not be used within the work area.
- (10) Accumulations of dust shall be cleaned off all surfaces of the work area daily.
- (11) Mastic solvent when used will be applied in moderation (e.g. by airless sprayer).
- (12) The Contractor shall retain all items in the storage area in an orderly arrangement allowing maximum access, not impeding traffic, and providing the required protection of all materials.
- (13) The Contractor shall not allow accumulation of scrap, debris, waste material, and other items not required for use in this work. Asbestos contaminated waste must not be kept on the work site overnight.
- (14) At least twice a week (more if necessary), the Contractor shall completely remove all scrap, debris and waste material from the job site.
- (15) The Contractor shall provide adequate storage space for all items awaiting removal from the job site, observing all requirements for fire protection and concerns for the environment.
- (16) All respiratory protection equipment shall be selected from the latest NIOSH Certified Equipment list.
- (17) Daily and more often, if necessary, the Contractor shall inspect the work areas and adjoining spaces, and pick up all scrap, debris, and waste material. All such items shall be removed to the place designated for their storage.
- (18) Weekly, and more often, if necessary, the Contractor shall inspect all arrangements of materials stored on the site; re-stack and tidy them or otherwise service them to meet the requirements of these specifications.
- (19) The Contractor shall maintain the site in a neat and orderly condition at all times.

67.11.3 EXECUTION**67.11.3.1 WORKER DECONTAMINATION FACILITY****(A) Large Asbestos Projects (Small Project Option):**

Provide a worker decontamination facility in accordance with, Title 15, Chapter 1, OSHA Standard 29 CFR 1926.1101, 12NYCRR Part 56 and as specified herein. Worker decontamination shall be in accordance of the NYCDEP approved procedure for removing asbestos containing coal tar wrap.

(a) Structure:

- (1) Use modular systems or build using wood or metal frame studs, joists, and rafters placed at a maximum of 16-inches on-center.
 - (2) When worker decontamination unit is located outdoors, in areas with public access, or in correctional facilities, frame work shall be lined with minimum 3/8" thickness plywood sheathing. Sheathing shall be caulked or taped airtight at all joints and seams.
 - (3) Interior shall be covered with two (2) layers of opaque 6-mil polyethylene sheeting, with a minimum overlap of 12-inches at seams. Seal seams airtight using tape and adhesive. The interior floor shall be covered with two (2) layers of reinforced fire-retardant polyethylene sheeting with a minimum overlap on the walls of twelve (12) inches.
 - (4) Entrances to the decontamination unit shall be secured with lockable hinged doors. Doors shall be open at all times when abatement operations are in progress. Doors shall be louvered to allow for air movement through the decontamination units into work area.
- (b) Curtained Doorways: A device to allow ingress or egress from one room to another while permitting minimal air movement between the rooms.
- (c) Air Locks: Air locks shall consist of two curtained doorways placed a minimum of three (3) feet apart.
- (d) Decontamination Enclosure System shall be placed adjacent to the work area and shall consist of three (3) totally enclosed chambers, separated from work area and each other by airlocks, as follows:
- (1) Equipment Room: The equipment room shall have a curtain doorway to separate it from the work area, and share a common airlock with the shower room. The equipment room shall be large enough to accommodate at least one (1) worker (allowing them enough room to remove their protective clothing and footwear), and a 6-mil disposal bag for collection of discarded clothing and equipment. The equipment room shall be utilized for the storage of equipment and tools after decontamination using a HEPA-vacuum and/or wet cleaning. A one-day supply of replacement filters, in sealed containers, for HEPA-vacuums and negative air machines, extra tools, containers of surfactant, and other materials and equipment required for the project shall be stored here. A walk-off pan filled with water shall be placed in the work area just outside the equipment room for persons to clean foot coverings when leaving the work area. Contaminated footwear and reusable work clothing shall be stored in this room.
 - (2) Shower Room: The shower room shall have two (2) airlocks (one that separates it from the equipment room and one that separates it from the clean room). The shower room shall contain at least one (1) shower, with hot and cold water adjustable at the tap, per eight (8) workers. Careful attention shall be given to the shower to ensure against leaking of any kind. Contractor shall supply towels, shampoo and liquid soap in the shower room at all times. Shower water shall be drained collected, and filtered through a

system with at least a 5-micron particle size collection capacity. A system containing a series of several filters with progressively smaller pore sizes shall be used to avoid rapid clogging of the filters by large particles. Filtered water shall be discharged in accordance with applicable codes. Contaminated filters shall be disposed of as asbestos waste.

- (3) Clean Room: The clean room shall share a common airlock with the shower room and shall have a curtained doorway to separate it from outside noncontaminated areas. Lockers, for storage of workers' street clothing, and shelves, for storing respirators, shall be provided in this area. Clean disposable clothing, replacement filters for respirators, and clean dry towels shall be provided in the clean room. The clean room shall not be used for the storage of tool, equipment or other materials.

(B) Small Asbestos Projects:

Provide a worker decontamination facility in accordance with, Title 15, Chapter 1, OSHA Standard 29 CFR 1926.1101, 12NYCRR Part 56 and as specified herein. Unless approved by NYCDEP and the City, worker decontamination facilities shall be attached to the work areas.

(a) Structure:

- (1) Use modular systems or build using wood or metal frame studs, joists, and rafters placed at a maximum of 16-inches on-center.
- (2) When worker decontamination unit is located outdoors, in areas with public access, or in correctional facilities, frame work shall be lined with minimum 3/8" thickness plywood sheathing. Sheathing shall be caulked or taped airtight at all joints and seams.
- (3) Interior shall be covered with two (2) layers of opaque 6-mil polyethylene sheeting, with a minimum overlap of 12-inches at seams. Seal seams airtight using tape and adhesive. The interior floor shall be covered with two (2) layers of reinforced fire-retardant polyethylene sheeting with a minimum overlap on the walls of twelve (12) inches.
- (4) Entrances to the decontamination unit shall be secured with lockable hinged doors. Doors shall be open at all times when abatement operations are in progress. Doors shall be louvered to allow for air movement through the decontamination units into work area.

(b) Curtained Doorways: A device to allow ingress or egress from one room to another while permitting minimal air movement between the rooms.

(c) Air Locks: Air locks shall consist of two (2) curtained doorways placed a minimum of three (3) feet apart.

(d) Decontamination Enclosure System shall be placed adjacent to the work area and shall consist of three (3) totally enclosed chambers, separated from work area and each other by airlocks, as follows:

- (1) Shower Room: The shower room shall have two (2) airlocks (one that separates it from the work area and one that separates it from the clean room). The shower room shall contain at least one (1) shower, with hot and cold water adjustable at the tap, per eight (8) workers. Careful attention shall be given to the shower to ensure against leaking of any kind. The Contractor shall supply towels, shampoo and soap in the shower room at all times. Shower water shall be drained collected, and filtered through a system with at least a 5-micron particle size collection capacity. A system containing a series of several filters with progressively smaller pore sizes shall be used to avoid rapid clogging of the filters by large particles. Filtered water shall be discharged in accordance with applicable codes. Contaminated filters shall be disposed of as asbestos waste.

- (2) Clean Room: The clean room shall share a common airlock with the shower room and shall have a curtained doorway to separate it from outside noncontaminated areas. Lockers, for storage of workers' street clothing, and shelves, for storing respirators, shall be provided in this area. Clean disposable clothing, replacement filters for respirators, and clean dry towels shall be provided in the clean room. The clean room shall not be used for the storage of tools, equipment or other materials.

(C) Decontamination Enclosure System Utilities: Lighting, heat, and electricity shall be provided as necessary by the Contractor, and as specified herein.

67.11.3.2 WASTE DECONTAMINATION FACILITY

(A) Large Asbestos Project (Small Project Option):

Provide a worker decontamination facility in accordance with, Title 15, Chapter 1, OSHA Standard 29 CFR 1926.1101, 12NYCRR Part 56 and as specified herein. Unless approved by NYCDEP and the City, worker decontamination facilities shall be attached to the work areas.

(a) Structure:

- (1) Use modular systems or build using wood or metal frame studs, joists, and rafters placed at a maximum of 16-inches on-center.
- (2) When worker decontamination unit is located outdoors, in areas with public access, or in correctional facilities, frame work shall be lined with minimum 3/8" thickness plywood sheathing. Sheathing shall be caulked or taped airtight at all joints and seams.
- (3) Interior walls shall be covered with two (2) layers of opaque 6-mil polyethylene sheeting, with a minimum overlap of 12-inches at seams. Seal seams airtight using tape and adhesive. The interior floor shall be covered with two (2) layers of reinforced fire-retardant polyethylene sheeting with a minimum overlap on the walls of twelve (12) inches.
- (4) Entrances to the decontamination unit shall be secured with lockable hinged doors. Doors shall be open at all times when abatement operations are in progress. Doors shall be louvered to allow for air movement through the decontamination units into the work area.

(b) Curtained Doorways: A device to allow ingress or egress from one room to another while permitting minimal air movement between the rooms.

(c) Air Locks: Air locks shall consist of two (2) curtained doorways placed a minimum of three (3) feet apart.

(d) Decontamination Enclosure System shall be placed adjacent to the work area and shall consist of three (3) totally enclosed chambers, separated from the work area and each other by airlocks, as follows:

- (1) Washroom: An equipment washroom shall have two (2) air locks (one separating the unit from the work area and one common air lock that separates it from the holding area. The washroom shall have facilities for washing material containers and equipment. Gross removal of dust and debris from contaminated material containers and equipment shall be accomplished in the work area, prior to moving to the washroom.
- (2) Holding Area: A holding area shall share a common air lock with the equipment washroom and shall have a curtained doorway to outside areas. A hinged, lockable door

shall be placed at the holding area entrance to prevent unauthorized access into the work area.

- (B) Decontamination Enclosure System Utilities: Lighting, heat, and electricity shall be provided as necessary by the Contractor, and as specified herein.

67.11.3.3 PERSONNEL ENTRANCE AND DECONTAMINATION PROCEDURES FOR REMOVAL OPERATIONS UTILIZING REMOTE DECONTAMINATION FACILITIES

- (A) All individuals who enter the work area shall sign the entry log, located in the clean room, upon each entry and exit. The log shall be permanently bound and shall fully identify the facility, agents, contractor(s), the project, each work area, and worker respiratory protection employed. The job supervisor shall be responsible for the maintenance of the log during the abatement activity.
- (B) Each worker shall remove street clothes in the clean room; wear two (2) disposable suits, including gloves, hoods and non-skid footwear; and put on a clean respirator (with new filters) before entering the work area.
- (C) Each worker shall, before leaving the work area or tent, clean the outside of the respirators and outer layer of protective clothing by wet cleaning and/or HEPA-vacuuming. The outer disposable suit shall be removed in the airlock prior to proceeding to the Worker Decontamination Unit. The inner disposable suit and respirator shall be wet wiped and HEPA-vacuumed thoroughly before removing and prior to aggressive shower.
- (D) Following showering and drying off, each worker or authorized visitor shall proceed directly to the clean room, dress in street clothes, and exit the decontamination enclosure system immediately.

67.11.4 PREPARATION OF WORK AREA AND REMOVAL PROCEDURES

67.11.4.1 REMOVAL OF ASBESTOS-CONTAINING MATERIAL

- (A) Contractor shall be responsible for the proper removal of ACM from the work area using standard industry techniques. The Testing Laboratory representative shall observe the work.

General Requirements:

- (a) Removal of ACM shall be performed using wet methods. Dry removal of ACM is prohibited.
- (b) Spray ACM with amended water with sufficient frequency and quantity to enhance penetration. Sufficient time shall be allowed for amended water to penetrate the material to the substrate prior to removal. All ACM shall be thoroughly wetted while work is being conducted.
- (c) Accumulation of standing water on the floor of the work area is prohibited.
- (d) Apply removal encapsulants, when used, in accordance with the manufacturer's recommendations and guidelines.
- (e) Containerize ACM immediately upon detachment from the substrate.
- (f) Pre-Removal Inspections:
- (1) Prior to removal of any ACM, the Contractor shall notify the Testing Laboratory and request a pre-removal inspection. Posting of warning signs, building of decontamination enclosure systems, and all other preparatory steps have been taken prior to notification of the Testing Laboratory.

- (2) Contractor shall correct any deficiencies observed by Testing Laboratory at no additional cost to City.
- (3) Following the Testing Laboratory's approval of the work area preparations, removal of ACM may commence.

(B) Removal of Coal Tar Wrap shall be as follows:

Work shall be performed as outlined in the coal tar wrap removal procedures (see Appendix) approved by the New York City Department of Environmental Protection (NYCDEP).

67.11.4.2 MAINTENANCE OF CONTAINED WORK AREA AND DECONTAMINATION ENCLOSURE SYSTEMS

- (A) Ensure that barriers are installed in a manner appropriate to the expected weather conditions during the project and for its duration. Repair damaged barriers and remedy defects immediately upon their discovery. Visually inspect barriers at the beginning and end of each work period.
- (B) Visually inspect nonwork areas and the decontamination enclosure system for water leakage. Perform the visual inspection a minimum of two (2) times for each 8-hour work shift.

67.11.5 ASBESTOS WASTE MANAGEMENT

67.11.5.1 ACM WASTE REQUIREMENTS

- (A) The Contractor and all subcontractors are specifically alerted to the illegal practice of combining asbestos-containing waste (ACW) from one project with the ACW of other projects without using the services of a permitted waste transfer station as defined by 6 NYCRR Part 360 and 364. As part of the shop drawing submittals, the Contractor must submit for approval the proposed method of transportation and disposal that will be utilized to manage the ACW of this contract. If a permitted transfer station is to be used, the cost shall be included in the bid price. The Contractor must submit a waste manifest consistent with whatever approved method is utilized as part of the invoicing and payment procedures.
- (B) The Contractor shall maintain compliance with the strictest set of regulations of Title 15, Chapter 1 of RCNY, NYC LL 70/85, NYS DOL ICR 56, USEPA, Asbestos Regulation 40 CFR Section 61.152, 29 CFR 1926.1101, 29 CFR 1910.1200 (F) of OSHA's Hazard Communication Standards, and other applicable standards.

NOTE: Any penalties incurred for failure to comply with any of the above regulations and/or fines imposed due to negligence of the Contractor will be the sole responsibility of the Contractor.

When presenting ACW for storage at the generation site, the Contractor shall:

- (1) Wet down ACW in a manner sufficient to prevent all visible emissions of dust into the air.
- (2) Seal material in a leak tight container while wet.
- (3) Keep ACW separate from any other waste.

(C) When presenting ACW for storage away from the site of generation, the Contractor shall:

- (1) Ensure that ACW has been properly packaged as per requirements above.
- (2) Examine the containers of ACW to ensure that there are no breaks in the containers and that no visible dust is being released into the air.

(3) If examination reveals damage to a container of ACW the Contractor or person accepting the waste shall immediately wet down the ACW and repackage it into a clean leak tight container. The subsequent repackaging shall be the financial responsibility of the Contractor and occur at no extra cost to the City.

(4) Keep ACW separate from any other waste.

(D) When storing ACW - The Contractor shall:

(1) Ensure that the ACW has been sufficiently wetted down in tight containers.

(2) Rewet and repackage any damaged containers.

(3) Maintain at storage site an adequate supply of spare leak tight containers.

(4) Maintain at storage site an adequate supply of amended water.

(5) Keep ACW separate from any other waste.

(6) Keep ACW in a secured, enclosed, and locked container.

(7) If the Contractor has intention of sorting a quantity of ACW greater than or equal to 50-cubic yards, the Contractor shall:

Submit a written request and receive written approval from the City.

(E) When presenting for transport, the Contractor shall:

(1) Ensure that ACW has been sufficiently wetted down.

(2) Examine the integrity of the container's airtight seal.

(3) Rewet and repackage any damaged containers.

(4) Keep ACW separate from all other waste.

(5) Ensure that a person transporting asbestos waste holds a valid permit issued pursuant to law.

(6) Frequency of waste removal:

Properly packaged and labeled asbestos waste shall be removed from the site on a daily basis. Under no circumstance shall asbestos waste be stored on site without written approval from the City. The Waste Hauler and landfill shall be as indicated on the notifications to regulatory agencies.

(F) Waste Load-Out Through Equipment Decontamination Enclosure (Full Decontamination Facility): Place asbestos waste in disposal bags. Large items not able to fit into disposal bags shall be wrapped in one (1) layer of 6-mil thick polyethylene sheeting. Clean outer covering of asbestos waste package by wet cleaning and/or HEPA-vacuuuming in a designated part of the work area. Move wrapped asbestos waste to the equipment washroom, wet clean each bag or object and place it inside a second disposal bag, or a second layer of 6-mil polyethylene sheeting, as the item's physical characteristics demand. Air volume shall be minimized, and the bags or sheeting shall be sealed airtight with tape.

(1) The clean containerized items shall be moved to the equipment decontamination enclosure holding area pending load-out to storage or disposal facilities.

- (2) Workers who have entered the equipment decontamination enclosure system from the uncontaminated nonwork area shall perform load-out of containers from the decontamination enclosure holding area. Dress workers moving asbestos waste to storage or disposal facilities in clean overalls of a color different than from that of coveralls used in the work area. Ensure that workers do not enter from uncontaminated areas into the equipment washroom or the work area. Ensure that contaminated workers do not exit the work area through the equipment decontamination enclosure system.
 - (3) Thoroughly clean the equipment decontamination enclosure system immediately upon completion of the waste load-out activities, and at the completion of each work shift.
 - (4) Labeled ACM waste containers or bags shall not be used for non-ACM debris or trash. Any materials placed in labeled containers or bags, including those turned "inside-out", shall be handled and disposed of as ACM waste.
- (G) All asbestos materials, wastes, shower water, polyethylene, disposable equipment and supplies shall be disposed of as contaminated waste, in accordance with the EPA regulation (40 CFR, Section 61.150) and those requirements of the New York Department of Environmental Conservation and New York City Department of Sanitation.
- (H) All asbestos materials shall be prepared for transportation in accordance with this specification and all applicable Federal, State, County and City Regulations. The Contractor shall submit the following documentation:
- (1) Where applicable, an EPA Generator's identification number which has been obtained from the EPA for all asbestos waste generated from the project.
 - (2) Applicable State Waste Hauler license and registration numbers.
 - (3) Federal Hazardous Materials Waste Hauler number.
 - (4) Designated landfill EPA Permit numbers.
- (I) Prior to loading asbestos waste the enclosed cargo areas (dumpster) shall be prepared as follows:
- (1) Clean via HEPA-vacuum and wet wipe techniques the enclosed cargo areas of all visible debris prior to preparing with polyethylene.
 - (2) Line the cargo area with two (2) layers of 6-mil polyethylene sheeting to prevent contamination from damaged or leaking containers. Floor sheeting shall be installed first and extend up the walls a minimum of 24-inches. Wall sheeting shall be overlapped and taped securely into place.
- (J) Asbestos-containing waste shall be placed on level surfaces in the cargo area of the dumpster and shall be packed tightly to prevent any shifting or tipping of the waste during transportation.
- (K) Asbestos-containing waste shall not be thrown into or dropped from the dumpster. All material shall be handled carefully to prevent rupture of the containers.
- (L) All personnel engaged in handling and loading of contaminated waste outside of the work area shall wear protective clothing. The disposable clothing shall include head, body and foot protection and color of clothing shall be different from abatement personnel in the work area. Minimum respiratory protection shall be half face, dual cartridge, air purifying respirators with HEPA-filters.
- (M) The Contractor shall immediately clean debris or residue observed on containers or surfaces outside of the work area. Cleaning shall be via HEPA equipped wet/dry vacuums only.

- (N) All asbestos-containing waste shall be transported from the abatement site to the landfill by a registered Waste Hauler. When transporting ACW:
- (1) Ensure that the ACW has been sufficiently wetted down in a leak tight container.
 - (2) Rewet and repackage any damaged containers.
 - (3) Maintain at storage site an adequate supply of spare leak tight containers.
 - (4) Maintain at storage site an adequate supply of amended water.
 - (5) Keep ACW separate from any other waste.
- (O) Keep ACW in a secured, enclosed, and locked container.
- (P) Waste transport documents shall conform to the requirements of the U.S. Department of Transportation, Hazardous Materials Transportation Regulation, 49 CFR Part 173 and EPA 40 CFR 61.150 (d)(1)(2). Shipping documents shall be clearly marked with the required designation "RQ Asbestos". The Contractor shall provide a copy of this document to the City.
- (Q) A uniform hazardous waste manifest shall be prepared by the Contractor and signed by the Contractor each time the Contractor ships a dumpster load of Asbestos-Containing Waste Material. The uniform hazardous waste manifest shall include the site of waste generation, the names and addresses of the Transporter, the Contractor, and the landfill operator with information on the type and number of asbestos-waste containers, time and date. The Contractor shall provide the Engineer, Testing Laboratory or authorized designated representative with signed copies of the waste manifest before each departure.
- (R) The Contractor or the Contractor's registered hazardous Waste Hauler shall transport asbestos-containing waste material from the abatement site directly to the specified disposal site. The Contractor or Waste Hauler shall not accept material from any other site when transporting asbestos-containing waste material from the abatement site. The authorized DDC representative or Engineer reserves the right to travel with Contractor's Waste Hauler to the waste disposal site. No intermediate storage of waste material (i.e. Contractors warehouse) shall be permitted.
- (S) Final or progress application for payments will not be processed unless all hazardous waste manifests generated to date have been received and reviewed by the Engineer.
- (T) All asbestos materials, wastes, shower water, polyethylene disposable equipment and supplies shall be disposed of as contaminated waste, in accordance with the EPA regulation (40 CFR, Section 61.150) and those requirements of the New York State Department of Environmental Conservation and the New York Department of Sanitation.
- (U) The Contractor shall transport all sealed drums to a landfill disposal site approved by the Department of Environmental Conservation and the EPA. Transportation shall be performed by a New York State registered Waste Hauler, where required. When presenting the ACW for disposal the Contractor or subcontractor shall:
- (1) Ensure that waste container is properly labeled according to the National Emission Standard for Hazardous Air Pollutants (NESHAP); Asbestos Revision, 40 CFR, Part 61, Subpart M. The labels shall include the name of the waste generator and the location where the waste was generated.
 - (2) Comply with all applicable orders issued pursuant to asbestos disposal.
 - (3) Ensure that ACW has been sufficiently wetted down.

- (4) Rewet and repackage any damaged containers.
- (5) Keep ACW separate from all other wastes.
- (V) The Contractor shall notify the waste disposal site, at least 24-hours prior to transportation of contaminated waste to be delivered. The Contractor shall determine if a larger notification period is required.
- (W) At the site, the Contractor or Waste Hauler trucks shall approach the dump location as close as possible for unloading asbestos waste. Containers shall be carefully placed in the ground. Do not throw containers from truck.
- (X) The Contractor or Waste Hauler shall inspect containers as they are unloaded at the disposal site. Material in damaged containers shall be repacked in empty containers, as necessary.
- (Y) The Contractor or Waste Hauler shall not remove asbestos-containing waste material from drums unless required to do so by the disposal site City. Used drums shall be disposed of as asbestos-contaminated waste.
- (Z) All personnel engaged in unloading of the containers at the waste site shall wear protective clothing. The disposable clothing shall include head, body and foot protection. Minimum respiratory protection shall be half face, dual cartridge, air purifying respirators with HEPA-filters. Workers shall remove their protective clothing at the disposal site, place it in labeled disposal bags and leave them with the deposited waste shipment.
- (AA) For the compaction operation, the Contractor shall ensure that disposal sites personnel have been provided with personal protective equipment by the disposal operator. If the disposal site City has not provided this protective equipment, the Contractor shall supply protective clothing and respiratory protection for the duration of this operation (PAPR respirators are mandatory).
- (BB) If containers are broken or damaged, the Contractor or Waste Hauler shall, using personnel who are properly trained and wearing proper protective equipment, shall repackage the waste in properly labeled containers. The Contractor shall then clean the entire truck and its contents using HEPA-vacuums and wet cleaning techniques until no visible residue is observed.
- (CC) Following the removal of all containerized waste, the Contractor shall decontaminate the truck cargo area using HEPA-vacuums and/or wet cleaning techniques until no residue is observed. All 6-mil polyethylene sheeting shall be removed and discarded as asbestos-containing waste material along with contaminated cleaning material and protective clothing, in containers at the disposal site.
- (DD) The transporter(s) of all asbestos waste shall not back-haul any items on returning from landfill/disposal site.
- (EE) All asbestos waste shall be disposed of in an approved Asbestos Landfill site only.
 - (1) NO PERSON UNDER ANY CIRCUMSTANCES SHALL ABANDON A.C.W. The same shall be disposed of only by certified persons in approved landfills.
 - (2) A manifest form will be signed by the Landfill documenting receipt and acceptance of the asbestos-containing waste. This manifest will be furnished to the City of New York.
 - (3) It is the responsibility of the Asbestos Contractor to determine current waste handling, transportation and disposal regulations for the work site and for each waste disposal landfill. The Asbestos Contractor must comply fully with these regulations and all appropriate U.S. Department of Transportation, EPA and other Federal, State and Local entities' regulations and all other current legal requirements.

- (4) The Asbestos Contractor shall obtain an agreement from the transporter(s) that the practice of "Back-Hauling" will not be engaged in, with respect to any and all waste loads taken from this site during the work.
- (5) The Asbestos Contractor will document actual disposal of the waste at the designated landfill by having completed a Disposal Certificate and will provide a copy of the same to the Department of Design and Construction.

67.11.6 ACCEPTANCE

67.11.6.1 ACCEPTANCE

- (A) Upon satisfactory completion of all decontamination procedures, a certificate will be issued by the Engineer with copies to all parties.
- (B) A Letter Of Compliance stating that all the work on the project was performed in accordance with the specifications and all applicable Federal, State and Local regulations.
- (C) All warranties as stated in the specifications.

67.11.7 MEASUREMENT AND PAYMENT

67.11.7.1 MEASUREMENT

The quantity of "INCREMENTAL COST FOR ASBESTOS ABATEMENT WORK PERFORMED ON EXISTING STEEL PIPE WATER MAIN TO BE REMOVED, COMPLETE" to be measured for payment shall be the actual number of linear feet of each size steel water main pipe and fittings with asbestos containing coal tar wrap removed in compliance with the requirements of this section. Measurement shall be made in linear feet along the axis of the pipes. The removal lengths of valves, fittings and other pipe connections that are attached to the steel pipe water main and required to be removed as part of the removal operation of the existing steel pipe water main shall be included for purpose of this calculation.

No additional measurement for payment will be made for the removal of any coal tar wrap asbestos containing material from the existing steel pipe which is designated to remain in place, but is required to facilitate the cutting of the existing pipe and joining it to the new pipe to the existing steel pipe. The cost shall be deemed to be included in the unit price bid for this item.

67.11.7.2 PAYMENT

The contract price for "INCREMENTAL COST FOR ASBESTOS ABATEMENT WORK PERFORMED ON EXISTING STEEL PIPE WATER MAIN TO BE REMOVED, COMPLETE" shall be the unit price bid per each size existing steel pipe water main's incremental cost difference for all labor, material, equipment, insurance, and incidentals required to complete all work under other scheduled contract items, using the methods required under this section to remove and dispose of coal tar wrap asbestos containing materials associated with water main replacement.

This item will be paid only in conjunction with other scheduled contract items for installing the new steel water main pipe (e.g. Payment would be made under the unit price bid for Item No. 60.21SP6T72 - FURNISHING, DELIVERING AND LAYING 72-INCH STRAIGHT STEEL PIPE, 3/4-INCH WALL THICKNESS, for the length of pipe installed plus payment would be made under the unit price bid for Item No. 67.11AA72 - INCREMENTAL COST FOR ASBESTOS ABATEMENT WORK PERFORMED ON EXISTING 72-INCH DIAMETER STEEL PIPE WATER MAIN TO BE REMOVED, COMPLETE, in order to remove and dispose of the existing asbestos contaminated coal tar wrapped pipe). However, payment will be made under this item only for the initial length of pipe and appurtenances removed at a particular location.

Payment for Incremental Cost For Asbestos Abatement Work Performed On Existing Steel Pipe Water Main To Be Removed, Complete will be made under the Item Number as calculated below:

The Item Numbers for Incremental Cost For Asbestos Abatement Work Performed On Existing Steel Pipe Water Main To Be Removed, Complete have nine characters. (The decimal point is considered a character, the third character.)

(1) The first five characters shall define Incremental Cost For Asbestos Abatement Work Performed On Existing Steel Pipe Water Main To Be Removed, Complete:

67.11

(2) The sixth and seventh characters shall define Incremental Cost For Asbestos Abatement Work Performed On Existing Steel Pipe Water Main To Be Removed, Complete:

AA - Incremental Cost For Asbestos Abatement Work Performed On Existing Steel Pipe Water Main To Be Removed, Complete

(3) The eighth and ninth characters shall define the Diameter of the Existing Steel Pipe Water Main. (The eighth and ninth characters representing the unit of inches for the Diameter of the Existing Steel Pipe Water Main.) See examples below:

36 - 36"
48 - 48"
72 - 72"

(4) Examples of Item Numbers together with Description and Pay Unit as provided in the Bid Schedule are provided below:

Item No.	Description	Pay Unit
67.11AA36	INCREMENTAL COST FOR ASBESTOS ABATEMENT WORK PERFORMED ON EXISTING 36-INCH DIAMETER STEEL PIPE WATER MAIN TO BE REMOVED, COMPLETE	L.F.
67.11AA48	INCREMENTAL COST FOR ASBESTOS ABATEMENT WORK PERFORMED ON EXISTING 48-INCH DIAMETER STEEL PIPE WATER MAIN TO BE REMOVED, COMPLETE	L.F.
67.11AA72	INCREMENTAL COST FOR ASBESTOS ABATEMENT WORK PERFORMED ON EXISTING 72-INCH DIAMETER STEEL PIPE WATER MAIN TO BE REMOVED, COMPLETE	L.F.

**APPENDIX
NYCDEP ATTACHMENTS**

NYC DEP Asbestos Control Program

VAR # _____

ATTACHMENT TM
REQUIREMENTS FOR MODIFIED TENT PROCEDURES (FOR GROSS ABATEMENT)
APPLIES TO VARIANCES FROM TITLE 15, CHAPTER 1, RULES OF THE CITY OF NEW YORK,
SECTIONS 1-81(m) AND 1-91(c) {15 RCNY § 1-81(m) AND § 1-91(c)}

1. All tent enclosures and contiguous spaces within a radius of 10 feet shall be roped off and regulated to allow only certified workers and authorized visitors to enter.
2. 15 RCNY § 1-106 shall be complied with except that
 - I. all tents shall be lined with 2 layers of plastic sheeting (6-mil thickness at a minimum);
 - ii. the amounts of ACM that may be abated in each modified tent shall **NOT EXCEED** (a) 160 square feet and/or (b) 260 linear feet.
 - iii. the total amount of ACM that may be abated at any one time in several modified tents shall **NOT EXCEED** 1,000 combined square feet plus linear feet.
3. All modified tents shall be fully framed (including horizontally across the top, if applicable) with 2x3 (minimum) wood or metal studs spaced not more than 36 inch center-to-center vertically around all sides (except at the entry/exit which shall not exceed 36 inch width); and
4. A minimum of one air volume change per 15 minutes through each modified tent shall be maintained.
5. An airlock having at least 3 feet length between the two curtained doorways shall be constructed at the entrance to each and every tent if the decontamination unit is not attached to the tents, and
6. If a decontamination unit is not attached to each tent, located within each airlock there shall be extra clean and uncontaminated disposable protective suits (e.g. Tyveks), and one such clean suit shall be worn by each worker in the airlock, immediately after removal of the outer suit as per 15 RCNY § 1-106(k), before each worker exits any airlock.
7. Any decontamination unit that is not attached to a tent (i.e. that is remote from a tent) shall be constructed in compliance with the requirements of Attachment D and must be located on the same floor as the modified tents.
8. Decontamination units that are attached to tents shall comprise at least a shower room and a clean room, with one curtained doorway separating them, and with a second curtained doorway separating the tent from the shower room.
9. After the ACM removal and bagging [refer 15 RCNY § 1-106(f) and (g)], the bagged waste shall be HEPA-vacuumed then wet cleaned and transferred into the airlock or into the shower room (as per Items 5 and 8 above respectively) for double bagging, and thereafter the double-bagged waste shall be transferred outside the airlock or outside the clean room for its final transfer to storage in a holding area and/or to legal means of disposal.
10. If the integrity of the tent is compromised and/or visible emissions are detected outside the tent and/or levels exceed 0.01 f/cc work shall stop and 15 RCNY § 1-45(a) shall be complied with immediately. Post-abatement clearance air samples shall be required in the areas outside the tent.
11. A minimum of 3 during area air samples and 3 post abatement clearance air samples must be taken in compliance with section 1-41 of the NYC DEP Asbestos Regulation for each modified tent.

NOTE: This attachment may be revised at any time by the Department.

TRU/JM 04/2005

NYC DEP ASBESTOS CONTROL PROGRAM

VAR# _____

ATTACHMENT D
REMOTE WORKER DECONTAMINATION UNIT

APPLIES TO VARIANCE FROM TITLE 15, CHAPTER 1, RULES OF THE CITY OF
NEW YORK SECTIONS 1-82(a) AND 1-83(a)* {15 RCNY § 1-82(a) AND § 1-83(a)*}.

1. The remote worker decontamination unit shall be constructed outside the work area, in accordance with 15 RCNY § 1-82, and attached to individual glovebag work areas (or tents) or common space leading to individual work areas.
2. The remote worker decontamination unit shall consist of, at least, a shower room, and a clean room separated from each other by an airlock and from the glovebag work area.
3. In addition to the shower heads, the shower room shall be provided with a flexible hose for equipment and waste decontamination.
4. The remote holding area for the asbestos containing waste shall comply with Title 16, Chapter 8, Rules of the City of New York (16RCNY 8 ET SEQ.)
5. The decontamination unit shall be maintained in accordance with 15 RCNY § 1-94 (except sub-section b).
6. All asbestos handlers shall wear two disposable suits, including gloves, hood and footwear, and appropriate respiratory equipment, after removing street clothes in the clean room, and must exit from the shower room.
7. Each worker, before leaving the glovebag work area (or tent), shall clean the outside of the respirators and outer protecting clothing by wet cleaning and/or HEPA vacuuming. The outer disposable suit shall be removed in the work area and the workers shall then proceed to the shower room. The inner disposable suit and respirator shall be washed thoroughly before removing and prior to aggressive shower.
8. After the ACM removal and bagging {refer 15 RCNY § 1-105(c)15}, the bagged waste shall be HEPA-vacuumed and then transferred to the shower room for wet cleaning and double bagging, prior to storage and disposal.
9. Worker and waste decontamination cannot take place at the same time and decontamination system shall be in place for the entire duration of the abatement activities.
10. The following additional conditions must be complied with in order to re-use an attached decontamination enclosure system(s) as a remote decontamination unit.
 - i) Final air clearance must be achieved in the full containment area to which the decontamination enclosure system(s) is attached.
 - ii) The decontamination enclosure system(s) shall be re-plasticized in accordance with 15 RCNY § 1-82.

*Required for projects disturbing 1,000 or more linear feet.

NOTE: This attachment may be revised at any time by the Department.

TRU/JM 4/2005

ATTACHMENT
ASBESTOS CONTAINING COAL TAR WRAP AND PIPE REMOVAL PROCEDURE

The work procedure to be utilized for the removal of asbestos and the water main pipe shall be as follows:

I. Personal Protective Equipment

Prior to beginning work, all workers performing the removal of the coal tar wrap must equip themselves with the proper personal protective equipment (PPE). The PPE required for the removal of coal tar wrap includes:

- (1) Tyvek suit with boot protection ("booties").
- (2) Disposable gloves (latex or nitrile).
- (3) Eye protection.
- (4) Half face respirator with HEPA cartridges.

In addition to the PPE listed above, the tools and materials which will be required for this operation shall include the following:

- (1) Amended water solution.
- (2) 6-mil plastic sheeting.
- (3) 6-mil plastic asbestos disposal bags.
- (4) Disposable rags or wipes.
- (5) Duct tape.
- (6) Hand tools (chipping hammer, chisel, scraper, putty knife).
- (7) Abrasive pads.
- (8) Asbestos barrier tape.

NOTE: No power tools, grinders, sanders, or burning apparatus can be used to remove coal tar wrap.

II. Work Procedure

(A) Removal:

The following work procedure shall be employed when removing coal tar wrap:

- (1) Set up the asbestos barrier tape around the perimeter of the excavation.
- (2) Place 6-mil plastic sheeting under the steel water main pipe to collect loose debris.
- (3) Wet down coal tar wrap with amended water.
- (4) Use hand tools to break away the large chunks of coal tar wrap. Place the removed wrap in a plastic asbestos disposal bag.
- (5) Remove only the amount of wrap around the circumference of the pipe (two (2) foot wide strip) necessary to cut the pipe for future removal.
- (6) Ensure that the intact coal tar wrap on the pipe is not damaged when removing the pipe from the excavation.
- (7) For sections of pipe left in the ground, seal all ends of exposed wrap with duct tape. Plastic wrap and duct tape all coated pipes that will be removed from the site.
- (8) In the event that some wrapping material did not fall onto the plastic sheeting, collect these pieces and place them on the sheeting.
- (9) Once coal tar wrap removal is completed and the exposed ends are sealed, fold the plastic sheeting onto itself and place it in a properly labeled asbestos bag.
- (10) Wet wipe all equipment with amended water and rags before removal from work area. Place used rags and old work gloves in asbestos disposal bags.
- (11) Ensure that bagged ACM is wet prior to transportation.
- (12) Cut the pipe at the abated locations using mechanical, cold cutting methods.

- (13) Double wrap large sections of cut pipe with intact ACM with two (2) layers of six (6) mil plastic sheeting, sealed with tape in ten (10) foot sections.
- (14) Wrapped sections of pipe with intact ACM shall be properly labeled in accordance with OSHA Regulations 29 CFR 1926.58K(2), and shall be kept wet until disposal in compliance with Title 15, Chapter 1, Rules of the City of New York (15RCNY 1).

(B) Disposal:

The following work procedure shall be employed when disposing coal tar wrap:

- (1) Double bag all waste materials. The inside and outside bags must have an asbestos label with the work location identified.
- (2) Complete an asbestos waste tracking form and attach it to the bag.
- (3) Place double bagged waste in a truck and transport it to an approved New York State asbestos landfill.
- (4) All ACM waste bags must be picked up and disposed of on a daily basis at the end of each shift.

END OF THIS SECTION

This Section consists of forty-five (45) pages.

NO TEXT ON THIS PAGE

EP7 (1.0) - PAGES

**GAS COST SHARING (EP-7)
STANDARD SPECIFICATIONS**

NOTICE

THE PAGES CONTAINED IN THIS SECTION REPRESENT THE GAS COST SHARING WORK THAT SHALL APPLY TO AND BECOME A PART OF THE CONTRACT.

(NO TEXT ON THIS PAGE)

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VI - LISTING OF APPROXIMATE LOCATIONS OF EP-7 BID ITEMS QUANTITIES

I - NOTICE TO ALL BIDDERS; GAS COST SHARING WORK

All prospective bidders are hereby advised that, pursuant to the "Gas Facility Cost Allocation Act", ("the Act"), the City of New York has entered into an agreement ("the Agreement") with the gas companies (Con Edison or National Grid (formerly KeySpan Energy Delivery)) operating in their respective areas of the City to "share" the cost of facility relocation and/or support and protection of facilities disturbed by proposed water and/or sewer and related City work specified in this contract. Therefore, bid items, specifications and estimated quantities for the incremental costs of support and protection of certain gas facilities have been included in this contract. The low bid for this contract shall be determined by examining each bid for all work to be performed under this contract including any work of support and protection of gas facilities to be performed. The Contractor shall not seek additional compensation from gas companies except as specifically set forth in its contract.

II - GENERAL PROVISIONS; GAS COST SHARING WORK

1. General:

The Contractor shall perform City work with interferences from existing live and abandoned gas facilities. This shall be defined as utility work. Therefore, this contract includes bid items, specifications and estimated quantities designed to fully compensate him/her for the incremental costs of supporting, protecting, providing accommodations and, avoiding disturbing gas facilities located in the streets shown on the contract drawings. In the event that any other provisions of this contract related to gas facilities (or private utilities) conflict with these provisions, these provisions shall supersede and govern all work related to gas facilities owned by the companies operating in the project area. All utility work, as defined in these specifications, including changes and additions thereto shall be paid solely by the City except when specified otherwise in this contract. Contractor hereby agrees that the facility operator shall not be liable to pay him/her for any work performed including extra utility work. Contractor agrees that its bid prices include all compensation for loss of productivity and efficiency, idle time, delays (including any delays occasioned by negotiation of a contract change), change in operations, mobilization, demobilization, remobilization, added cost or expense, lost of profit, other damages or impact costs that may be suffered by or because of utility work, or the presence of gas facilities in the proximity of City work and that it will not seek additional compensation for these items. All disputes shall be resolved as specified in the contract.

Pursuant to the Act, Agreement, and the New York City Administrative Code, the gas company(ies) has been directed by the Commissioner and is required to perform all maintenance, repairs, replacement, shifting, alteration, relocation, and/or removal work that are not part of this contract. By having bid on this contract, the Contractor understands and agrees that the Commissioner has preasserted any right the City has to require, including the issuance of any directives or so called "order outs" under the New York City Administrative Code, any or all gas companies to maintain, repair, replace, protect, support, shift, alter, relocate, and/or remove all gas facilities that are about to be disturbed by the City contract work. The issuance of additional such directives during the performance of the contract work, where necessary in the sole judgment of the Commissioner, shall be initiated by such Commissioner as set forth in the relevant sections of the Act and Agreement. Contractor further agrees to insert such requirements as set forth herein above into any contracts with its approved subcontractors so that its subcontractors also understand and agree to such contract requirements.

2. Gas Interferences And Accommodations:

During the performance of sewer and water main work funded by the New York City Department of Environmental Protection (NYCDEP), as instructed by the Engineer, the use of any applicable contract bid item is allowed in order to resolve and accommodate all gas facilities interferences with such City work, including the removal of contaminated soil in associated trench excavation. This is in addition to the specified EP-7 bid items in the contract. Payment for such accommodation shall be funded by EP-7 bid item "UTL-GCS-2WS - GAS INTERFERENCES AND ACCOMMODATIONS" (F.S. Fixed Sum). The value of such accommodation shall be computed by multiplying the appropriate unit prices bid to the quantity of work performed, as determined by the Engineer, and applying the total amount thus to be paid

to EP-7 bid item "UTL-GCS-2WS - GAS INTERFERENCES AND ACCOMMODATIONS". When EP-7 bid item "UTL-GCS-2WS - GAS INTERFERENCES AND ACCOMMODATIONS" does not exist, such additional accommodation work shall be at no cost to the City but shall be a matter of adjustment between gas facility operator and Contractor. Private facilities, other than gas, that become in interference due to gas interferences accommodations shall also be accommodated, if so directed by the Resident Engineer, at no additional cost to the City and, provided that its owner agrees to be responsible for all additional costs to Contractor, otherwise, such facility shall be ordered by the City to be maintained, shifted, relocated or replaced by its owner at his/her expenses.

2a. Water Main Accommodations:

When water main construction is to be performed in this contract, Contractor shall be required, if warranted by field conditions, and at locations designated by the Resident or Borough Engineer, to change the vertical or horizontal alignment of water mains including but not limited to all additional labor, material, work method accommodations, furnishing, delivering and laying offset fittings and pipes, etc., necessary in order to complete water main installation and, avoid gas interferences in the project area, including street intersections. Typical work method accommodations shall include, but not be limited to, pier and plate, installation of filter fabric and select fill, etc. Such work shall be performed as directed by the Engineer and in accordance with contract specifications and latest edition of water mains standards and specifications.

2b. Sewer Accommodations:

When sewer construction is to be performed in this contract, Contractor shall be required, if warranted by field conditions, and at locations designated by the Resident or Borough Engineer, to change the horizontal alignment of sewer facilities (if possible) including but not limited to all additional labor, material, work method accommodations, furnishing, delivering and construction of additional manholes or modification of manholes/catch basins, extending chute connections, house connections, using alternate materials and methods, poured-in-place structures, etc., necessary in order to complete sewer installation and, avoid gas interferences in the project area, including street intersections. The term sewer facility shall include, but not be limited to, all sewer pipe and appurtenances, manholes, catch basins, catch basin chutes, etc. Such work shall be performed as directed by the Engineer and in accordance with contract specifications and latest edition of sewer standards and specifications.

3. Quantity Overruns, EP-7 Funded Bid Items:

No quantity overrun, in excess of one hundred twenty five (125) percent, shall be permitted for EP-7 funded bid items (gas) included in this contract, except when Resident Engineer determines that such overruns are caused by field modifications to planned City work, or approved construction methods, or contract scope changes. Overruns not paid by City shall be negotiated and paid to Contractor by gas facility operator who then shall be entitled to reimbursement by NYCDEP under established cost sharing procedures.

4. Changes And Extra Work:

This section is not applicable to work defined under "Emergency Reconstruction Contracts" or so-called "Where and When Contracts" since these projects, by definition, inherently encounter unanticipated gas facilities and cannot be pre-engineered. In all other cases, any contract changes proposed for City work shall also cover and include all associated changes to support and protection of gas facilities affected by such changes to City work. In all other cases where the Contractor finds that City work cannot be performed as planned and specified and/or, as approved because of a need to support, protect and/or alleviate interferences from gas facilities that were not listed and/or shown, or incorrectly shown in contract plans and specifications, he shall immediately notify the Resident Engineer and the facility operators' representative of his findings. Resident Engineer shall promptly examine such claims and determine whether or not such work is covered by contract bid items and /or specifications (contract bid items and specifications shall include city contract items as well as EP-7 items). The Resident Engineer shall also

examine the claim to determine if the application of EP-7 bid item "UTL-GCS-2WS - GAS INTERFERENCES AND ACCOMMODATIONS" is appropriate to resolve the claim. If upon examination, the Engineer determines that such field conditions were unanticipated (not shown and/or listed, or incorrectly shown in contract documents) and are not covered by bid items and contract specifications, he shall then direct the Contractor and the affected facility operator to negotiate the cost of supporting and protecting, and/or alleviating the impact on City work caused by such unanticipated gas facilities with each other with the understanding that the performance of City work shall continue during negotiations. If a cost agreement is reached, the Contractor and facility operator shall adjust such costs between themselves at no additional costs to the City contract. If the Contractor and affected facility operator do not reach an agreement concerning the price to be paid for the extra work within five (5) business days of the Engineer's directive to engage into such negotiations and, after considering: public safety and inconvenience, requirements of laws and regulations applicable to private utilities, integrity of all utility systems, including but not limited to sewer and water, gas, electric, telephone and, cable TV facilities, sound engineering practices, cost (long and short term) to all affected parties, and potential City work delays, then the Resident Engineer, depending on nature and severity of interferences with City work, shall either, direct the facility operator to relocate or replace its facilities at its own discretion and cost, reimbursable by NYCDEP under established gas cost sharing procedures or, direct the Contractor to perform the utility work on actual time, material and equipment costs basis pursuant to relevant contract requirements and amendments. Contract bid prices for any applicable items of work involved shall be applied, or converted to an allowance for time and material charges. Changes shall be for affected portions of utility work and, shall be processed with EP-7 funds.

5. Excavation:

All excavators shall notify the NYC/LI One Call Center at 1-800-272-4480 at least two (2) working days, not including the day of the call, but not more than ten (10) working days in advance of the start of any excavation work. The gas company(ies) will mark out its facilities within the project limits and provide Construction Inspector(s) during all excavation work in close proximity (within twelve (12) inches) to gas facilities. The Contractor shall exercise extreme caution when excavating in the vicinity of any gas facilities. Hand excavation shall be performed within twelve (12) inches of gas facilities. The Contractor prior to excavating underneath these facilities shall adequately support all gas facilities. Standard support details for gas facilities have been included in the specifications. Any damage to gas facilities shall be reported immediately to the gas company(ies). The Contractor shall be responsible for all cost associated with repairs made necessary by damages caused by his operations.

6. Backfilling And Street Restoration:

Backfilling operations and street restorations shall be in accordance with contract requirements.

7. Non-Responsive Bids:

Every gas (EP-7) bid item has a suggested "Not less than" value per unit indicated on contract bid sheet. Bids resulting in cost of less than suggested for EP-7 items are hereby prohibited and if submitted shall be considered NON-RESPONSIVE.

8. Minimum Clearances:

Clearance requirements for City work shall govern and supersede any clearance requirement of gas facility operator. Therefore, a minimum of twelve (12) inches clearance between private utilities and City water mains, sewers or related structures to be installed in this contract shall be maintained. When this clearance is not attainable, the Resident Engineer may allow a minimum of four (4) inches clearance. With less than twelve (12) inches clearance a neoprene/polyethylene shield (to be provided by facility operator) shall be installed as part of all work item specifications. However, if Resident Engineer determines that City work cannot be performed within allowable clearance and no reasonable City accommodation (no-cost change to City work) is possible, the City shall direct the facility operator to remove, relocate, shift, or alter their facility(ies) pursuant to the New York City Administrative Code.

9. Work By Facility Operator:

The facility operator may find it necessary to perform the following types of work during performance of City work: accommodating a contractor's request for gas facilities modifications (in order to facilitate City contractor's proposed construction method) or, remedial and emergency work on gas facilities proper with their own resources and materials if an approved method of construction for City work causes unanticipated disturbances to gas facilities or, replacing defective gas facilities when they are exposed by the Contractor and their actual conditions are observable by the facility operator. Also included in the above category of defective gas facilities are: the presence of environmental contaminants attributable to the gas facility in or around gas facilities. If such work is deemed required by the facility operator or if facility operator is directed by the City to address such deficiencies at any time during the course of construction, the Contractor shall modify the construction schedule at no cost to the City and allow the facility operator five (5) business days to perform such work without interferences. Additional costs to the facility operator (in cases of accommodations) or, Contractor (in cases of defective gas facilities) due to such gas work, if any, shall be the responsibility of the parties involved and not of the City. Such costs shall be a matter of adjustment between the Contractor and the facility operator.

10. Materials Furnished By Facility Operator:

It shall be the Contractor's responsibility to inspect material to be installed by him immediately upon delivery and advise the facility operator through its authorized representative, of all damaged materials. The Contractor at no additional costs to the City or the facility operator shall replace any material that is damaged or lost after the Contractor's inspection.

11. Liability And Insurance:

Notwithstanding the provisions of this contract, the existing division of liabilities to third parties shall remain the same as between the City and the company. Therefore, it is specifically agreed by the City, company and Contractor (by bidding on this contract) that for the purpose of any liabilities to third parties, that the City contractor performing work directly and physically relating to gas company facilities in this project, shall be deemed an agent of the company and not an agent of the City, the New York City Municipal Water Finance Authority, or the New York City Water Board. Contractor shall include the company as an additional insured on all insurance policies maintained to comply with the City's insurance requirements.

12. Width And Depth Of Excavation:

Contractor shall not be authorized to deliberately change trench or excavation widths and/or depth specified without Engineer's approval. Enlargement of any side of excavation up to eighteen (18) inches beyond pay limits (or inside face of sheeting) requested by the Contractor for the installation of certain types of sheeting may be granted. However, such enlargements or those greater than allowable shall not be approved when, in the sole judgment of the City, field conditions allow the water mains and sewer work to be performed within the limits specified and, the sole purpose of such enlargement request is to impact adjacent utilities (public or private) whose support and protection are part of this contract. Any approval shall be given at no additional cost to the City contract, including EP-7 funding, and all costs associated with unauthorized enlargements shall be the sole responsibility of the Contractor.

13. Depth And Crossing Angles Of Gas Facilities:

Where gas facilities are shown (or specified as) crossing proposed alignment of sewers, water mains, catch basins and chute connections or any other proposed excavations at specific angles (as measured off plans or sketches or specified in contract), it shall be understood that actual field measurements may deviate (plus or minus) forty-five (45) degrees from those shown or specified. The cover, or depth from street surface to top of facilities, shall be as shown or specified in contract documents, no deviation is to be assumed. Where gas facilities are not shown on contract documents, but their support and protection are otherwise included in this contract then, all references to facilities crossing at "various angles and depth" in the gas sections shall mean that such facilities are crossing sewer, water, catch basin and, catch basin chute, and other excavations at a ninety (90) degree angle to the proposed sheeting line or side of

excavation (for unsheeted trenches) with an allowable deviation of forty-five (45) degrees in any direction, except for catch basin chute excavation where the allowable deviation shall be sixty (60) degrees. Where the cover is not noted or specified, the bottom face of such facilities shall be assumed to be crossing catch basin chutes at a depth of three (3) foot eight (8) inches or less from the street surface. Paragraph No. 2 above shall apply in cases of distribution water main construction. Appropriate bid items and specifications are provided for cases where angle and depth are greater than stated above. This section also applies to work defined in "Emergency Reconstruction Contracts" or so-called "Where and When Contracts". These contracts are not pre-engineered and consequently have no drawings, sketches or determined locations and so, gas facilities encountered will be crossing existing and proposed sewer, water, catch basin/catch basin chutes and all appurtenances at various angles and depths.

14. Maintenance Of Traffic For Gas Work:

All work pertaining to gas bid items and specifications shall be performed within the contract maintenance of traffic plan as specified in the contract document. The bid price for the Maintenance and Protection of Traffic shall cover all work pertaining to gas items. The City shall make compensation for additional maintenance and protection of traffic items in connection with gas item of work only when such additional work is deemed reasonable and necessary by the Resident Engineer and is approved by him prior to its performance.

15. Relocated Gas And Temporary Systems Installation:

In cases where the Contractor is allowed to select the location for temporary construction such as, installation of dewatering headers, wells, well points, etc., he shall not disturb any gas facilities shown on sketches provided in this section. The only exception shall be, if the affected gas company agrees to such relocation and provided that the cost of such relocation is a matter of adjustment between the company and Contractor, and at no cost to the City.

16. Role Of Company Inspector:

In any case in which the City elects to perform some or all support and protection work with its own employees, personnel or contractors, the facility operator shall provide onsite inspectors to approve and certify such support and protection work (exclusive of City accommodations) performed by the City's own employees, personnel, and contractors. Facility operator's inspectors are not authorized to direct City contractor during the performance of contract work. They shall act through the City Resident Engineer and provide him/her required approvals and certifications, prior to preparing partial payments of EP-7 items, in a format and frequency to be prescribed by the appropriate City Head of Construction.

17. Coordination With Gas Company:

The Contractor shall be required to notify the gas company(ies), in writing, at least two (2) weeks prior to the start of final paving in order to allow companies to complete any unfinished gas work located within the area to be paved. Every effort shall be made to maintain gas service with minimum inconvenience to the public.

III - TECHNICAL SECTION

SECTION 6.01 - Trench Crossings; Support And Protection Of Gas Facilities And Services.

1. Description:

Under this section, the Contractor shall provide all labor, materials, equipment, and incidentals required to support and/or protect the integrity of gas mains, services and appurtenances of any sizes, configurations, and operating pressures crossing trench excavations above subgrade for planned construction of sewers

and water mains facilities. A gas service shall be defined as a gas pipe of three (3) inches in diameter or less branching from the main to a customer pick up point or property valve box. A gas main may be any size pipe that is part of a distribution or transmission network other than services described above. Crossings shall be defined as gas facilities spanning the width of excavation (one side to the other side). These crossings may be at various angles and depth as shown on "Gas Cost Sharing Work Standard Sketches Nos. 1 and 1A", and as specified in "General Provisions; Gas Cost Sharing Work Paragraph No. 13" and, at the locations shown or listed in contract documents. The gas company operating in the area, (facility operator), owns these facilities. The work shall be performed in accordance with contract specifications, plans, and at the directions of the Resident Engineer in consultation with the authorized representatives of the facility operator.

2. Method Of Construction:

- A. Protection: In general, the gas facilities shall be protected as required by New York State Industrial Code 753. In particular, the Contractor shall use hand excavation methods (pick and shovel or hand held power tools) directly below the pavement base to expose the gas facilities (marked out by facility operators) and to ascertain the clearances and cover of the facilities with respect to the proposed excavation. Upon exposing the affected facilities sufficiently, at the discretion of the Resident Engineer, to ascertain the foregoing, Contractor shall be permitted to proceed with a combination of hand and machine excavation, as appropriate, outside a zone of protection whose limit shall be defined as a perimeter located twelve (12) inches from the outside face of each gas facility crossings (See "Gas Cost Sharing Work Standard Sketch No. 2"). If the facilities are in direct interference with City work, meaning that "Minimum Clearances" described in "General Provisions; Gas Cost Sharing Work Paragraph No. 8" cannot be maintained, and excavation has to be temporarily or permanently abandoned then this particular location shall become a test pit and dealt with as specified in Section 6.07, and "General Provisions; Gas Cost Sharing Work Paragraphs Nos. 2 and 8".
- B. Support: Gas mains or services crossing excavations equal or less than four (4) feet wide are generally self supporting, unless field conditions as determined by the Resident Engineer require otherwise. The support requirements for gas mains and services crossing excavations greater than four (4) feet wide shall be as shown on the attached "Gas Cost Sharing Work Standard Sketch No. 1" and Contractor shall use sheeting methods that permit the maintenance of gas facilities in their existing locations and configurations. Alternate methods equivalent to those shown on the sketch or accommodations by the facility operator proposed by the Contractor in order to facilitate the execution of the specified work shall be allowable, provided that prior approval is obtained by the Contractor from the Engineer and the facility operator. The support and protection of gas facilities crossings shown on plans, drawings, listings or otherwise identified in this contract shall not be circumvented with the issuance of so called "order outs".

3. Method Of Measurement:

The Contractor shall be paid for supporting and/or protecting gas facilities crossing trench excavations under the appropriate bid items covered by this section. The Contractor shall be directly responsible to the facility operator for the total cost of using any alternate method requiring the use of resources owned by the facility operator. Regardless of the method used, the City shall pay the bid price for the appropriate support and/or protect item of work. The average rate charged by the facility operator for alternate support and protection work such as, disconnecting and reconnecting gas services is listed in attached "Schedule GCS-A".

4. Payment Restrictions:

These items shall not be paid for: gas services crossing unsheeted water main trench excavation; abandoned gas main/services identified by facility operator; gas mains/services crossing trench excavations for fire hydrant branch connections pipes, catch basins and/or chutes (sewer drain pipe), house sewer and/or water services; gas facilities encroaching any face of excavation for sewer and/or water construction, all of which are covered under other contract sections. Also this item shall not be paid for new gas mains and services crossing water trenches when trenching for such new facilities has been

performed by the Contractor in common with trench excavation for City work (overlapping trench limits). The cost of supporting and protecting such gas facilities crossings shall be deemed included in the cost of trench excavation for the new gas facilities. This payment restriction shall apply even if such common trench gas excavation is not part of the contract. The prices bid for items covered by this section represent full compensation to Contractor to completely perform the work described. No other bid items shall be combined with these items in order to pay for gas main and/or services crossing excavations specified herein.

5. Method Of Payment:

Each (Ea.) gas facility crossing trench excavation as described in these specifications shall be counted for payment.

6. Price To Cover:

The cost of timber/steel supports installed for gas facilities shall be included in the bid price. The bid price for each crossing shall also cover all additional supervision, labor, material (except those provided by the facility operator), equipment and insurance necessary to completely maintain the gas facilities without disruption of service to the customers and in accordance with contract plans, specifications and facility operator standards. The price shall also include: changes of method of operations; sheeting modifications where necessary to accommodate the gas facilities crossings; installation and removal of water pipe under gas facilities (so called "snaking"); extra care during excavation (including hand excavation under existing single and multiple gas facilities); extra backfilling and compaction around, over and under gas facilities; installation and removal of sheeting around gas facilities; associated maintenance and protection of traffic; barricades; and traffic plates that may be required to temporarily close and/or complete the work.

SECTION 6.02 - Extra Excavation For The Installation Of Catch Basin Sewer Drain Pipes With Gas Interferences.

1. Description:

Under this item, the Contractor shall provide all labor, materials, equipment, insurance, and incidentals for the extra excavation associated with the installation of catch basin sewer drain pipes (chute) under gas facilities of various sizes crossing the trench excavation at various angles and depth at the locations shown in the contract documents and also, for the support and protection of these facilities during associated excavation and backfill operations. The gas company operating in the area, (facility operator), owns these facilities.

2. Method Of Measurement:

The bid price shall be per location (Each) where extra excavation is required when catch basin sewer drain pipes are installed at an upstream invert depth lower than four (4) feet (up to a maximum of six (6) feet) from the proposed pavement grade because the bottom faces of interfering gas mains and appurtenances are located at a depth greater than three (3) foot eight (8) inches from proposed pavement surface (See "Gas Cost Sharing Work Standard Sketch No. 4").

3. Method Of Construction:

Incremental cost responsibility for chute excavation is determined by the first private facility encountered starting from catch basin structure proper and that prevents the installation of the chute connection at an upstream cover less than or equal to three (3) feet or any other minimum cover required to avoid City facilities (e.g. water, sewer, etc.) as directed by the Resident Engineer.

4. Payment Restrictions:

This item shall not apply and related bid item shall not be paid in cases where:

- A. Upstream invert chute is more than six (6) feet deep because of gas facilities.
- B. Chute cannot be installed above existing gas facilities because of interferences with other private facilities that are not otherwise covered under this contract, regardless of upstream invert depth.

The above cases shall be at no cost to the City, but shall be a matter of adjustment between the Contractor and the facility operator(s).

5. Price To Cover:

The bid price shall cover the additional cost of all additional supervision, labor, materials, equipment and insurance, to complete the installation of catch basins and associated sewer connections in accordance with the contract plans and specifications. The price shall include: excavation by hand around and under single and multiple gas facilities; locating, supporting and protecting gas facilities; backfilling and all other items necessary to perform all work incidental thereto including: installation and removal of drain pipe under gas facilities ("snaking"); widening of trenches to facilitate the above work; subsequent additional backfill and pavement restoration; modifying precast catch basin window to accommodate connection; changing sheeting method and configuration to accommodate gas facility crossings; maintenance and protection of traffic; barricades; and installation of traffic plates that may be required to temporarily close and/or complete the work. The price shall not include removal of ledge rock and/or excavation of boulders in open cut.

SECTION 6.02.1 - Extra Excavation For The Installation Of Catch Basin Sewer Drain Pipes With Upstream Inverts Greater Than Six (6) Feet.

1. Description:

Under this item, the Contractor shall provide all labor, materials, equipment, insurance and incidentals for the extra excavation of catch basin chutes where the upstream invert is greater than six (6) feet under gas facilities of various sizes crossing the trench excavation at various angles and depth at the locations shown in the contract documents or as determined by field conditions and also, for the support and protection of these facilities during the associated excavation, sheeting and backfilling operations.

2. Method Of Measurement:

The bid price shall be per location (Each) where extra excavation and sheeting is required when the catch basin chute installed at an upstream invert depth lower than six (6) feet from the proposed pavement grade because the bottom faces of the interfering gas mains and appurtenances are located at a greater depth than three foot eight inches from the proposed pavement surface only.

3. Method Of Construction:

Incremental cost responsibility for chute excavation is determined by the first private facility encountered during such excavation when initiated from catch basin structure and that prevents the installation of the chute at an upstream cover less than or equal to three (3) feet or any other cover required to avoid City facilities as directed by the Resident Engineer.

4. Payment Restriction:

This item shall not apply and related bid item shall not be paid in cases where:
Upstream invert chute is less than or equal to six (6) feet deep because of gas facilities. Section 6.02 shall be paid.

5. Price To Cover:

The bid price shall cover the additional cost of all supervision, labor, materials, equipment and insurance to complete the installation of catch basin and associated sewer connections in accordance with the contract plans and specifications. The price shall include: excavation by hand around and under single and multiple gas facilities; locating, supporting and protecting gas facilities incidental thereto; widening of trenches to facilitate the above work; subsequent additional backfilling and pavement restoration; modifying pre-cast basin window to accommodate connection; the installation of catch basin with deeper sumps as specified; additional sheeting and changes in sheeting method and configuration to accommodate gas facility crossings; maintenance and protection of traffic; barricades; and installation of traffic plates that may be required to temporarily close and/or complete the work.

SECTION 6.03 - Removal Of Abandoned Gas Facilities. All Sizes.

1. Description:

Under this section the Contractor shall provide all labor, materials, equipment, insurance and, incidentals required for the removal of abandoned gas mains, services, or appurtenances thereof, located within the street shown on the contract plans, owned by gas company operating in the project area (facility operator), used or to be used for or in connection with or to facilitate the conveying, transportation, distribution or furnishing of gas (natural or manufactured or mixture of both) for light, heat, or power, but does not include property used solely for or in connection with business of selling, distributing or furnishing of gas in enclosed containers. Such removal shall include only abandoned gas facilities that interfere with (i.e. cause additional work) City work.

2. Determination Of Operating Status Of Gas Facilities:

The Contractor shall notify facility operator, as required by New York State Industrial Code 753. Gas facilities shall not be removed without the approval of the facility operator whose authorized representative shall certify in writing (specific facility or area wide facilities certification) and in a timely manner acceptable to the Resident Engineer that abandoned facilities are free of combustible gas and any other environmental contaminants prior to removal. The Resident Engineer shall rely on facility operator's certification. The facility operator may request the excavation of test pits (See Section 6.07) for this determination ahead of City work and, Contractor shall provide safe access, facilitate and permit facility operator to enter test pit excavations for the purpose of testing gas facilities to be removed by the Contractor. However, facility operator may prefer to make this test during performance of City work, in order to issue the above certification. This shall be permitted provided that it is agreed that additional costs, if any resulting from this choice shall be a matter of adjustment between the Contractor and facility operator only, and at no cost to the City.

3. Restrictions:

The facility operator shall be solely responsible for its contaminated gas facilities, surrounding contaminated soil and their disposal and abatement procedures, unless contract bid items are applicable and provided for such work. In such cases, the quantity removed shall be charged to EP-7 bid item "UTL- GCS-2WS - GAS INTERFERENCES AND ACCOMMODATIONS" at the City bid prices.

4. Method Of Measurement:

Abandoned gas pipeline removal shall be measured for payment per linear foot of pipe and appurtenances removed.

5. Price To Cover:

The price shall cover all additional cost of supervision, labor, materials, equipment, and insurance necessary to complete this work in accordance with the contract plans and specifications, including excavation by hand around and under other City and facility operator owned properties and, where

necessary, support and protection of such properties. The price shall also cover breaking, cutting, and/or burning of abandoned gas pipes and their disposal from the site; sealing open ends remaining in the excavation with concrete or caps (caps to be provided by the facility operator) and backfilling of the area where the pipeline has been removed with clean backfill. The price shall also include any required dump charges. This item does not include any type of extra excavation, backfilling, compaction, pavement removal and restoration associated with abandoned gas facilities removal, all of which are covered under Section 6.06.

SECTION 6.03.1 - Removal Of Abandoned Gas Facilities With Possible Coal Tar Wrap. All Sizes. (For National Grid Work Only)

1. Description:

Under this section the Contractor shall provide all labor, materials, equipment, insurance and, incidentals required for the removal of abandoned gas mains, services or appurtenances thereof, located within the street shown on the contract plans, owned by the gas company operating in the project area (facility operator), used or to be used for or in connection with or to facilitate the conveying, transportation, distribution or furnishing of gas (natural or manufactured or mixture of both) for light, heat, or power, but does not include property used solely for or in connection with business of selling, distributing or furnishing of gas in enclosed containers. Such removal shall include only abandoned gas facilities that interfere with (i.e. cause additional work) City work. These gas facilities may be coated with Coal Tar Wrap and so, may require special handling and disposal methods as specified in National Grid Standard Operating Procedure 12-2, Coal Tar Wrap Handling and 12NYCRR56.

2. Determination Of Operating Status Of Gas Facilities:

The Contractor shall notify facility operator, as required by New York State Industrial Code 753. Gas facilities shall not be removed without the approval of the facility operator whose authorized representative shall certify in writing (specific facility or area wide facilities certification) and in a timely manner acceptable to the Resident Engineer that abandoned facilities are free of combustible gas and any other environmental contaminants prior to removal. The Resident Engineer shall rely on the facility operator's certification. The facility operator may request the excavation of test pits (See Section 6.07) for this determination ahead of City work and, the Contractor shall provide safe access, facilitate and permit facility operator to enter test pit excavations for the purpose of testing gas facilities to be removed by the Contractor. However, the facility operator may prefer to make this test during performance of City work, in order to issue the above certification. This shall be permitted provided that it is agreed that additional costs, if any, resulting from this choice shall be a matter of adjustment between the Contractor and the facility operator only, and at no cost to the City contract. Should such investigation result in the determination that the abandoned gas facilities do not contain Coal Tar Wrap then the removal of said facilities shall be covered under separate item (See Section 6.03).

3. Requirements:

The City Contractor shall excavate abandoned gas facility sufficiently, either in its entirety, or at locations determined by Contractor to allow the removal of Coal Tar Wrap (if present on the abandoned gas facility) and to facilitate the safe extraction of manageable lengths of abandoned pipe without damage to adjacent facilities, utilities or City structures either parallel to or crossing above or below abandoned gas facility. The Contractor is to allow access to the designated cutting points within the Contractor's trench by authorized National Grid personnel who will remove the Coal Tar Wrap as per National Grid procedures. This work by National Grid personnel shall be performed in a timely fashion and shall not unduly impede the Contractor's progress and/or productivity. Upon completion of the coating removal, the Contractor shall be allowed to cut, burn or grind the gas facility and remove the section of abandoned pipe. The Contractor at a site designated by the Contractor shall stockpile the removed pipe. The facility operator will be responsible to provide trucking and disposal services with its own personnel and shall remove the stockpiled pipes during off hours or during such time as agreed to by the Contractor. Since the pipe

removed will remain the property of the facility operator and is to be disposed of by the facility operator, the facility operator shall be responsible for any required notifications, filings, dump charges and incidentals associated with the disposal of abandoned gas facilities found to contain Coal Tar Wrap.

4. Method Of Measurement:

Abandoned gas pipeline removal shall be measured for payment per linear foot of pipe and appurtenances removed.

5. Price To Cover:

The price shall cover all additional cost of supervision, labor, materials, equipment and insurance necessary to complete this work in accordance with the contract plans and specifications, including excavation by hand around and under other City and facility operator owned properties and, where necessary, the support and protection of such properties. The cost shall also include hand excavation in the area(s) of proposed abandoned pipe cut(s), cutting and/or burning of abandoned gas pipes and stockpile of removed sections of abandoned pipe and associated maintenance and protection of traffic, blocking and temporary fencing if required. The unit price shall also cover sealing open ends remaining in the excavation with concrete or end caps (end caps to be provided by the facility operator) and backfilling of the area where the abandoned pipeline has been removed with clean backfill material. This item does not include any type of extra excavation, backfilling, compaction, pavement removal and/or restoration (temporary and permanent) associated with abandoned pipe removal ("lost trench"), all of which are covered under separate Section 6.06. The price shall also include allowance for any loss of productivity by the Contractor due to required facility operator work to remove pipe coating and prepare pipe for cutting as well as any change in Contractor's excavation method, additional trucking and/or stockpiling costs.

**SECTION 6.03.1a - Removal Of Abandoned Gas Facilities With Possible Coal Tar Wrap.
All Sizes. (For Con Edison Work Only)**

1. Description:

Under this section the Contractor shall provide all labor, material, equipment, insurance and, incidentals required to prepare abandoned gas mains, services and appurtenances thereof located within the street shown on contract plans, owned by the gas company operating in the project area (facility operator), for removal due to interference with proposed City work. These abandoned gas facilities were, at one time, used for or in connection with or to facilitate the conveying, transportation, distribution or furnishing of gas (natural, manufactured or a combination of both) for light, heat, or power, but does not include property used solely for or in connection with business of selling, distribution or furnishing of gas in enclosed containers. Such preparation for removal shall include only abandoned gas facilities that interfere with (i.e. cause additional work) City work. These gas facilities may be coated with Coal Tar Wrap which may contain asbestos or PCB's and so, may require special handling and disposal methods as specified in Con Edison - ASBESTOS MANAGEMENT MANUAL, CHAPTER 6 - ASBESTOS WORK PROCEDURES, SECTION 06.04 - COAL TAR WRAP REMOVAL. For under 25' (feet) in length and an approved NYC-DEP variance for over 25' (feet).

2. Determination Of Operating Status Of Gas Facilities:

The Contractor shall notify facility operator, as required by New York State Industrial Code 753. Gas Facilities shall not be removed without the approval of the facility operator whose authorized representative shall certify in writing (specific facility or area wide facilities certification) and in a timely manner acceptable to the Resident Engineer that abandoned facilities are free of combustible gas and any other environmental contaminants prior to removal. The Resident Engineer shall rely on the facility operator's certification. The facility operator may request the excavation of test pits (See Section 6.07) for this determination ahead of City work and Contractor shall provide safe access, facilitate and permit facility operator to enter test pit excavations for the purpose of testing gas facilities. However, the facility

operator may prefer to make this test during performance of City work in order to issue the above certification. This shall be permitted provided that it is agreed that additional costs, if any, resulting from this choice shall be a matter of adjustment between the Contractor and the facility operator only, and at no cost the City contract. Should such investigation result in the determination that the abandoned gas facilities do not contain Coal Tar Wrap then the removal of said facilities shall be covered under separate item (See Section 6.03).

3. Requirements:

The Contractor shall excavate abandoned gas facility sufficiently, either in its entirety, or at locations determined by Contractor to allow the removal of Coal Tar Wrap (if present on the abandoned gas facility) and to facilitate the safe extraction of manageable lengths of abandoned pipe without damage to adjacent facilities, utilities or city structures either parallel to or crossing above or below abandoned gas facility. The Contractor is to allow access to the designated cutting points within the Contractors trench by authorized Con Edison personnel who will remove the Coal Tar Wrap as per Con Edison and/or NYC-DEP approved procedures. This access shall conform to all applicable codes, rules & regulations. This work by Con Edison personnel shall be performed in a timely fashion and shall not unduly impede the Contractors progress and/or productivity. Upon completion of the coating removal, the Contractor shall be allowed to cut, burn or grind the gas facility and remove the section of abandoned pipe. Contractor shall designate a specific site to stockpile those removed pipes. The facility operator will be responsible to provide trucking and disposal services with its own personnel and shall remove the stockpiled pipes during off hours or during such time as agreed to by the Contractor. Since the pipe removed will remain the property of the facility operator and is to be disposed of by the facility operator, the facility operator shall be responsible for any required notifications, filings, dump charges and incidentals associated with the disposal of abandoned gas facilities found to contain Coal Tar Wrap.

4. Method Of Measurement:

Abandoned gas facility removal shall be measured for payment per linear foot of pipe and appurtenances removed.

5. Price To Cover:

The price shall cover all additional cost of supervision, labor, materials, equipment and insurance necessary to complete this work in accordance with the plans and specifications, including, but not limited to, excavation by hand around and under other City and facility operator owned properties and, where necessary, the support and protection of such properties. The cost shall also include hand excavation in the area(s) of proposed abandoned pipe cut(s), cutting and/or burning of abandoned gas pipes and stockpile of removed sections of abandoned pipe and associated maintenance of traffic, blocking and temporary fencing if required. The unit price shall also cover sealing open ends remaining in the excavation with concrete or end caps (end caps to be supplied by facility operator) and backfilling of the area where the abandoned pipeline has been removed with clean backfill material. This item does not include any type of extra excavation, backfilling, compaction, pavement removal and/or restoration (temporary and permanent) associated with abandoned pipe removal ("lost trench"), all of which are covered under separate Section 6.06. The price shall also include allowance for any loss of productivity by the Contractor due to required facility operator work to remove pipe coating and prepare pipe for cutting as well as any change in Contractor excavation method, additional trucking and/or stockpiling costs.

SECTION 6.04 - Adjust Hardware To Grade Using Spacer Rings/Adaptors. (Street Repaving.)

1. Description:

Under this section, the Contractor shall provide all labor, supervision, materials, equipment, insurance and incidentals required to adjust to final grade gas street surface hardware located within the contract area

boundaries shown on the plans. The gas company operating in the area, (facility operator), owns these facilities. The work shall be performed in accordance with the contract plans, specifications and at the directions of the Resident Engineer in concurrence with authorized representative of the facility operator.

2. Materials:

The facility operator shall furnish and deliver all prefabricated hardware parts required. These include adaptors for the grade adjustment proper and new street hardware if existing ones are found to be defective, all in accordance with the facility operator standards and City rules and regulations. The Contractor shall notify the facility operator of the installation schedule at least three (3) business days before materials are required on the site. Should the facility operator fail to deliver the necessary material according to any schedule mutually agreed upon by the Contractor and facility operator, the City shall not be responsible for any delays attributable thereto, nor for the failure of delivery of such materials. On project where material storage is not permitted on site, the facility operator shall deliver the required material to the Contractor's yard and it shall be the Contractor's responsibility to transport the material to the work site when needed for installation. It shall also be the Contractor's responsibility to inspect the materials to be installed by him immediately upon delivery and advise the facility operator through its authorized representative, of all damaged materials. The Contractor at no additional expense to the City or the facility operator shall replace any material that is damaged or lost after the Contractor's inspection.

3. Method Of Measurement:

The Contractor shall be paid for each six (6) inch round box and/or nine (9) inch square box adjusted to grade regardless of adjustment height requirements.

4. Price To Cover:

The unit price bid for this item shall include all additional labor, supervision, insurance, equipment and material (except those to be provided by the facility operator); required to adjust each box to grade as required in the contract plans and specifications. The bid price shall also include the removal of existing frames and covers from existing facilities to be salvaged and returned to the facility operator and, all material transportation from the Contractor's material storage yard to the work site. In addition the bid price shall include "chipping" around existing box using appropriate means and methods where grinding is required.

SECTION 6.05 - Adjust Hardware To Grade By Resetting. (Road Reconstruction.)

1. Description:

Under this item, the Contractor shall provide all labor, supervision, materials, equipment, insurance and incidentals required to adjust to the proposed grade gas street surface hardware located within the contract area boundaries shown on the plans. The gas company operating in the area, (facility operator), owns these facilities. The work shall consist of either building up or lowering or resetting the casting by removing the existing frame and cover building up or decreasing the existing installation, replacing the frame and/or cover if damaged or worn out, as determined by the Resident Engineer, with a new frame and/or cover furnished by the owner, and setting the frame and cover to new elevation. The work shall be performed in accordance with the contract plans, specifications and at the directions of the Resident Engineer.

2. Materials:

The facility operator shall furnish and deliver all new hardware parts required. The Contractor shall furnish materials such as mortar, bricks and concrete in compliance with contract requirements. At locations where high-early strength concrete is required under this contract to be placed adjacent to gas facilities, then the requirement for concrete shall be high-early strength complying with the current New York State Department of Transportation, Standard Specifications for Class F concrete. Existing castings may be replaced as required and deemed necessary by the Engineer and by City rules and regulations. The

Contractor shall install the new castings of various sizes furnished by the facility operator. The Contractor shall notify the facility operator of the installation schedule at least three (3) business days before materials are required on the site and, shall provide off-loading services to the facility operator. Should the facility operator fail to deliver the necessary material according to any schedule mutually agreed upon by the Contractor and facility operator, the City shall not be responsible for any delays attributable thereto, nor for the failure of delivery of such materials. Such delays shall be a matter of adjustment between the Contractor and the facility operator. On project where material storage is not permitted on site, the facility operator shall deliver the required material to the Contractor's yard and it shall be the Contractor's responsibility to transport the material to the work site when needed for installation. It shall also be the Contractor's responsibility to inspect the materials to be installed by him, immediately upon delivery and advise the facility operator through its authorized representative, of all damaged materials. The Contractor at no additional expense to the City or the facility operator shall replace any material that is damaged or lost after the Contractor's inspection.

3. Methods Of Construction:

The Contractor shall remove and reinstall existing castings or install new castings to the proposed grade. Setting and resetting the castings shall be done with mortar and brick according to the standards of the facility operator. Work shall be performed in a workmanlike manner. Castings that are deemed unacceptable for resetting shall remain the property of the facility operator and he shall be responsible for their removal and proper disposal from site. No traffic shall be allowed on adjusted street hardware until permitted by the Engineer.

4. Method Of Measurement:

The Contractor shall be paid for each gas hardware adjusted to grade regardless of size or adjustment height requirements (up or down).

5. Price To Cover:

The unit price bid for this item shall include all additional labor, supervision, insurance, equipment and material (except those to be provided by the facility operator), required to adjust each gas hardware to grade as required in the contract plans and specifications. The bid price shall also include the removal of existing frames and covers from existing facilities; building up the existing installations with bricks and mortar, or lowering the existing installation by removing bricks and mortar; replacing damaged frames and/or covers with new frames and/or covers furnished by the facility operator; setting the frames and covers to the new elevations; protect existing installations; repair minor structural damages to existing installations prior to resetting frames; unloading of furnished castings at the Contractor's yard and transporting castings from the Contractor's yard to the job site as required; completing the work in accordance with the contract plans, specifications and, at the directions of the Engineer. In addition the bid price shall include "chipping" around existing gas facilities using appropriate means and methods where grinding is required.

SECTION 6.06 - Special Care Excavation And Backfilling.

1. Description:

Under this section, the Contractor shall provide all labor, materials, equipment, insurance and incidentals required to support and protect the integrity of live gas facilities including mains, services, related structures and appurtenances during excavations. The gas company operating in the area, (facility operator), owns these facilities. The work shall be performed in accordance with the contract plans, specifications and at the directions of the Resident Engineer in consultation with authorized representatives of the facility operator.

2. Applicability Of Section:

This section shall apply to live gas facilities of various sizes located within two (2) feet of any face of unsheeted excavation, (unsheeted excavation refers to any excavation performed for city work and includes excavations performed that are to be subsequently sheeted using approved methods) and paralleling or, encroaching any face of excavation. Also, for crossings greater than forty-five (45) degrees and/or located at a cover depth greater than five (5) feet from existing street surface. Parallel facilities are not exposed at any time during excavation (See "Gas Cost Sharing Work Standard Sketch No. 5"). Encroaching facilities are partially exposed inside the limit of excavation (See "Gas Cost Sharing Work Standard Sketch No. 5"). This section shall also apply to gas facilities crossing catch basins excavation, and catch basins sewer connections (chutes) trench excavation only when extra depth (covered in other section), is not required for chutes installations because of such utilities interferences (See "Gas Cost Sharing Work Standard Sketch No. 3"). This section shall also apply to gas services (if shown or otherwise listed in contract documents) crossing unsheeted excavations for water mains, gas facilities crossing fire hydrant branch connections, house sewer and/or water service connections excavations. This section shall also apply for so called "loss trench", as described further, and for additional excavation (pavement and/or soil), backfilling, compaction, roadway base and pavement restoration due to abandoned gas facilities, only if removed by Contractor. If operating status of gas facilities cannot be determined prior to excavation then such facilities shall be considered live and this section shall fully apply. The excavation around fully exposed live gas facilities along and within limits of excavation (not crossings) shall be covered by this section also (not shown on "Gas Cost Sharing Work Standard Sketch No. 5"), however the support requirement, if any is required, of such facilities is beyond the scope of these specifications and therefore shall be the responsibility of facility operator to determine and prescribe, at no cost to the City contract, but shall be a matter of adjustment between the Contractor and facility operator.

3. Payment Restriction:

No special care excavation shall be paid for abandoned gas facilities paralleling and/or encroaching excavation and therefore are not in direct interference with City work. Except as allowed in this section, the bid item specified under this section shall not be used in combination with items covered under other sections for work done due to a particular gas facility. This item shall not be paid for new gas facilities when trenching for such new facilities has been performed by the Contractor of record in common with trench excavation for City Work (overlapping trench limits). The cost of excavating with care as defined in this section shall be deemed included in the cost of trench excavation for the new gas facilities. This restriction shall apply even if such gas common trench excavation is not part of the contract. If facilities are in direct interference with City work, meaning that "Minimum Clearances" described in "General Provisions; Gas Cost Sharing Work Paragraph No. 8" cannot be maintained and excavation has to be temporarily or permanently abandoned then this particular location shall become a test pit and dealt with as specified in Section 6.07 and "General Provisions; Gas Cost Sharing Work Paragraphs Nos. 2 and 8".

4. Method Of Construction:

All excavation in the vicinity of gas facilities shall be as required by NYS Industrial Code 753. Where these facilities are paralleling and located two (2) feet or less from the limits of the proposed excavation, the Contractor shall use hand excavation methods (pick and shovel or hand held power tools) to ascertain the clearances of these facilities with respect to the proposed excavation. Once the location of these facilities with respect to the proposed excavation is verified to the satisfaction of the Resident Engineer, the Contractor shall then proceed with a combination of hand and machine excavation as required preserving the integrity of the facilities. The installation of timber supports or underpinning, when soil foundation cannot fully support partially exposed pipes, may be required to prevent pipe movement as directed by the Resident Engineer.

5. Method Of Payment:

The unit price for this work item shall be based on cubic yard (CY) of average excavation with care and, is to be considered as an incremental cost for performing City work with gas facilities interferences.

6. Method Of Measurement:

- A. For Paralleling Facilities: Volume calculated as: Depth as measured from existing street surface to the bottom of unsheeted trench excavation allowable by OSHA regulations, multiplied by, the width measured as one (1) foot from the face of excavation toward the center of excavation, multiplied by the length of parallel facility, divided by twenty-seven (27) cubic feet per cubic yard (See "Gas Cost Sharing Work Standard Sketch No. 5"). The gas facility is no longer considered to be in interference once sheeting has been installed, therefore no further compensation for paralleling facilities as described above will be made.
- B. For Encroaching Facilities: Volume calculated as: Depth of trench as allowable by OSHA, maximum up to five (5) feet multiplied by, the width of partially exposed pipe plus one (1) foot, multiplied by the length of facility encroachment, divided by twenty-seven (27) cubic feet per cubic yard (See "Gas Cost Sharing Work Standard Sketch No. 5").
- C. Fully Exposed Gas Facilities: (Not shown on "Gas Cost Sharing Work Standard Sketch No. 5") along and inside trench and/or crossing trench at an angle greater than forty-five (45) degrees and/or a cover depth greater than five (5) feet from the existing street surface. The volume shall be measured as the depth of trench excavation multiplied by the distance measured along the sheeting line between two (2) points of intersections of the gas facilities and the sides of trench excavation, multiplied by the width of trench excavation.
- D. For Additional Excavation And Restoration Due To So Called "Loss Trench", When The Integrity Of Pavement And Soil Above And Around Existing Live Gas Facilities Cannot Be Maintained Due To Its Lack Of Cohesiveness: Volume shall be calculated as: Depth of unsheeted trench excavation multiplied by width measured as distance of facility from closest edge of unsheeted excavation plus, width of facility proper plus, one (1) foot or a maximum width of three (3) feet multiplied by length of facility fully exposed divided by, twenty-seven (27) cubic feet per cubic yard (not shown on "Gas Cost Sharing Work Standard Sketch No. 5").
- E. For Facilities Crossing Excavation For Catch Basins, Or Chutes Installations (When NYCDEP Funded) Or Fire Hydrant Branch Connections, Or Unsheeted Water Main Trench, Or House Sewer And/Or Water Services: Volume calculated as: Depth as measured from existing street surface to the bottom of the trench excavation multiplied by, the width taken as the outside diameter of pipe or the width of structure plus one (1) foot on either side (two (2) feet), multiplied by, the length of exposed facility crossing the trench, divided by twenty-seven (27) cubic feet per cubic yard (not shown on "Gas Cost Sharing Work Standard Sketch No. 5").

Overlapping volume dimensions measured as described above may occur when multiple facilities are paralleling excavations, encroaching excavations or crossing catch basins and catch basin chute installations. In such cases, all such facilities shall be counted as one limited by the extreme pipes, faces (See "Gas Cost Sharing Work Standard Sketch No. 2"). The volume shall then be calculated as described above.

7. Price To Cover:

The bid price shall also cover all additional supervision, labor, material, equipment and insurance necessary to excavate while protecting and maintaining (excluding supports for fully exposed live gas) gas facilities without disruption of service to the public and in accordance with contract specifications. The price shall also include, changes of sheeting method and excavation width configuration where necessary to accommodate gas facilities in their existing locations; difficulties during the installation of catch basins, chute connections, hydrant branch, and house sewer and water connections under or over gas facilities; loss of productivity due to slower rate of excavation (special care) during excavation, including the use of such methods as: hand excavation around existing single and multiple facilities, extra excavation and backfilling due to lost trench because of existing and adjacent gas facilities, compaction, removal of sheeting from the facilities, extra roadway base restoration and temporary pavement, associated maintenance and protection of traffic, barricades, and traffic plates that may be required to temporarily close and/or complete the work.

SECTION 6.06A - Special Care Excavation and Backfilling for Transmission Mains. (Transmission Main is described as any gas main with a MAOP greater than 124 psig)

1. Description:

Under this section, the contractor shall provide all labor, materials (except for sand to be utilized for backfill of a one foot envelope around the facility to be furnished by the facility operator), equipment, and incidentals required to support and protect the integrity of Gas Transmission Main during excavations. This facility is owned by the gas company operating in the area, hereafter referred to as facility operator. The work shall be performed in accordance with the contract plans, specifications and at the directions of the Resident Engineer in consultation with authorized representatives of the facility operator.

2. Applicability of Section:

This section shall apply to Transmission Main of various sizes located within any excavation sheeted or unsheeted (excavation refers to any excavation performed for city work and includes excavations performed that are to be subsequently unsheeted/sheeted using approved shoring methods and paralleling, encroaching and crossing any excavation. Parallel facilities are not exposed at any time during excavation (within 2' of edge of excavation)). Encroaching facilities are partially/fully exposed inside the limit of excavation. This section shall also apply to gas facility crossing catch basins excavation and catch basins sewer connections (chutes), water mains, fire hydrant branch connections, sanitary sewer, storm sewer, combination sewer, house sewer and/or water service connections excavations. The excavation around fully exposed live gas facilities along and within limits of excavation shall be covered by this section also, however the support requirement, if any is required, of such facilities is beyond the scope of these specifications and therefore shall be the responsibility of facility operator to determine and prescribe, at no cost to the City contract, but shall be a matter of adjustment between the contractor and facility operator.

3. Payment Restriction:

The bid item specified under this section shall not be used in combination with items covered under other sections for work done due to a particular gas facility. This item shall not be paid for new gas facilities when trenching for such new facilities has been performed by the contractor of record in common with trench excavation for City Work (overlapping trench limits). The cost of excavating with care as defined in this section shall be deemed included in the cost of trench excavation for the new gas facilities. This restriction shall apply even if such gas common trench excavation is not part of the contract. If facilities are in direct interference with City work, meaning that "minimum clearances" described in the General Provisions for Gas Cost Sharing (Para. No.8) cannot be maintained, the excavation shall be abandoned and the contractor shall be compensated as per the provisions specified in Paragraphs Nos. 5 and 6 of this item (6.06A).

4. Method of Construction:

All excavations in the vicinity of gas facilities shall be as required by NYS Industrial Code 753. No saw cutting of pavement or masonry for gas mains having less than 2 feet of cover to break asphalt/concrete as determined by the facility operator. The contractor shall use power excavation for the removal of pavement or masonry but only to the depth of such pavement or masonry (breaking of pavement or masonry shall be done by means of hand held pneumatic breaking equipment). Upon removal of pavement or masonry the contractor shall use hand excavation methods only (pick and shovel; no power tools) to ascertain the clearances of these facilities with respect to the proposed excavation. Once the location of these facilities with respect to the proposed excavation is verified to the satisfaction of the Resident Engineer and the facility operator the contractor shall then proceed with hand only within the zone of protection described as 2 feet from the face of the facility in all directions of the facility as required to preserve the integrity of the facility. Once outside of the zone of protection as described above the contractor may use a combination of hand and machine to complete the excavation.

5. Method of Payment:

The unit price for this work item shall be based on cubic yard (CY) of average excavation with special care and, is to be considered as an incremental cost for performing City work with gas facilities interferences.

6. Method of Measurement:

A. For Paralleling Facilities:

Volume calculated as: Depth as measured from existing street surface to the bottom of facility, multiplied by, the width measured as two (2) feet from the face of excavation toward the center of excavation, multiplied by the length of parallel facility, divided by twenty-seven (27) cubic feet per cubic yard. Only hand excavation shall be utilized within the zone of protection identified as 2 feet from face of facility, beyond 2 feet from the face of facility the contractor can use a combination of hand and machine.

B. For Encroaching Facilities:

Volume calculated as: Depth as measured from existing street surface to the bottom of facility, multiplied by, the width measured as two (2) feet plus the exposed facility toward the center of excavation, multiplied by the length of the encroached facility, divided by twenty-seven (27) cubic feet per cubic yard. Only hand excavation shall be utilized within the zone of protection identified as 2 feet from face of facility, beyond 2 feet from the face of facility the contractor can use a combination of hand and machine.

C. Fully Exposed Gas Facilities:

Volume calculated as: Depth as measured from existing street surface to the bottom of facility, multiplied by, the width measured as two (2) feet from the face of the facility on

either side plus the facility, multiplied by the length of the facility, divided by 27 cubic feet per cubic yard. Only hand excavation shall be utilized within the zone of protection identified as 2 feet from face of facility in all directions, beyond 2 feet from the face of facility in all directions the contractor can use a combination of hand and machine.

- D. For Additional Excavation And Restoration Due To So Called "Loss Trench", When The Integrity Of Pavement And Soil Above And Around Existing Live Gas Facilities Cannot Be maintained Due To Its Lack of Cohesiveness:

Volume shall be calculated as: Depth of unsheeted trench excavation multiplied by width measured as distance of facility from closest edge of unsheeted excavation plus, width of facility proper plus, one (1) foot or a maximum width of three (3) feet multiplied by length of facility fully exposed divided by, twenty-seven (27) cubic feet per cubic yard (not shown on "Gas Cost Sharing Work Standard Sketch No. 5").

- E. For Facilities Crossing Excavation For Catch Basins, Or Chutes Installations (When NYCDEP Funded) Or Fire Hydrant Branch Connections, Or Unsheeted Water Main Trench, Or House Sewer And/Or Water Services:

Volume calculated as: Depth as defined above multiplied by, the width taken as the outside diameter of pipe or the width of structure plus one (1) foot on either side (two (2) feet), multiplied by, the length of exposed facility crossing the trench, divided by twenty-seven (27) cubic feet per cubic yard (not shown on "Gas Cost Sharing Work Standard Sketch No. 5").

7. Price to Cover:

The bid price shall also cover all additional supervision, labor, material, equipment and insurance necessary to excavate while protecting and maintaining (excluding supports for fully exposed live gas) gas facilities without disruption of service to the public and in accordance with contract specifications. The price shall also include, changes of sheeting method and excavation width configuration where necessary to accommodate gas facilities in their existing locations; difficulties during the installation of catch basins, chute connections, hydrant branch, and house sewer, sanitary sewer, storm sewer, combination sewer and water connections under or over gas facilities; loss of productivity due to slower rate of excavation (special care) during excavation, compaction, removal of sheeting from the facilities, extra roadway base restoration and temporary pavement, associated maintenance of traffic, barricades, and traffic plates that may be required to temporarily close and/or complete the work. Breaking shall be done by means of hand held pneumatic breaking equipment. Inspection of exposed mains shall be performed by facility operator in a timely fashion and shall not unduly impede contractor's progress or productivity.

SECTION 6.07 - Test Pits For Gas Facilities.**1. Description:**

Under this section, the Contractor shall furnish all labor, materials, insurance, equipment and appliances necessary to excavate, sheet and, maintain test pits at locations approved by the Resident Engineer in consultation with the facility operator. Test pits shall be dug in order to ascertain exact locations, cover and invert elevations, clearances, alignment and operating status (live or dead) of existing gas facilities. The Contractor shall inspect jointly with the Resident Engineer and facility operator, gas facilities and other structures uncovered, take all relevant measurements and elevations as directed by the Resident Engineer. Tests to determine operating status of gas facilities shall be performed by facility operator. The pits shall be covered with steel plates during daytime nonworking hours, and uncovered, as required, until the inspection work is completed. Testing of gas facilities may require a maximum of four (4) hours. Then, the pits shall be backfilled with clean fill, and resurfaced with temporary pavement. All traffic shall be maintained and all safety measures as stipulated shall be complied with.

2. Methods Of Construction:

- A. **Excavation:** Existing pavement to be removed shall be neatly cut along lines of removal with a saw or other approved equipment which leaves a neat straight joint line along the juncture with subsequently replaced pavement. Excavation in the vicinity of utilities and other structures shall be performed using hand tools. Use of hand operated pneumatic and electric jackhammers will be permitted only for breaking pavement and removal of masonry, concrete and boulders, or as otherwise directed by the Resident Engineer. The Contractor shall properly dispose of all materials excavated from test pits away from site. Test pits shall be excavated at locations shown on the contract drawings or as directed by the Resident Engineer. Additional test pits may be required and shall be excavated where required, as ordered by the Resident Engineer. All test pits shall be excavated to a depth and size necessary to locate the existing facilities. Sheeting shall be used when depth of excavation exceeds five (5) feet. The sheeting required shall be furnished and installed in full compliance with the State of New York and Federal Safety Codes requirements and as specified in contract, whichever is more stringent. Care shall be taken that no existing gas facilities or other structures are broken or damaged. All broken or damaged facilities shall be reported immediately to facility operator who shall decide whether such facilities shall be repaired or replaced by company forces or by City contractor and in conformance with "General Provisions; Gas Cost Sharing Work Paragraph No. 9". Contractor shall excavate all material encountered, including large masses of concrete, cemented masonry and boulders, as directed by the Resident Engineer. Any type of excavation protection used, shall satisfy the following:

- (a) Industrial Code Rule 753.
- (b) Prevent injury to workers and the public, and avoid damage to existing water, sewer, and gas pipes or other structures, and to pavements and their foundations, through caving or sliding of the banks of the excavation.

Should it become necessary, as determined by the Resident Engineer, to enlarge any test pit in any dimension after sheeting has been placed, the Contractor shall remove portions of the sheeting, as necessary, enlarge the test pits as directed, and replace the sheeting without additional compensation for this work other than for the additional volume of material excavated.

- B. **Maintenance Of Test Pits:** Excavated test pits shall be maintained free of debris and kept dry by the Contractor in order to permit the inspection and measurements and to determine the locations of facilities. In order to accomplish this, Contractor shall, upon completion of excavation and placement of sheeting (if depth greater than five (5) feet), furnish and install adequate steel plates and posting over the excavated pits and shall temporarily remove all equipment debris and workers, and relocate barricades in order to open the full width of street to traffic during nonworking hours. The Contractor shall then, at no additional cost, relocate such barricades, barrels, cones and other warning devices and remove steel plates, as and when directed by the Resident Engineer to facilitate the inspection of

exposed facilities. When work is being performed and the pits are not covered with steel plates, the Contractor shall provide complete and safe access to the test pits as may be required, and he shall provide construction barricades and maintain traffic at all times as shown or as directed by the Resident Engineer. Upon completion of test pit inspection by the Resident Engineer, the pit shall be backfilled by the Contractor as specified in contract, except that backfill material shall conform to contract specifications for such purpose.

- C. **Pavement And Sidewalk Restoration:** After backfilling is completed, the Contractor shall construct a temporary pavement consisting of a minimum of four (4) inches thick asphaltic concrete mixture in roadway areas or a two (2) inches thick asphaltic concrete mixture in sidewalk areas in order to maintain existing pedestrian and vehicular traffic. This temporary pavement shall be maintained until permanent pavement and sidewalk replacement is constructed as specified in contract.

3. **Measurements:**

The quantity to be measured for payment shall be the number of cubic yards of material removed from within the limits of the pit dimensions as directed by the Resident Engineer. The volume occupied by existing pipes or other structures remaining within the maximum payment lines will not be deducted from the total volume measured except, where the cross sectional area of these facilities exceeds four (4) square feet. As determined by the Resident Engineer, the quantity measured for payment may be proportionate to a fair and reasonable estimate of gas responsibility in the total volume excavated.

4. **Price To Cover:**

The contract price bid per cubic yard for test pits shall cover all additional costs of labor, material, insurance, equipment, appliances and incidentals required to excavate test pits, including removal and disposal of excavated materials, sheeting, steel plating, backfill, compaction and temporary pavement and sidewalk restoration all in accordance with the specifications and as directed by the Resident Engineer. The price shall also include the cost of providing safe access to the excavation by facility operator for the performance of certain test to determine operating status of gas facilities prior to City work. The price shall also include support and protection of all gas facilities crossing excavation, paralleling and/or encroaching any face of excavation.

SECTION 6.08 - "NO TEXT"

**SECTION 6.09 - Trench Excavation and Backfill for New Gas Mains and Services
(For National Grid Work Only)**

1. **Description:**

Under this section, the contractor shall furnish all labor, materials, equipment, insurance, permits and incidentals required to break/remove roadway and sidewalk pavement, excavate, backfill and restore gas trenches. The trench to be excavated shall be determined by the size of the gas facility to be installed. The work shall be performed in accordance with applicable specifications, and/or at the direction of the Resident Engineer in consultation with the facility operator.

2. **Materials:**

All materials used to excavate and prepare trenches shall be supplied by the Contractor and be approved by the facility operator in consultation with the Resident Engineer.

3. **Method of Construction:**

Excavation – The Contractor shall saw cut and/or break and remove existing roadway which may include

but is not limited to, asphalt, concrete and cobblestone, utilizing approved equipment that leaves a neat straight joint line along the juncture with subsequently replaced pavement. Prior to starting the trenching operation, the contractor shall excavate the appropriate gas main tie-in pits at the extremities of the gas main sections to be replaced. Test pits shall be excavated to determine exact location of all tie-in pits and at appropriate intervals along proposed trench excavation to verify lane and clearances as shown on the contract plans. The tie-in pits shall be adequately protected by the contractor using wood fencing or steel traffic plates until such time when the facility operator has completed the tie-in work. The Contractor shall be permitted to excavate utilizing a combination of machine and hand excavation, as field conditions warrant, and as directed by the facility operator. The trench shall be adjusted so as to provide for a nominal cover on the new gas facilities or as required based on field conditions, applicable specifications, or as directed by the facility operator in consultation with the Resident Engineer. The width of the trench shall be as directed by the facility operator in consultation of the Resident Engineer. The bottom of the trench shall be graded smooth with a minimum cushion of 3 inches of clean sand and in conformance with applicable specification and be compacted, to minimize initial settlement and to avoid "point" support of new gas facilities. All stones projecting into the trench bottom shall be removed, and the voids backfilled before the new gas facilities are installed. Where streets are not to final grade, the cover shall be measured from the final grade, or the existing grade, whichever provides the deeper trench. Excavation in the vicinity of utilities and other structures shall be performed using hand tools. The contractor shall properly dispose of all materials excavated away from site. Size and location of excavation shall be as directed by the facility operator in consultation with the Resident Engineer. Trenches shall be excavated to a depth and size necessary to facilitate the installation of the new gas facility and in conformance with the applicable specification. All existing facilities that are encountered during trench excavating shall be protected in a manner suitable to the facility operator in consultation with the Resident Engineer. Tight sheeting shall be used, as required, based on field conditions and/or when the depth of excavation is equal to or greater than five feet. Skeleton type sheeting will not be permitted. The sheeting required shall be furnished and installed in full compliance with the State of New York and Federal Safety Code requirements and in compliance with applicable specifications and/or as directed by the facility operator in consultation with the Resident Engineer. Care shall be taken that no existing gas facilities or other structures are broken or damaged. Contractor shall excavate all material encountered necessary to facilitate the installation of the new gas facilities, and as directed by the facility operator. Care should be taken to avoid damage to existing utility facilities and structures, and to pavements and their foundations, and to avoid caving or sliding banks within the excavation.

Maintenance of Trench Excavation - Excavated trenches shall be maintained free of debris and kept dry by the contractor. In order to accomplish this, contractor shall, upon completion of excavation and placement of sheeting (as required and/or if depth is equal to or greater than five feet), furnish and install adequate steel plates, as directed by the facility operator in consultation with the Resident Engineer, and posting over the excavated trenches and shall temporarily remove all equipment debris and workers, and relocate barricades in order to open the full width of street to traffic during non-working hours, as required based on DOT requirements. National Grid forces will perform all live gas main connections, dead gas main cut-outs, and/or service work associated with disconnecting and reconnecting from old to new gas main. The Contractor shall then, at no additional cost, relocate such barricades barrels, cones and other warning devices and remove steel plates, as and when directed by the facility operator in consultation with the Resident Engineer to facilitate the installation of the new gas facilities. When work is being performed and the excavations are not covered with steel plates, the Contractor shall provide complete and safe access to the trench as may be required, and shall provide construction barricades and maintain traffic at all times as shown or as directed by the facility operator in consultation with the Resident Engineer. The contractor has the responsibility to maintain and set to grade all National Grid hardware during backfill and pavement restoration. Upon completion of installation of the new gas facility, the trench excavation shall be backfilled by the contractor in accordance with Contract requirements and all backfill material shall conform to contract specifications for such purpose.

Pavement and Sidewalk Restoration - After backfilling is completed, the contractor shall install temporary pavement consisting of six inches (6") thick asphaltic concrete mixture in roadway areas or a two inches (2") thick asphaltic concrete mixture in sidewalk areas in order to maintain existing pedestrian and vehicular traffic. This temporary pavement shall be maintained until permanent replacement as specified in contract. Permanent pavement restoration shall be as required by the appropriate contract specifications and as

directed by the Resident Engineer.

4. Method of Measurement:

The quantity to be measured for payment shall be the number of cubic yards (C.Y.) of trench actually excavated, including roadway pavement, base and/or sidewalk concrete removed within the limits of the trench as directed by the Resident Engineer in consultation with the facility operator. The volume occupied by existing pipes or other structures will be deducted from the total volume measured as shown on contract drawing(s) Title: EP-7 SECT. 6.09 GAS SPECIALTY CONTRACTOR WORK, or as encountered based on existing field conditions.

5. Price to Cover:

The unit price bid per cubic yard for excavation shall include the cost of all supervision, labor, material, equipment, insurance and incidentals necessary to complete excavation trenches, including backfill, compaction testing and restoration of trenches and tie-ins pits as specified or shown on the contract, plans. The bid price shall also include the cost of coordinating the sewer and water main work to be performed by the contractor with the gas installation work to be performed by others. The price shall also include, associated maintenance of traffic, and traffic plates and openings and closings of plates as may be required in order to provide access to the facility operator during the new gas facility installation, and installing, removing and maintaining tight sheeting that may be required, cut, break and remove various thickness of surface and base pavement, excavate by hand, furnish, place and compact, in compliance with DOT requirements, clean sand backfill following installation of the gas facility. Any required removing, trucking, storing, and disposing of material shall be deemed included in the unit price. The price shall also include the cost of providing temporary pavement restoration. Permanent pavement restoration shall be deemed included in this item, as required and as directed by the Resident Engineer.

**SECTION 6.09a Trench Excavation and Backfill for New Gas Mains and Services
(For Con Edison Work Only)**

1. Description:

Under this section, the contractor shall furnish all labor, materials, equipment, insurance, permits and incidentals required to break/remove roadway and sidewalk pavement, excavate, backfill and restore gas trenches. The trench to be excavated shall be determined by the size of the gas facility to be installed. The work shall be performed in accordance with applicable specifications, and/or at the direction of the Resident Engineer in consultation with the facility operator.

2. Materials:

All materials used to excavate and prepare trenches shall be supplied by the Contractor and be approved by the facility operator in consultation with the Resident Engineer. Clean sand backfill material shall be used and shall conform to Con Edison specification EO-1181-rev.6, General Specification for Backfilling of Trench and Small Openings.

3. Method of Construction:

Excavation – The Contractor shall saw cut and/or break and remove existing roadway which may include but is not limited to, asphalt, concrete and cobblestone, utilizing approved equipment that leaves a neat straight joint line along the juncture with subsequently replaced pavement. Prior to starting the trenching operation, the contractor shall excavate the appropriate gas main tie-in pits at the extremities of the gas main sections to be replaced. Test pits shall be excavated to determine exact location of all tie-in pits and at appropriate intervals along proposed trench excavation to verify lane and clearances as shown on the contract plans. The tie-in pits shall be adequately protected by the contractor using wood fencing or steel traffic plates until such time when the facility operator has completed the tie-in work. The Contractor shall be permitted to excavate utilizing a combination of machine and hand excavation, as field conditions warrant, and as directed by the facility operator. The trench shall be adjusted so as to provide for a nominal

cover on the new gas facilities or as required based on field conditions, applicable specifications, or as directed by the facility operator in consultation with the Resident Engineer. The width of the trench shall be as directed by the facility operator in consultation of the Resident Engineer. The width and depth of the trench shall conform to Con Edison Gas Operations drawing 309495 rev. 4, Trench Excavation for Gas Mains Up to 350 PSIG, or as directed by the facility operator in consultation of the Resident Engineer. The bottom of the trench shall be graded smooth with a minimum cushion of 3 inches of clean sand and in conformance with applicable specification and be compacted, to minimize initial settlement and to avoid "point" support of new gas facilities. All stones projecting into the trench bottom shall be removed, and the voids backfilled before the new gas facilities are installed. Where streets are not to final grade, the cover shall be measured from the final grade, or the existing grade, whichever provides the deeper trench. Excavation in the vicinity of utilities and other structures shall be performed using hand tools. The contractor shall properly dispose of all materials excavated away from site. Size and location of excavation shall be as directed by the facility operator in consultation with the Resident Engineer. Trenches shall be excavated to a depth and size necessary to facilitate the installation of the new gas facility and in conformance with the applicable specification. All existing facilities that are encountered during trench excavating shall be protected in a manner suitable to the facility operator in consultation with the Resident Engineer. Tight sheeting shall be used, as required, based on field conditions and/or when the depth of excavation is equal to or greater than five feet. Skeleton type sheeting will not be permitted. The sheeting required shall be furnished and installed in full compliance with the State of New York and Federal Safety Code requirements and in compliance with applicable specifications and/or as directed by the facility operator in consultation with the Resident Engineer. Care shall be taken that no existing gas facilities or other structures are broken or damaged. Contractor shall excavate all material encountered necessary to facilitate the installation of the new gas facilities, and as directed by the facility operator. Care should be taken to avoid damage to existing utility facilities and structures, and to pavements and their foundations, and to avoid caving or sliding banks within the excavation.

Maintenance of Trench Excavation - Excavated trenches shall be maintained free of debris and kept dry by the contractor. In order to accomplish this, contractor shall, upon completion of excavation and placement of sheeting (as required and/or if depth is equal to or greater than five feet), furnish and install adequate steel plates, as directed by the facility operator in consultation with the Resident Engineer, and posting over the excavated trenches and shall temporarily remove all equipment debris and workers, and relocate barricades in order to open the full width of street to traffic during non-working hours, as required based on DOT requirements. Con Edison forces will perform all live gas main connections, dead gas main cut-outs, and/or service work associated with disconnecting and reconnecting from old to new gas main. The Contractor shall then, at no additional cost, relocate such barricades barrels, cones and other warning devices and remove steel plates, as and when directed by the facility operator in consultation with the Resident Engineer to facilitate the installation of the new gas facilities. When work is being performed and the excavations are not covered with steel plates, the Contractor shall provide complete and safe access to the trench as may be required, and shall provide construction barricades and maintain traffic at all times as shown or as directed by the facility operator in consultation with the Resident Engineer. The contractor has the responsibility to maintain and set to grade all Con Edison hardware during backfill and pavement restoration. Upon completion of installation of the new gas facility, the trench excavation shall be backfilled by the contractor in accordance with Contract requirements and all backfill material shall conform to contract specifications for such purpose.

Pavement and Sidewalk Restoration - After backfilling is completed, the contractor shall install temporary pavement consisting of six inches (6") thick asphaltic concrete mixture in roadway areas or a two inches (2") thick asphaltic concrete mixture in sidewalk areas in order to maintain existing pedestrian and vehicular traffic. This temporary pavement shall be maintained until permanent replacement as specified in contract. Permanent pavement restoration shall be as required by the appropriate contract specifications and as directed by the Resident Engineer.

4. Method of Measurement:

The quantity to be measured for payment shall be the number of cubic yards (C.Y.) of trench actually excavated, including roadway pavement, base and/or sidewalk concrete removed within the limits of the trench as directed by the Resident Engineer in consultation with the facility operator. The volume occupied

by existing pipes or other structures will be deducted from the total volume measured as shown on contract drawing(s) Title: EP-7 SECT. 6.09 GAS SPECIALTY CONTRACTOR WORK, or as encountered based on existing field conditions.

5. Price to Cover:

The unit price bid per cubic yard for excavation shall include the cost of all supervision, labor, material, equipment, insurance and incidentals necessary to complete excavation trenches, including backfill, compaction testing and restoration of trenches and tie-ins pits as specified or shown on the contract, plans. The bid price shall also include the cost of coordinating the sewer and water main work to be performed by the contractor with the gas installation work to be performed by others. The price shall also include, associated maintenance of traffic, and traffic plates and openings and closings of plates as may be required in order to provide access to the facility operator during the new gas facility installation, and installing, removing and maintaining tight sheeting that may be required, cut, break and remove various thickness of surface and base pavement, excavate by hand, furnish, place and compact, in compliance with DOT requirements, clean sand backfill following installation of the gas facility. Any required removing, trucking, storing, and disposing of material shall be deemed included in the unit price. The price shall also include the cost of providing temporary pavement restoration. Permanent pavement restoration shall be deemed included in this item, as required and as directed by the Resident Engineer.

GAS COST SHARING STANDARD SPECIFICATIONS
SCHEDULE GCS-A

Average rate charged by utility companies to Disconnect and Reconnect Gas Services:

- 1. National Grid - \$586.90 per Service/and Visit
- 2. Con Edison - \$524.00 per Service/and Visit

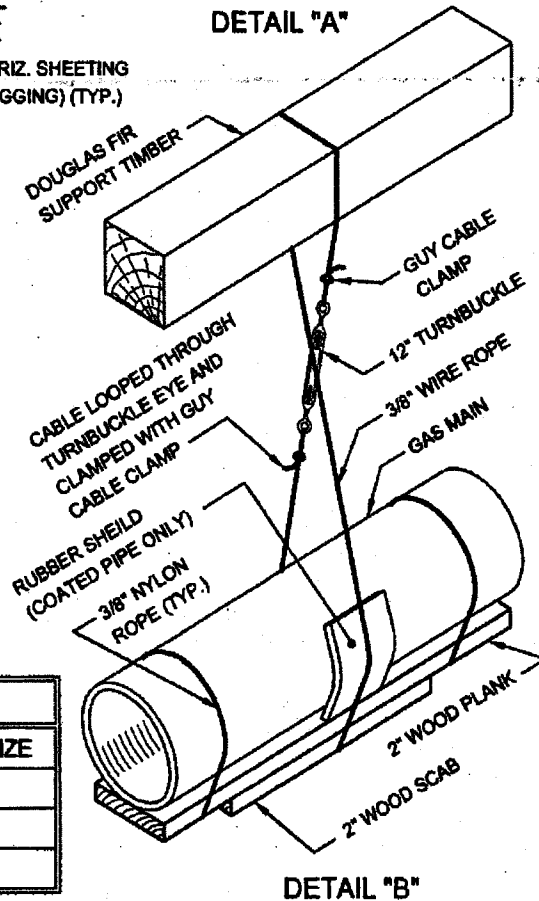
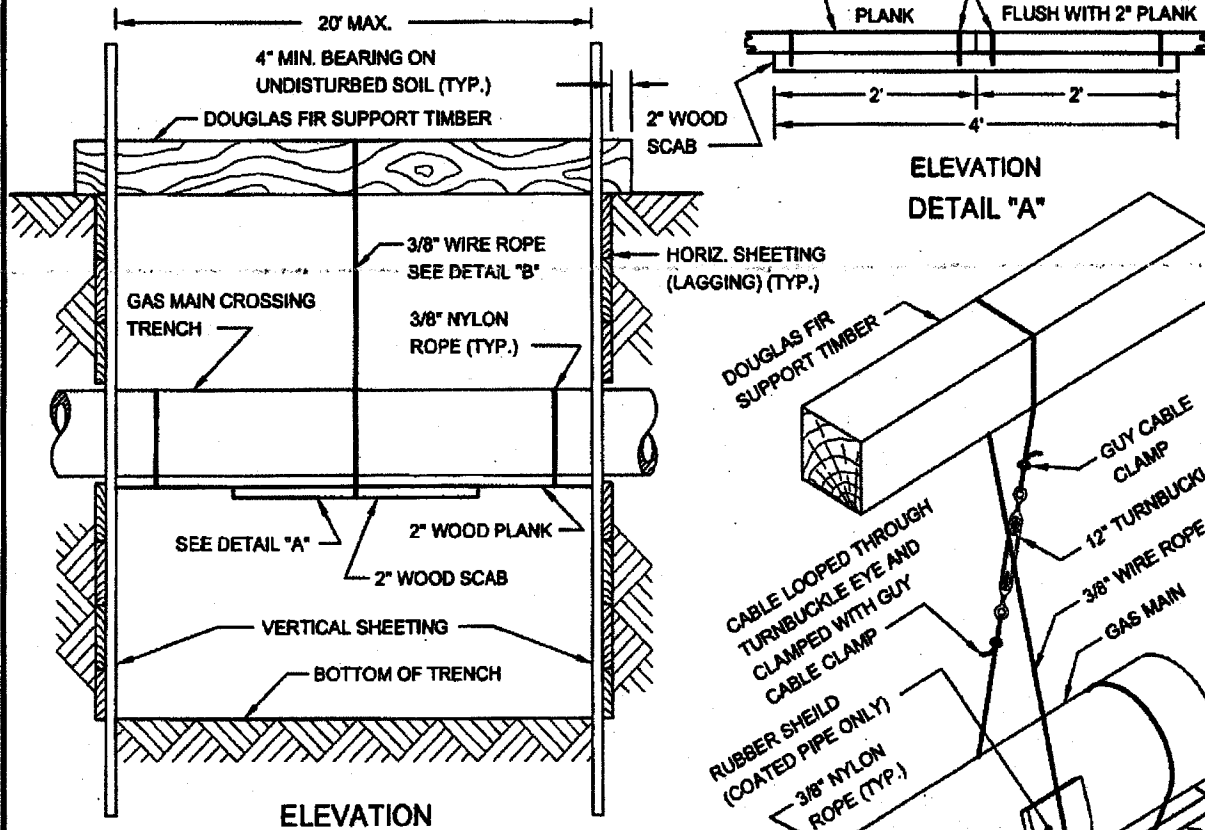
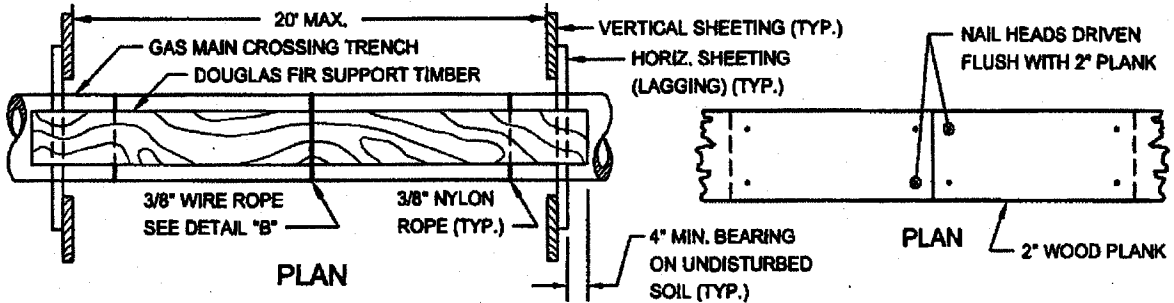
IV - STANDARD SKETCHES; GAS COST SHARING WORK

Hereinafter attached are the following Standard Sketches for Gas Cost Sharing Work:

- Sketch No. 1 - Support Requirements For Gas Mains And Services Crossing Excavation Greater Than 4' - 0" Wide At Any Angle
- Sketch No. 1A - Support Requirements For Gas Mains Over 16" Diameter Up To And Including 48" Diameter Crossing Excavation At Any Angle
- Sketch No. 2 - Typical Methods Of Measurement For Gas Crossings
- Sketch No. 3 - Utility Crossings During Catch Basin Chute Connection Pipe Installation
- Sketch No. 4 - Utility Crossings During Catch Basin Chute Connection Pipe Installation (Extra Depth)
- Sketch No. 5 - Gas Main Encroachment On And/Or Parallel To Excavation Of Unsheeted Trench

GAS COST SHARING WORK (SKETCH NO. 1)

SUPPORT REQUIREMENTS FOR GAS MAINS AND SERVICES CROSSING EXCAVATION GREATER THAN 4'-0" WIDE AT ANY ANGLE

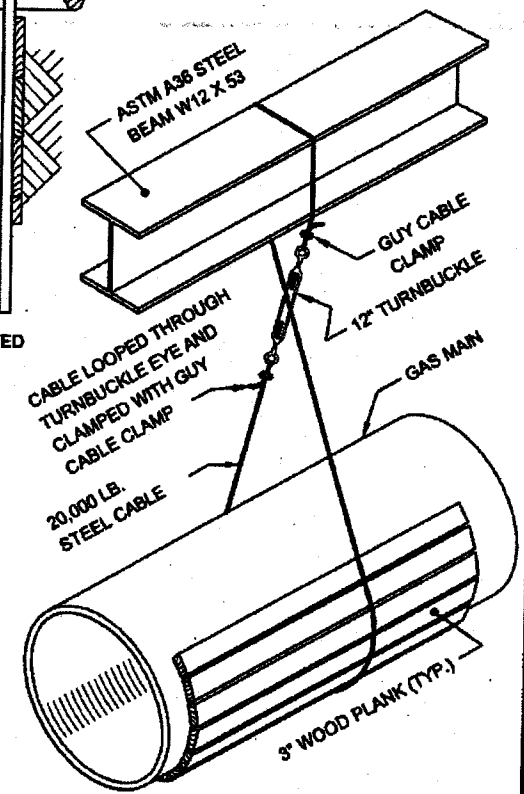
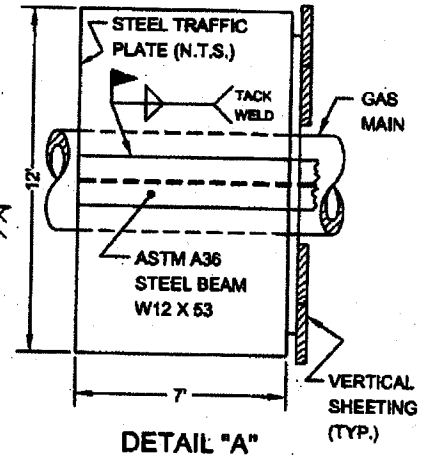
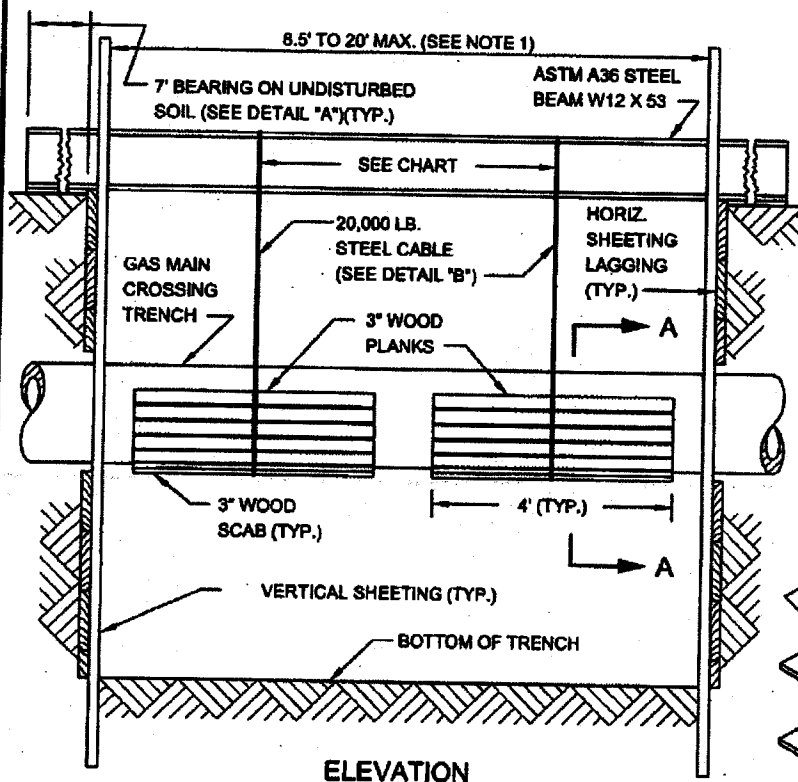


CABLE SUPPORT		TIMBER SUPPORT	
MAIN TYPE	SPACING	MAIN SIZE	TIMBER SIZE
CAST IRON	4' O.C. MAX.	UP TO 6"	6" X 6"
STEEL	10' O.C. MAX.	8" TO 10"	8" X 8"
PLASTIC	10' O.C. MAX.	12" TO 16"	10" X 10"

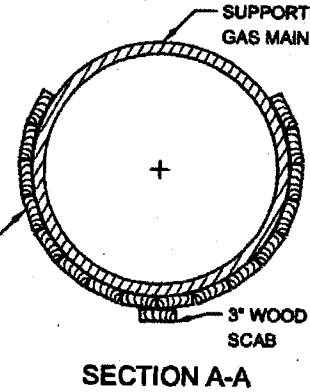
REVISED OCT. 2004 - L. ADRIEN
 REVISED JUNE 1998 - J. WORKS/W. PATALANOFF, MOY

GAS COST SHARING WORK (SKETCH NO. 1A)

SUPPORT REQUIREMENTS FOR GAS MAINS OVER 16" DIAMETER UP TO AND INCLUDING 48" DIAMETER CROSSING EXCAVATION AT ANY ANGLE



CABLE SUPPORT	
MAIN TYPE	SPACING
CAST IRON	4' O.C. MAX.
STEEL	10' O.C. MAX.

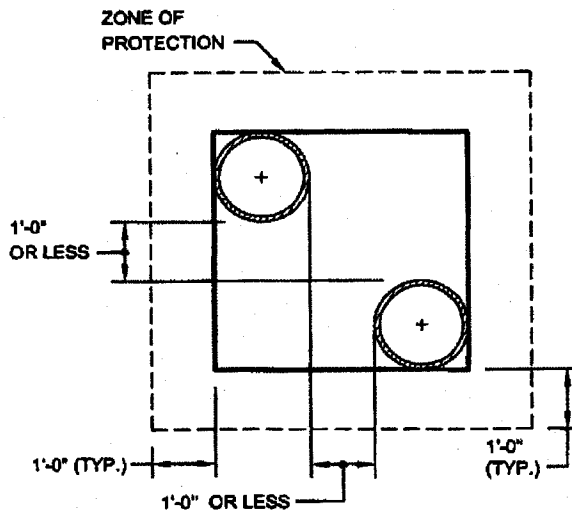
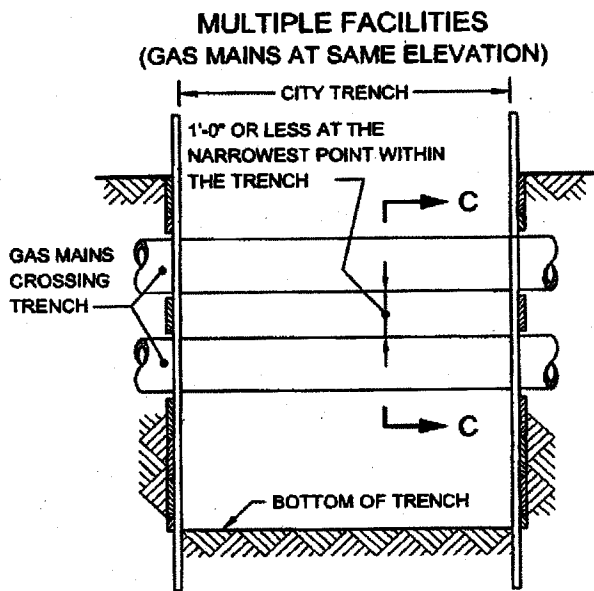
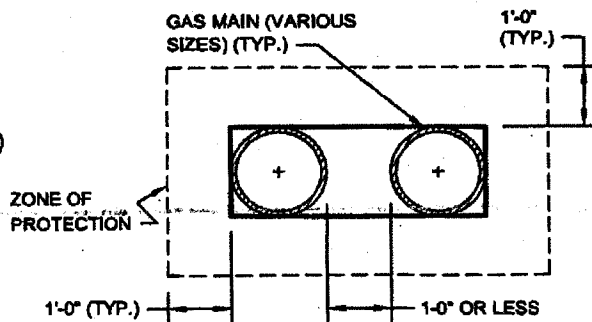
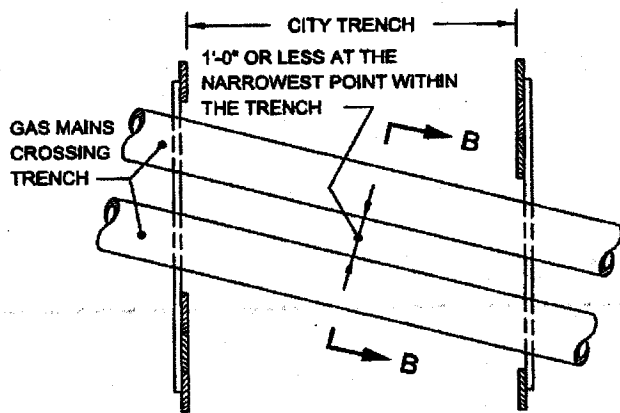
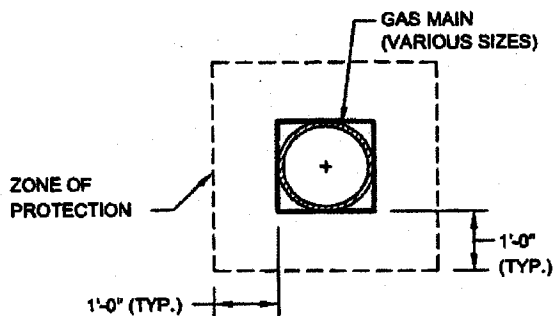
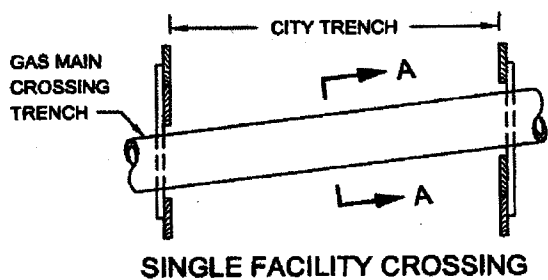


NOTES:

- (1) NO SUPPORT IS REQUIRED FOR GAS MAINS OVER 16" DIA. UP TO AND INCLUDING 48" DIA. CROSSING TRENCHES LESS THAN 8.5' WIDE.
- (2) UNDERMINE A MAXIMUM OF 8.5 L.F. OF CAST IRON GAS MAIN AT A TIME.
- (3) SET STEEL CABLE OVER 3" WOOD PROTECTIVE PLANKS AND PLACE AN ADDITIONAL 3" SCAB ON THE BOTTOM OF THE GAS MAIN.
- (4) ADJUST STEEL CABLE UNTIL DEAD WEIGHT OF THE UNDERMINED GAS MAIN HAS BEEN TAKEN UP BY THE OVERHEAD STEEL BEAM SUPPORT.
- (5) ALL SUPPORTS AND STEEL CABLES CAN BE REMOVED ONLY AFTER THE REQUIRED BACKFILL (AROUND AND BELOW GAS MAIN) HAS BEEN COMPACTED IN ACCORDANCE WITH NEW YORK CITY STANDARDS AND AT THE DIRECTIONS OF THE ENGINEER.

REVISION OCT. 2004 - J.L. ADRIEN
 REVISED JUNE 1988 - J. WONG / W. PAVLONOFF / RAY

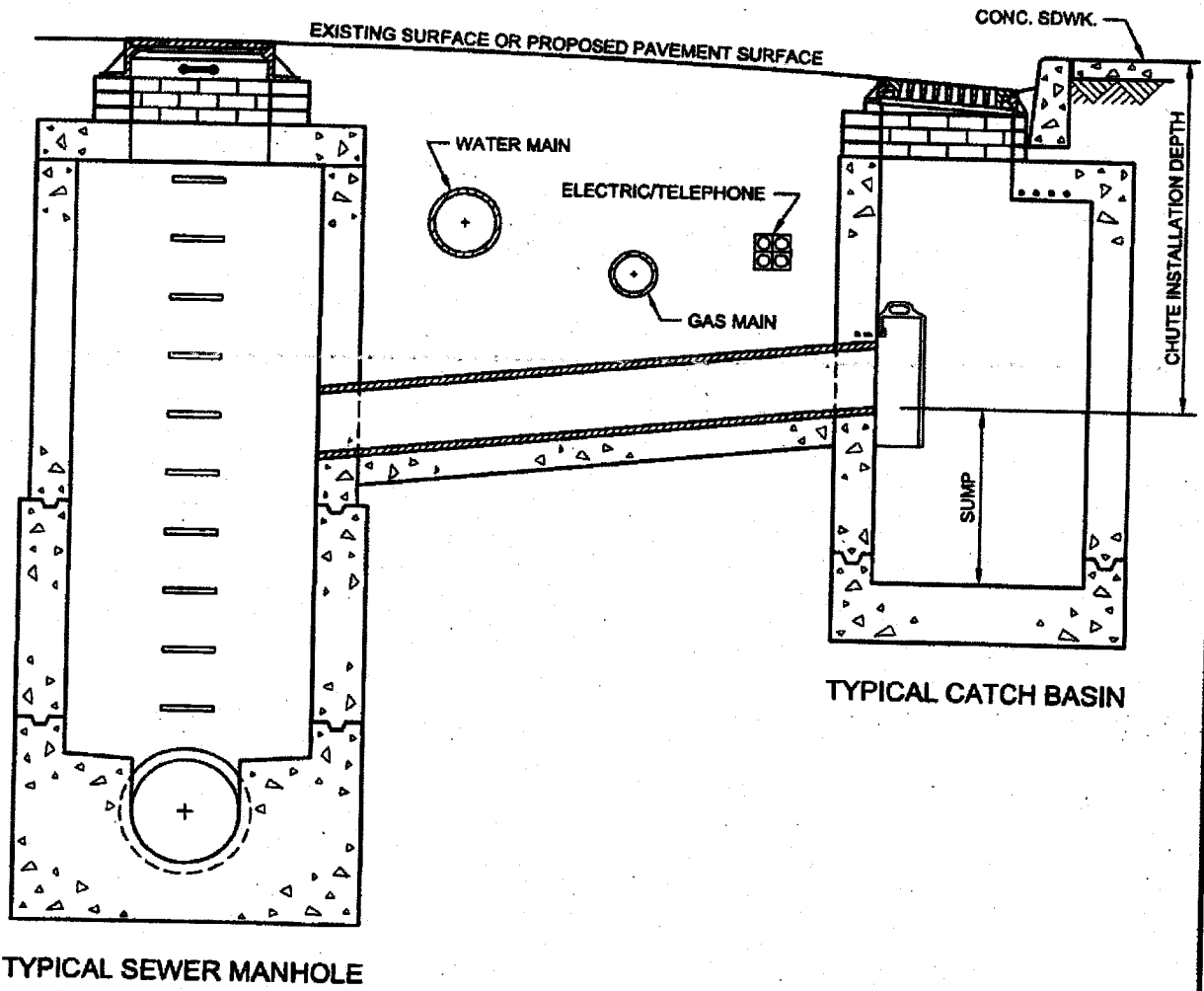
GAS COST SHARING WORK (SKETCH NO. 2)
TYPICAL METHODS OF MEASUREMENT FOR GAS CROSSINGS



NOTE:
 GAS MAINS MAY OR MAY NOT BE PARALLEL
 TO EACH OTHER.

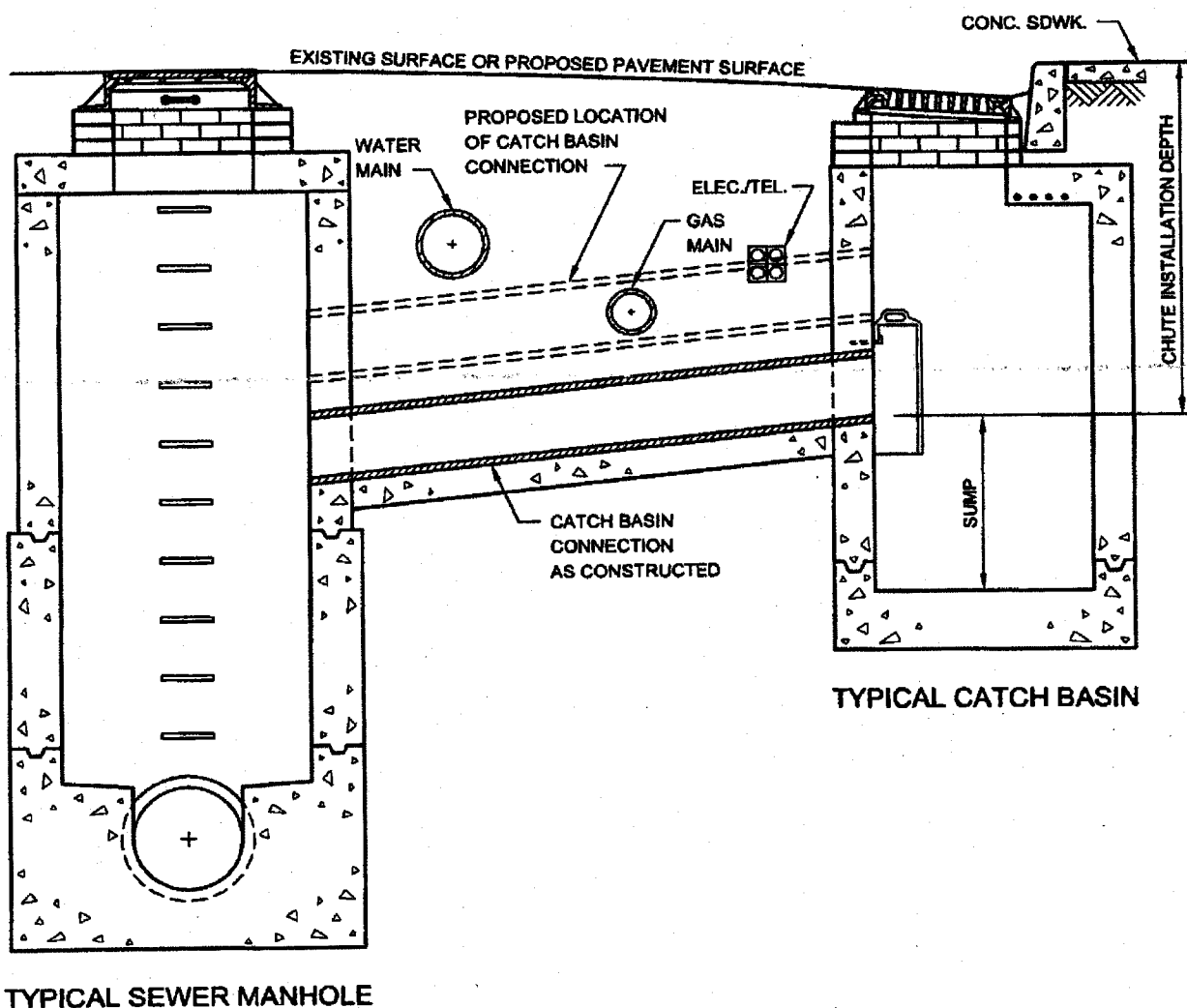
REVISED SEPT. 2004 - J. ANDREWS
 REVISED SEPT. 2004 - J. WONG/M. PATIL/NOIP, INDY

GAS COST SHARING WORK (SKETCH NO. 3) UTILITY CROSSINGS DURING CATCH BASIN CHUTE CONNECTION PIPE INSTALLATION



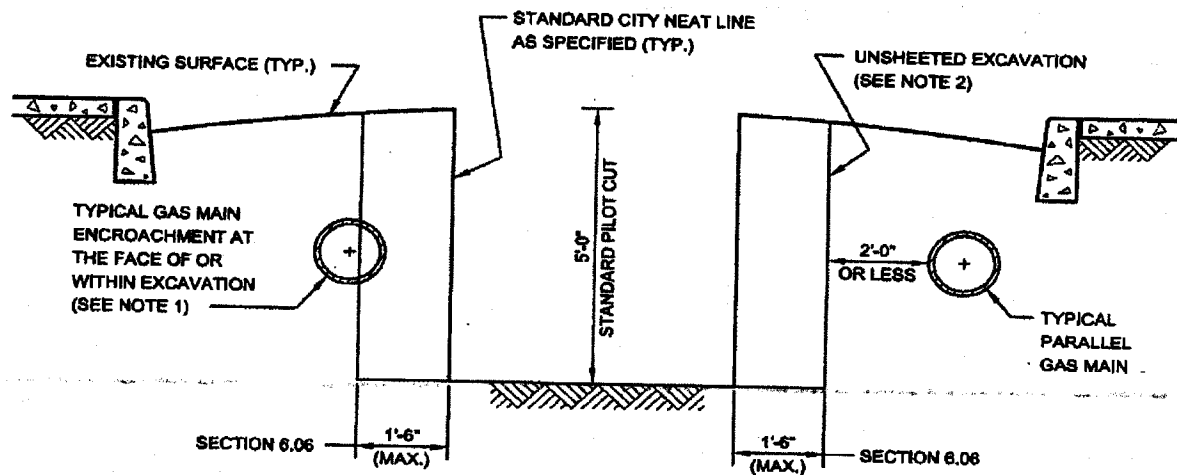
REVISED OCT. 2004 - J. ADRIEN
REVISED OCT. 1999 - J. WONGAW, PATALAKORP. MOY

GAS COST SHARING WORK (SKETCH NO. 4) UTILITY CROSSINGS DURING CATCH BASIN CHUTE CONNECTION PIPE INSTALLATION (EXTRA DEPTH)



REVISED OCT. 2004 - J. ADRIEN
REVISED OCT. 1988 - J. WONGAW, PATALANOR, MOY

GAS COST SHARING WORK (SKETCH NO. 5)
GAS MAIN ENCROACHMENT ON AND/OR PARALLEL
TO EXCAVATION OF UNSHEETED TRENCH



NOTES:

- (1) GAS MAIN LOCATED AS SHOWN MAY HAVE TO BE REMOVED BY THE FACILITY OPERATOR PRIOR TO THE START OF CITY EXCAVATION, OTHERWISE, THE CONTRACTOR WILL BE PAID UNDER SECTION 6.06 FOR THE SAID WORK. IF GAS MAIN IS ABANDONED THEN SECTION 6.03 SHALL APPLY.
- (2) EIGHTEEN (18) INCHES FROM STANDARD NEAT LINE IS THE MAXIMUM ALLOWABLE WIDTH OF AREA THAT MAY BE DISTURBED OR EXCAVATED DURING INSTALLATION OF CERTAIN TYPES OF SHEETING SYSTEMS THAT MEET THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS OF THE DEPARTMENT OF DESIGN AND CONSTRUCTION OF THE CITY OF NEW YORK.

REVISED OCT. 2004 - L. ANDRESEN
 REVISED OCT. 1998 - J. WICKHAM, PATRICK, MOY

V - PRELIMINARY GAS WORK TO BE PERFORMED BY FACILITY OPERATOR

APPLICABLE TO ALL GAS DRAWINGS:

- ALL RELOCATION WORK SHOWN IN THIS SECTION IS TO BE PERFORMED BY FACILITY OPERATOR.
- ALL SUPPORT AND PROTECTION WORK IS TO BE PERFORMED BY CITY CONTRACTOR.
- IF ADDITIONAL INFORMATION IS NEEDED REGARDING THE FACILITY OPERATOR RELOCATION WORK, THE CONTRACTOR IS ADVISED TO CONTACT THE GAS COMPANY REPRESENTATIVE:

MR. NEVILLE JACOBS
NATIONAL GRID
287 MASPETH AVENUE
BROOKLYN, NY 11211
TEL.: 718-963-5612

(NO TEXT IN THIS AREA, TURN PAGE)

nationalgrid

Contract No. BED776

INSTALLATION AND RETIREMENT SUBJECT TO CHANGE BY FACILITY OPERATOR

SHEET#	ITEM#	ON STREET	ACTIVITY	SIZE	MATL	FOOTAGE	PRESSURE	REIMB / NON-REIMB
1	1	TAPSCOTT ST.	INST.	8"	PE	285	LP	REIMB
1	2	EAST NEW YORK AVE.	INST.	8"	PE	165	LP	NON-REIMB
1	3	TAPSCOTT ST.	RETIRE	6"	CI	276	LP	REIMB
1	4	EAST NEW YORK AVE.	RETIRE	6"	CI	165	LP	NON-REIMB
2	5	EAST NEW YORK AVE.	INST.	8"	PE	255	LP	NON-REIMB
2	6	EAST NEW YORK AVE.	INST.	8"	PE	230	LP	REIMB
2	7	HOWARD AVE.	INST.	8"	PE	105	LP	REIMB
2	8	HOWARD AVE.	INST.	12"	PE	400	LP	REIMB
2	9	EAST NEW YORK AVE.	INST.	8"	PE	112	LP	REIMB
2	10	HOWARD AVE.	INST.	12"	PE	22	LP	NON-REIMB
2	11	HOWARD AVE.	RETIRE	12"	CI	22	LP	NON-REIMB
2	12	HOWARD AVE.	RETIRE	12"	CI	50	LP	REIMB
2	13	EAST NEW YORK AVE.	RETIRE	8"	PE	183	LP	REIMB
2	14	EAST NEW YORK AVE.	RETIRE	6"	CI	119	LP	REIMB
2	15	HOWARD AVE.	RETIRE	12"	ST	99	LP	REIMB
2	16	HOWARD AVE.	RETIRE	6"	CI	56	LP	REIMB
2	17	EAST NEW YORK AVE.	RETIRE	6"	CI	43	LP	NON-REIMB
2	18	HOWARD AVE.	RETIRE	6"	ST	205	LP	REIMB
2	19	PITKIN AVE.	RETIRE	6"	ST	230	LP	NON-REIMB
2	20	HOWARD AVE.	RETIRE	12"	CI	146	LP	REIMB
2	21	HOWARD AVE.	RETIRE	12"	PE	12	LP	REIMB
3	22	HOWARD AVE.	INST.	8"	PE	50	LP	REIMB
3	23	HOWARD AVE.	INST.	12"	PE	35	LP	REIMB
3	24	HOWARD AVE.	RETIRE	12"	CI	22	LP	REIMB
3	25	HOWARD AVE.	RETIRE	6"	CI	31	LP	REIMB

SHEET#	ITEM#	ON STREET	ACTIVITY	SIZE	MATL	FOOTAGE	PRESSURE	REIMB / NON-REIMB
4	26	HOWARD AVE.	INST.	12"	PE	110	LP	NON-REIMB
4	27	HOWARD AVE.	RETIRE	12"	CI	92	LP	NON-REIMB
5	28	PITKIN AVE.	INST.	8"	PE	316	LP	REIMB
5	29	EAST NEW YORK AVE.	INST.	8"	PE	580	LP	REIMB
5	30	LEGION ST.	INST.	8"	PE	169	LP	REIMB
5	31	LINCOLN PL.	INST.	8"	PE	118	LP	REIMB
5	32	LINCOLN PL.	RETIRE	6"	PE	20	LP	REIMB
5	33	LINCOLN PL.	RETIRE	4"	PE	20	LP	REIMB
5	34	EAST NEW YORK AVE.	RETIRE	8"	PE	471	LP	REIMB
5	35	EAST NEW YORK AVE.	RETIRE	6"	CI	23	LP	REIMB
5	36	PITKIN AVE.	RETIRE	6"	PE	100	LP	REIMB
5	37	PITKIN AVE.	RETIRE	6"	CI	28	LP	REIMB
5	38	PITKIN AVE.	RETIRE	6"	CI	279	LP	REIMB
5	39	LEGION ST.	RETIRE	6"	CI	60	LP	REIMB
6	40	EAST NEW YORK AVE.	INST.	8"	PE	145	LP	REIMB
6	41	EAST NEW YORK AVE.	INST.	8"	PE	423	LP	REIMB
6	42	EAST NEW YORK AVE.	INST.	8"	PE	50	LP	REIMB
6	43	SAINT JOHNS PL.	INST.	8"	PE	447	LP	REIMB
6	44	EAST NEW YORK AVE.	RETIRE	6"	CI	63	LP	REIMB
6	45	EAST NEW YORK AVE.	RETIRE	6"	PE	270	LP	REIMB
6	46	EAST NEW YORK AVE.	RETIRE	6"	ST	25	LP	REIMB
6	47	EAST NEW YORK AVE.	RETIRE	6"	CI	450	LP	REIMB
6	48	SAINT JOHNS PL.	RETIRE	6"	ST	25	LP	REIMB
6	49	SAINT JOHNS PL.	RETIRE	6"	CI	60	LP	REIMB
6	50	SARATOGA AVE.	RETIRE	6"	CI	58	LP	REIMB
6	51	SARATOGA AVE.	RETIRE	6"	PE	11	LP	REIMB
7	52	SARATOGA AVE.	INST.	8"	PE	130	LP	REIMB
7	53	SARATOGA AVE.	RETIRE	6"	PE	26	LP	REIMB

SHEET#	ITEM#	ON STREET	ACTIVITY	SIZE	MATL	FOOTAGE	PRESSURE	REIMB / NON-REIMB
8	54	EAST NEW YORK AVE.	INST.	8"	PE	277	LP	REIMB
8	55	EAST NEW YORK AVE.	RETIRE	6"	CI	277	LP	REIMB
9	56	EAST NEW YORK AVE.	INST.	8"	PE	187	LP	REIMB
9	57	EAST NEW YORK AVE.	INST.	8"	PE	86	LP	REIMB
9	58	STERLING PL.	INST.	8"	PE	96	LP	REIMB
9	59	STERLING PL.	INST.	8"	PE	165	LP	REIMB
9	60	STERLING PL.	RETIRE	6"	CI	100	LP	REIMB
9	61	EAST NEW YORK AVE.	RETIRE	6"	CI	92	LP	REIMB
9	62	AMBOY ST.	RETIRE	6"	CI	45	LP	REIMB
9	63	EAST NEW YORK AVE.	RETIRE	8"	PE	220	LP	REIMB
9	64	EAST NEW YORK AVE.	RETIRE	6"	PE	13	LP	REIMB
10	65	EAST NEW YORK AVE.	INST.	12"	PE	270	LP	REIMB
10	66	EAST NEW YORK AVE.	INST.	16"	ST	240	HP	REIMB
10	67	EAST NEW YORK AVE.	INST.	12"	PE	625	LP	REIMB
10	68	PARK PL.	INST.	8"	PE	390	LP	REIMB
10	69	EAST NEW YORK AVE.	RETIRE	6"	CI	65	LP	REIMB
10	70	THOMAS S. BOYLAND ST.	RETIRE	12"	ST	164	LP	REIMB
10	71	EAST NEW YORK AVE.	RETIRE	6"	ST	165	HP	REIMB
10	72	THOMAS S. BOYLAND ST.	RETIRE	6"	PE	45	HP	REIMB
10	73	EAST NEW YORK AVE.	RETIRE	12"	ST	70	LP	REIMB
10	74	EAST NEW YORK AVE.	RETIRE	12"	CI	140	LP	REIMB
10	75	EAST NEW YORK AVE.	RETIRE	12"	ST	40	LP	REIMB
10	76	EAST NEW YORK AVE.	RETIRE	6"	CI	13	LP	REIMB
10	77	EAST NEW YORK AVE.	RETIRE	6"	ST	18	LP	REIMB
10	78	EAST NEW YORK AVE.	RETIRE	6"	ST	20	LP	REIMB
10	79	EAST NEW YORK AVE.	RETIRE	6"	PE	68	LP	REIMB
10	80	PARK PL.	RETIRE	6"	CI	195	LP	REIMB
10	81	PARK PL.	RETIRE	6"	CI	195	LP	REIMB

SHEET#	ITEM#	ON STREET	ACTIVITY	SIZE	MATL	FOOTAGE	PRESSURE	REIMB / NON-REIMB
10	82	THOMAS S. BOYLAND ST.	RETIRE	16"	CI	144	LP	REIMB
10	83	EAST NEW YORK AVE.	INST.	6"	ST	15	HP	REIMB
10	84	THOMAS S. BOYLAND ST.	INST.	6"	PE	60	HP	REIMB
11	85	THOMAS S. BOYLAND ST.	INST.	12"	PE	225	LP	REIMB
11	86	THOMAS S. BOYLAND ST.	INST.	16"	ST	210	HP	REIMB
11	87	THOMAS S. BOYLAND ST.	INST.	6"	PE	75	HP	REIMB
11	88	THOMAS S. BOYLAND ST.	RETIRE	16"	CI	105	HP	REIMB
11	89	THOMAS S. BOYLAND ST.	RETIRE	12"	CI	84	LP	REIMB
12	90	EAST NEW YORK AVE.	INST.	12"	PE	182	LP	REIMB
12	91	CHESTER ST.	INST.	8"	PE	33	LP	REIMB
12	92	CHESTER ST.	INST.	8"	PE	350	LP	NON-REIMB
12	93	EAST NEW YORK AVE.	RETIRE	12"	CI	182	LP	REIMB
12	94	CHESTER ST.	RETIRE	4"	CI	42	LP	REIMB
12	95	CHESTER ST.	RETIRE	4"	CI	334	LP	NON-REIMB
12	96	CHESTER ST.	RETIRE	6"	PE	22	LP	NON-REIMB
13	97	EAST NEW YORK AVE.	INST.	8"	PE	725	LP	REIMB
13	98	EAST NEW YORK AVE.	INST.	8"	PE	55	LP	REIMB
13	99	ROCKAWAY AVE.	INST.	8"	PE	165	LP	REIMB
13	100	EAST NEW YORK AVE.	INST.	8"	PE	70	LP	REIMB
13	101	EAST NEW YORK AVE.	RETIRE	12"	CI	123	LP	REIMB
13	102	EAST NEW YORK AVE.	RETIRE	8"	ST	40	LP	REIMB
13	103	EAST NEW YORK AVE.	RETIRE	8"	PE	40	LP	REIMB
13	104	EAST NEW YORK AVE.	RETIRE	8"	CI	293	LP	REIMB
13	105	ROCKAWAY AVE.	RETIRE	8"	PE	60	LP	REIMB
14	106	EAST NEW YORK AVE.	INST.	8"	PE	470	LP	REIMB
14	107	EAST NEW YORK AVE.	RETIRE	8"	CI	475	LP	REIMB
15	108	EAST NEW YORK AVE.	INST.	8"	PE	160	LP	REIMB
15	109	EAST NEW YORK AVE.	INST.	8"	PE	65	LP	REIMB

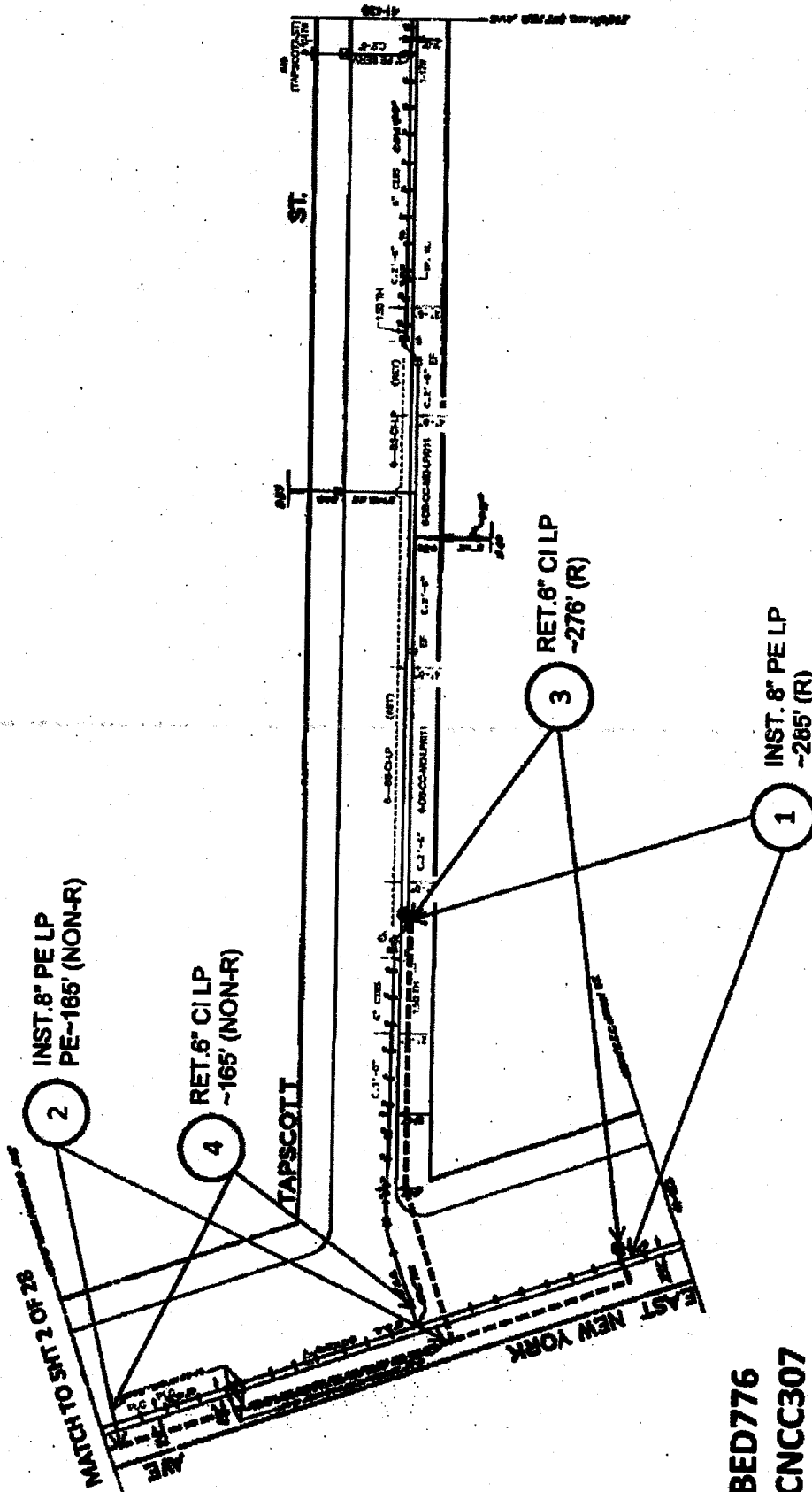
SHEET#	ITEM#	ON STREET	ACTIVITY	SIZE	MATL	FOOTAGE	PRESSURE	REIMB / NON-REIMB
15	110	MOTHER GASON BLVD.	INST.	8"	PE	137	LP	NON-REIMB
15	111	BERGEN ST.	INST.	8"	PE	140	LP	NON-REIMB
15	112	BERGEN ST.	RETIRE	6"	ST	155	LP	NON-REIMB
15	113	EAST NEW YORK AVE.	RETIRE	8"	CI	55	LP	REIMB
15	114	EAST NEW YORK AVE.	RETIRE	8"	ST	110	LP	REIMB
15	115	MOTHER GASON BLVD.	RETIRE	6"	ST	161	LP	REIMB
16	116	MOTHER GASON BLVD.	INST.	8"	PE	144	LP	REIMB
16	117	MOTHER GASON BLVD.	INST.	8"	PE	115	LP	REIMB
16	118	CHRISTOPHER AVE.	INST.	8"	PE	196	LP	REIMB
16	119	EAST NEW YORK AVE.	RETIRE	8"	CI	90	LP	REIMB
16	120	EAST NEW YORK AVE.	RETIRE	8"	ST	61	LP	REIMB
16	121	MOTHER GASON BLVD.	RETIRE	6"	ST	108	LP	REIMB
16	122	EAST NEW YORK AVE.	RETIRE	8"	ST	98	LP	REIMB
16	123	CHRISTOPHER AVE.	RETIRE	6"	PE	68	LP	REIMB
16	124	MOTHER GASON BLVD.	RETIRE	4"	CI	90	LP	REIMB
17	125	EAST NEW YORK AVE.	INST.	8"	PE	232	LP	REIMB
17	126	EAST NEW YORK AVE.	INST.	12"	PE	35	LP	REIMB
17	127	DEAN ST.	INST.	8"	PE	320	LP	REIMB
17	128	DEAN ST.	RETIRE	6"	CI	18	LP	REIMB
17	129	DEAN ST.	RETIRE	6"	ST	193	LP	REIMB
17	130	SACKMAN ST.	RETIRE	6"	ST	71	LP	REIMB
17	131	EAST NEW YORK AVE.	RETIRE	12"	CI	44	LP	REIMB
17	132	SACKMAN ST.	RETIRE	6"	PE	21	LP	REIMB
17	133	SACKMAN ST.	RETIRE	6"	ST	48	LP	REIMB
17	134	EAST NEW YORK AVE.	RETIRE	8"	CI	183	LP	REIMB
18	135	EAST NEW YORK AVE.	INST.	12"	PE	246	LP	REIMB
18	136	POWELL ST.	INST.	8"	PE	185	LP	REIMB
18	137	EAST NEW YORK AVE.	RETIRE	12"	CI	244	LP	REIMB

SHEET#	ITEM#	ON STREET	ACTIVITY	SIZE	MATL	FOOTAGE	PRESSURE	REIMB / NON-REIMB
18	138	POWELL ST.	RETIRE	6"	PE	115	LP	REIMB
19	139	EAST NEW YORK AVE.	INST.	12"	PE	300	LP	REIMB
19	140	EAST NEW YORK AVE.	INST.	8"	PE	255	LP	REIMB
19	141	EAST NEW YORK AVE.	RETIRE	6"	ST	236	LP	REIMB
19	142	JUNIUS ST.	RETIRE	12"	ST	58	LP	REIMB
19	142A	JUNIUS ST.	RETIRE	20"	CI	140	HP	REIMB
19	142B	JUNIUS ST.	INST.	20"	ST	190	HP	REIMB
19	143	EAST NEW YORK AVE.	RETIRE	12"	CI	179	LP	REIMB
19	144	PACIFIC ST.	RETIRE	6"	PE	20	LP	REIMB
20	145	EAST NEW YORK AVE.	INST.	8"	PE	75	LP	REIMB
20	146	ATLANTIC AVE.	INST.	8"	PE	325	LP	REIMB
20	147	ATLANTIC AVE.	INST.	6"	PE	90	LP	REIMB
20	148	EAST NEW YORK AVE.	RETIRE	6"	ST	79	LP	REIMB
20	149	ATLANTIC AVE.	RETIRE	6"	ST	305	LP	REIMB
20	150	ATLANTIC AVE.	RETIRE	6"	PE	75	LP	REIMB
21	151	EAST NEW YORK AVE.	INST.	6"	PE	135	LP	REIMB
21	152	EAST NEW YORK AVE.	RETIRE	4"	BS	135	LP	REIMB
22	153	EAST NEW YORK AVE.	INST.	12"	PE	300	LP	REIMB
22	154	WILLIAMS AVE.	INST.	6"	PE	6	LP	REIMB
22	155	EAST NEW YORK AVE.	INST.	12"	PE	115	LP	REIMB
22	156	EAST NEW YORK AVE.	INST.	6"	PE	240	LP	REIMB
22	157	EAST NEW YORK AVE.	RETIRE	4"	BS	245	LP	REIMB
22	158	EAST NEW YORK AVE.	RETIRE	12"	BS	120	LP	REIMB
22	159	EAST NEW YORK AVE.	RETIRE	12"	CI	270	LP	REIMB
22	160	EAST NEW YORK AVE.	RETIRE	6"	CI	22	LP	REIMB
22	161	WILLIAMS AVE.	RETIRE	6"	PE	6	LP	REIMB
22	162	JAMAICA AVE.	INST.	8"	PE	50	HP	REIMB
22	163	BROADWAY	RETIRE	12"	CI	45	LP	REIMB

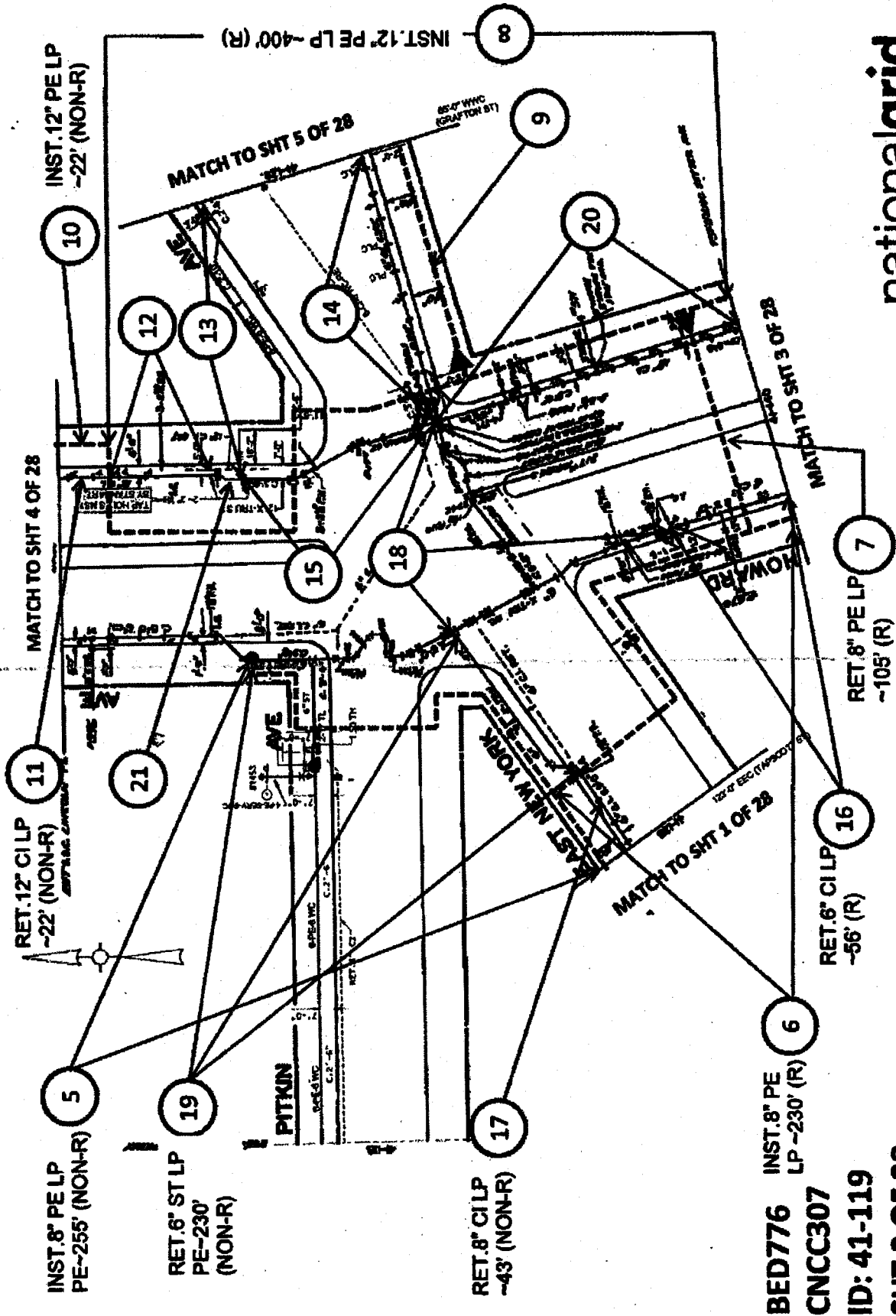
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22	164	JAMAICA AVE.	RETIRE	8"	ST	45	HP	REIMB
23	165	GEORGIA AVE.	INST.	8"	PE	170	LP	REIMB
23	166	GEORGIA AVE.	INST.	8"	PE	90	LP	REIMB
23	167	JAMAICA AVE.	INST.	12"	PE	420	LP	REIMB
23	168	FULTON ST.	INST.	8"	PE	230	LP	NON-REIMB
23	169	FULTON ST.	RETIRE	6"	ST	10	LP	NON-REIMB
23	170	FULTON ST.	RETIRE	6"	CI	160	LP	NON-REIMB
23	171	FULTON ST.	RETIRE	6"	ST	45	LP	NON-REIMB
23	172	FULTON ST.	RETIRE	6"	ST	81	LP	REIMB
23	173	JAMAICA AVE.	INST.	8"	ST	150	HP	REIMB
23	174	JAMAICA AVE.	RETIRE	12"	ST	41	LP	REIMB
23	175	JAMAICA AVE.	RETIRE	12"	CI	362	LP	REIMB
23	176	JAMAICA AVE.	RETIRE	8"	ST	138	HP	REIMB
23	177	JAMAICA AVE.	RETIRE	6"	ST	19	LP	REIMB
23	178	ALABAMA AVE.	RETIRE	6"	PE	33	LP	NON-REIMB
24	179	JAMAICA AVE.	INST.	12"	PE	245	LP	REIMB
24	180	JAMAICA AVE.	RETIRE	12"	ST	161	LP	REIMB
24	181	JAMAICA AVE.	RETIRE	12"	CI	147	LP	REIMB
25	182	JAMAICA AVE.	INST.	8"	PE	130	LP	REIMB
25	183	JAMAICA AVE.	RETIRE	8"	CI	70	LP	REIMB
25	184	JAMAICA AVE.	RETIRE	8"	ST	65	LP	REIMB
26	185	JAMAICA AVE.	INST.	8"	PE	295	LP	REIMB
26	186	JAMAICA AVE.	INST.	8"	PE	210	LP	REIMB
26	187	JAMAICA AVE.	RETIRE	8"	CI	92	LP	REIMB
26	188	JAMAICA AVE.	RETIRE	8"	ST	115	LP	REIMB
26	189	JAMAICA AVE.	RETIRE	8"	PE	24	LP	REIMB
26	190	JAMAICA AVE.	RETIRE	8"	ST	138	LP	REIMB
27	191	ATLANTIC AVE.	INST.	12"	PE	275	LP	REIMB

SHEET#	ITEM#	ON STREET	ACTIVITY	SIZE	MATL	FOOTAGE	PRESSURE	REIMB / NON-REIMB
27	192	WILLIAMS AVE.	INST.	6"	PE	180	LP	REIMB
27	193	WILLIAMS AVE.	RETIRE	6"	PE	165	LP	REIMB
27	194	WILLIAMS AVE.	RETIRE	4"	PE	23	LP	REIMB
27	195	ATLANTIC AVE.	RETIRE	12"	PE	200	LP	REIMB
28	196	GEORGIA AVE.	INST.	8"	PE	320	LP	REIMB
28	197	GEORGIA AVE.	RETIRE	6"	CI	160	LP	REIMB
28	198	GEORGIA AVE.	RETIRE	6"	PE	17	LP	REIMB
28	199	GEORGIA AVE.	RETIRE	8"	PE	10	LP	REIMB
28	200	ATLANTIC AVE.	RETIRE	6"	ST	50	LP	REIMB
28	201	ATLANTIC AVE.	RETIRE	6"	PE	10	LP	REIMB
28	202	ATLANTIC AVE.	RETIRE	8"	PE	15	LP	REIMB
28A	203	ATLANTIC AVE.	INST.	20"	ST	485	HP	REIMB
28A	204	ATLANTIC AVE.	RET.	20"	CI	123	HP	REIMB
28A	205	ATLANTIC AVE.	RET.	20"	ST	125	HP	REIMB
28A	206	ATLANTIC AVE.	RET.	20"	CI	55	HP	REIMB

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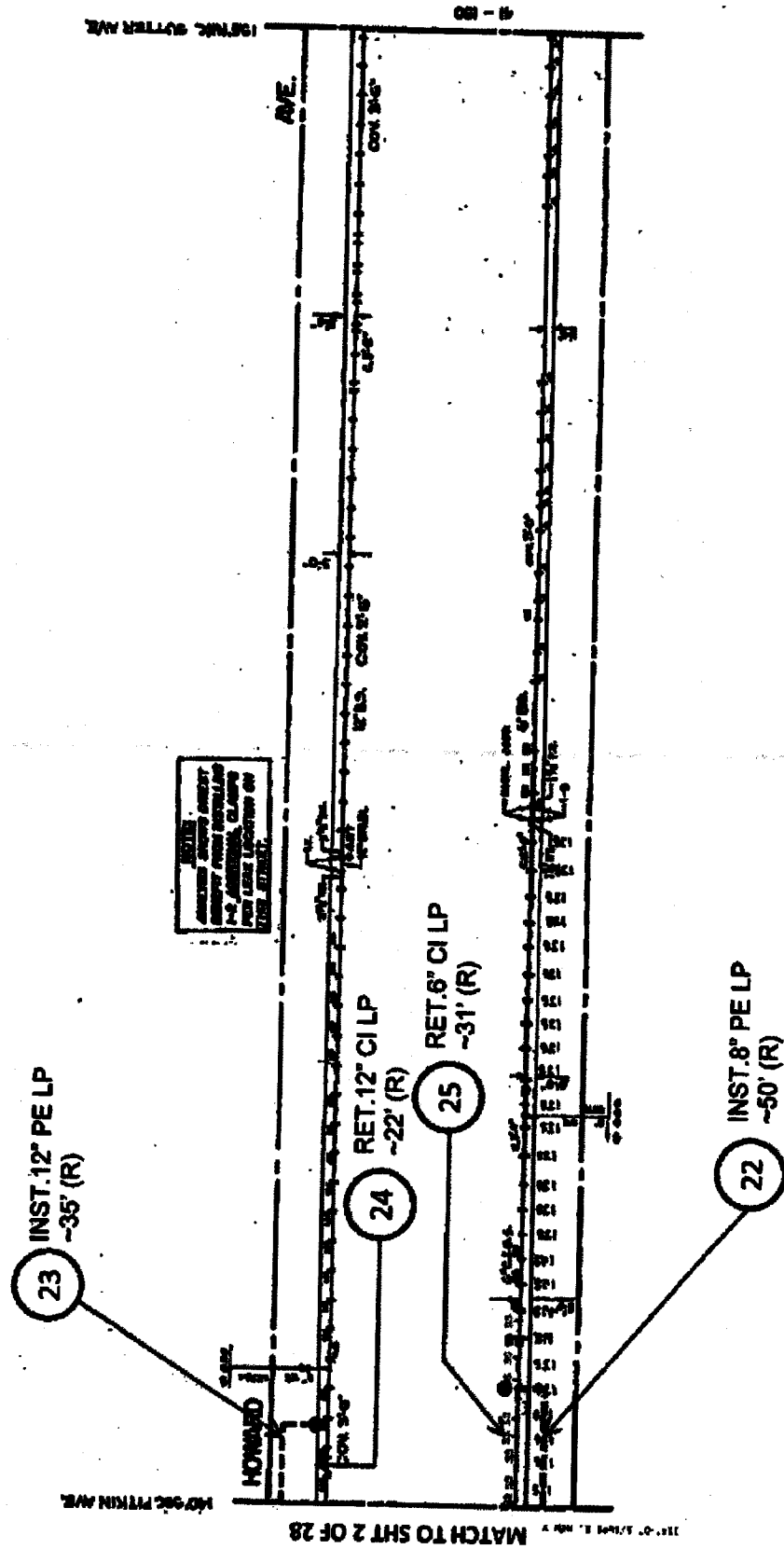
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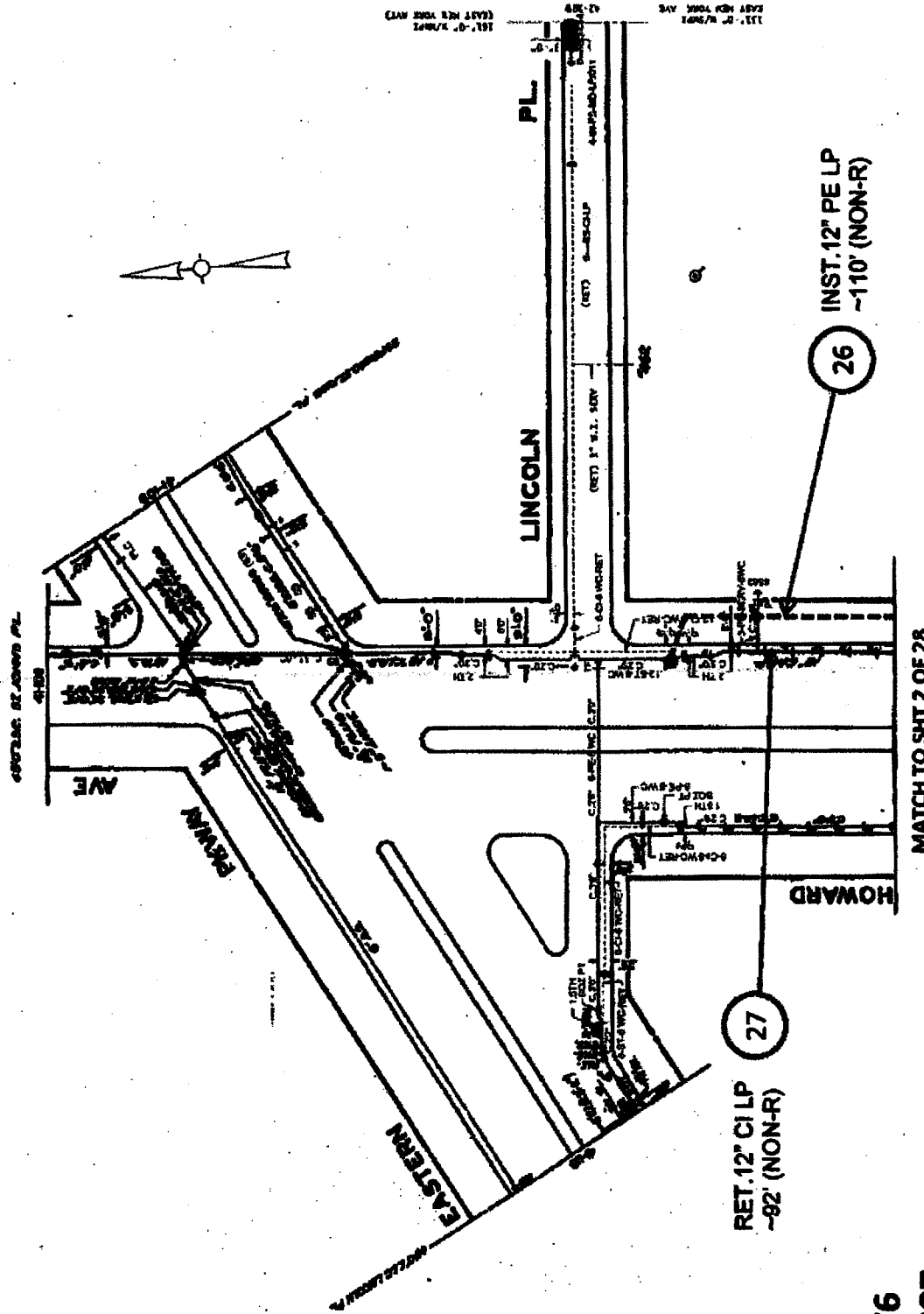
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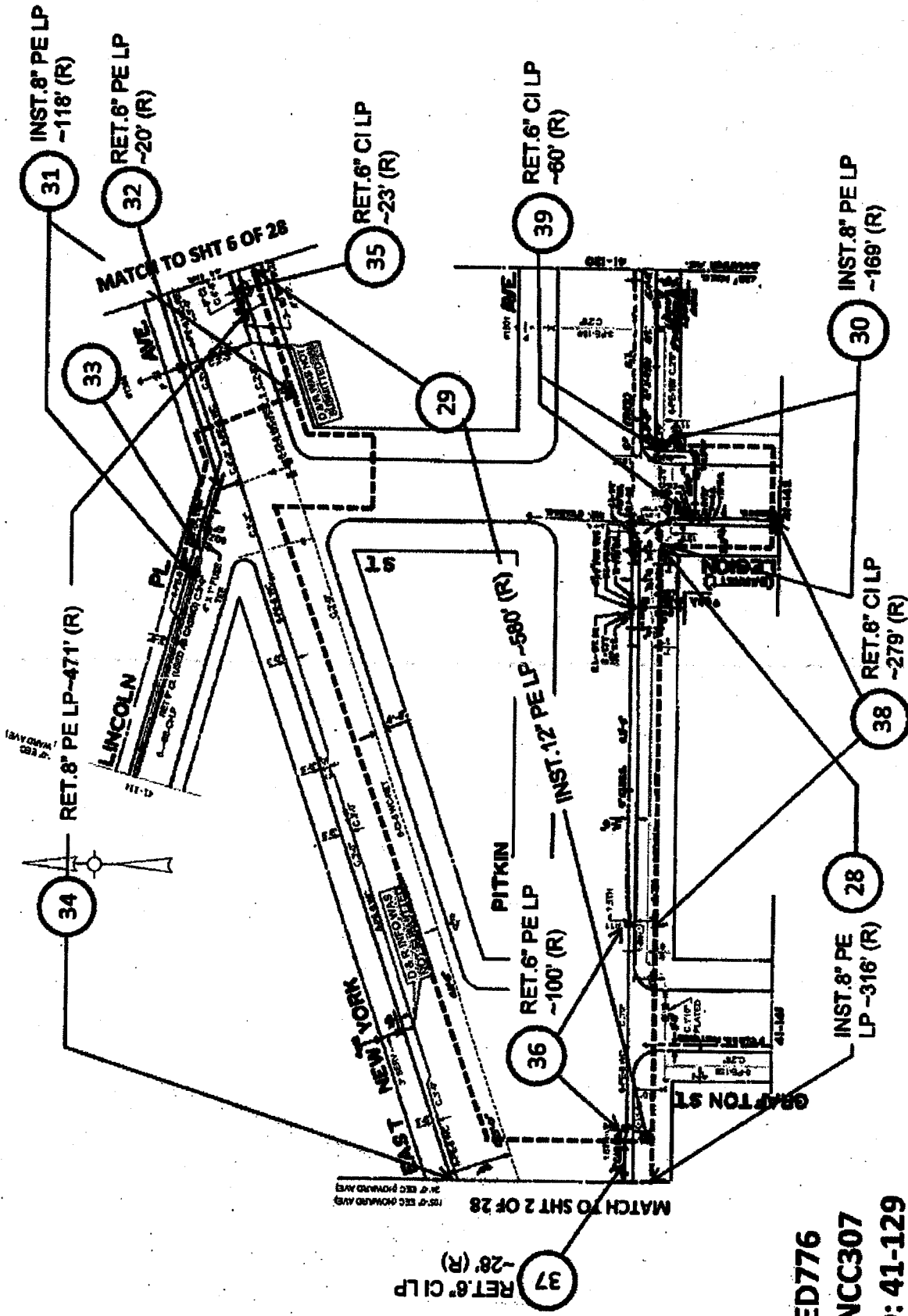


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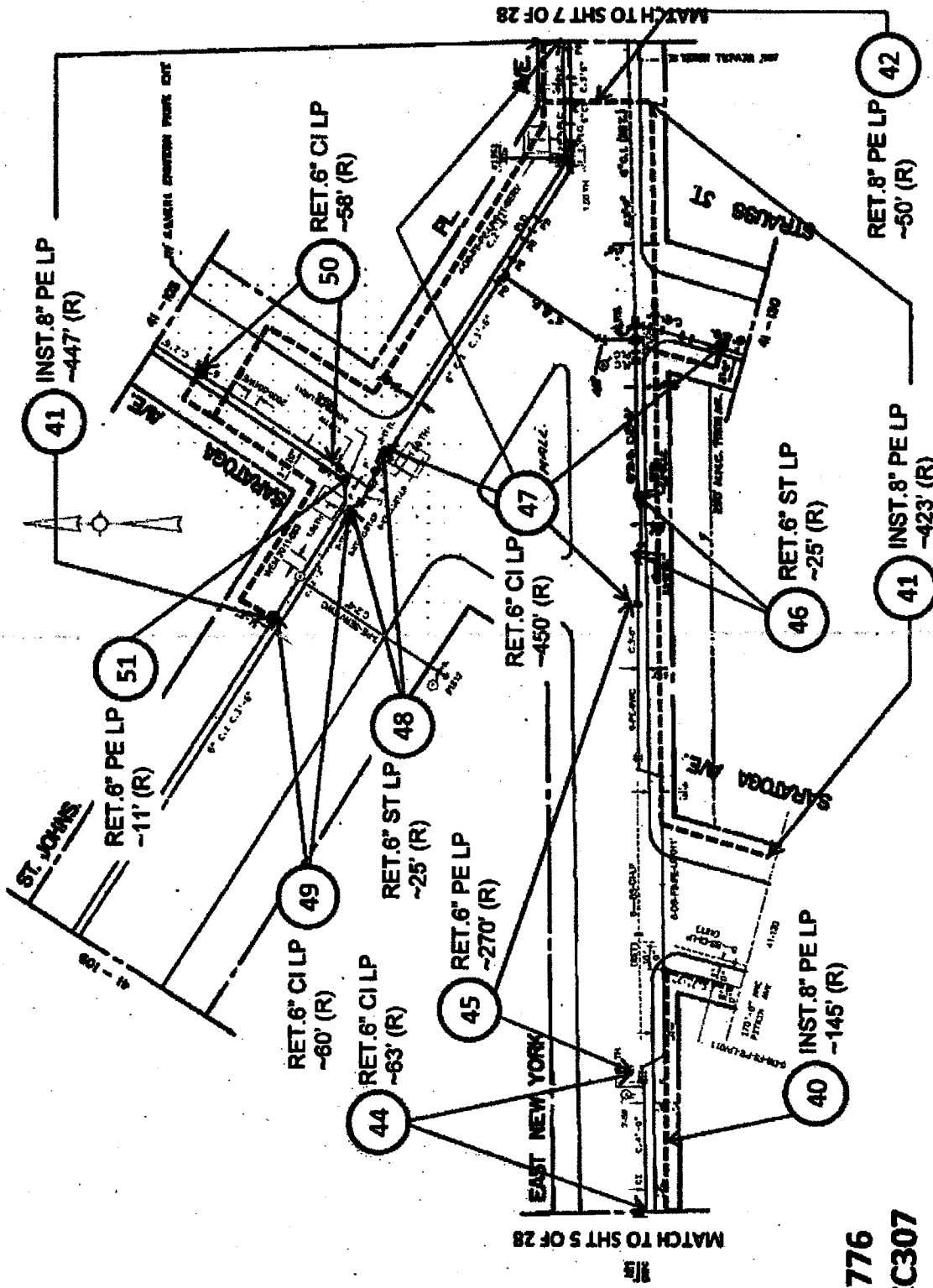
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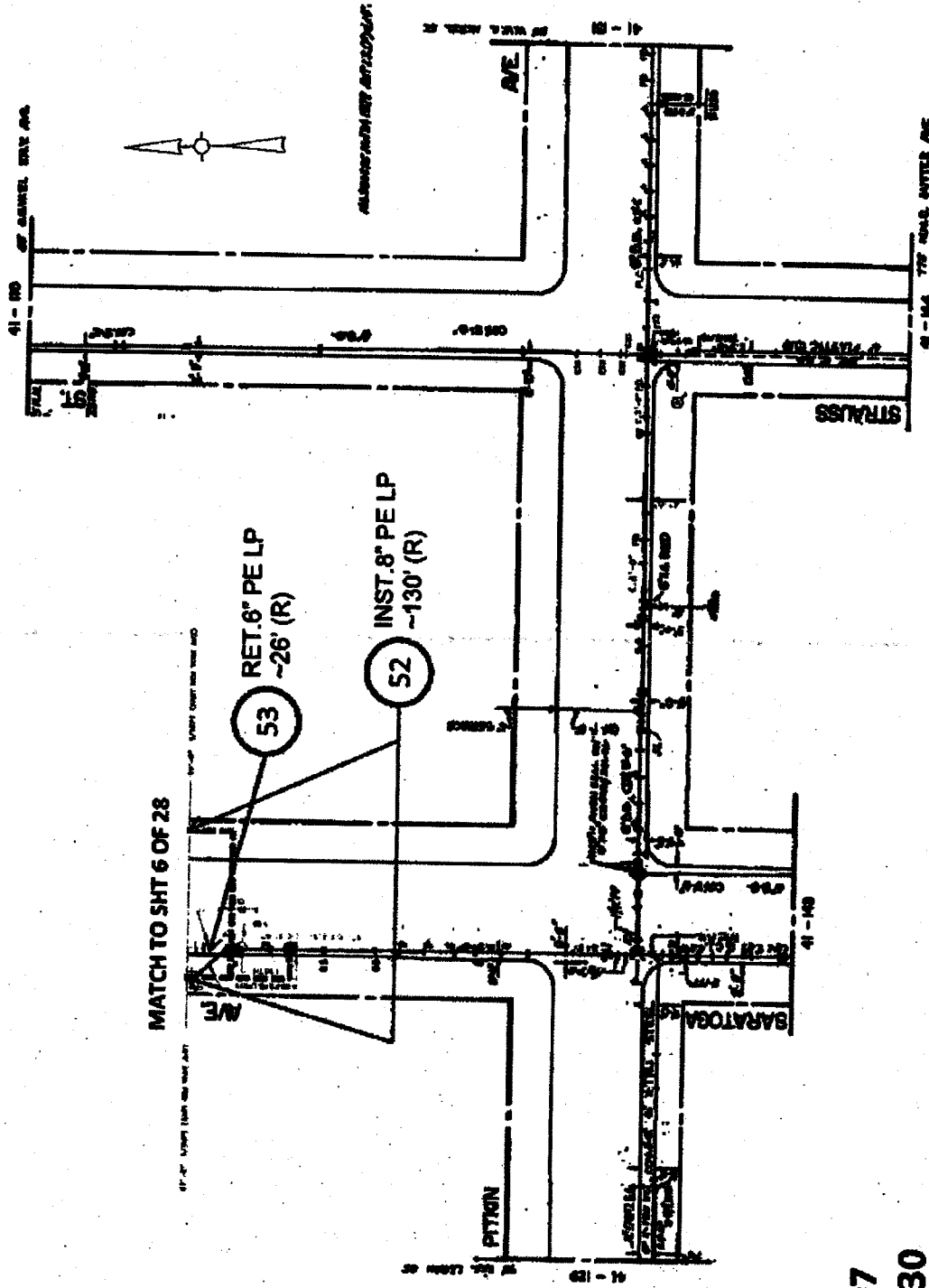
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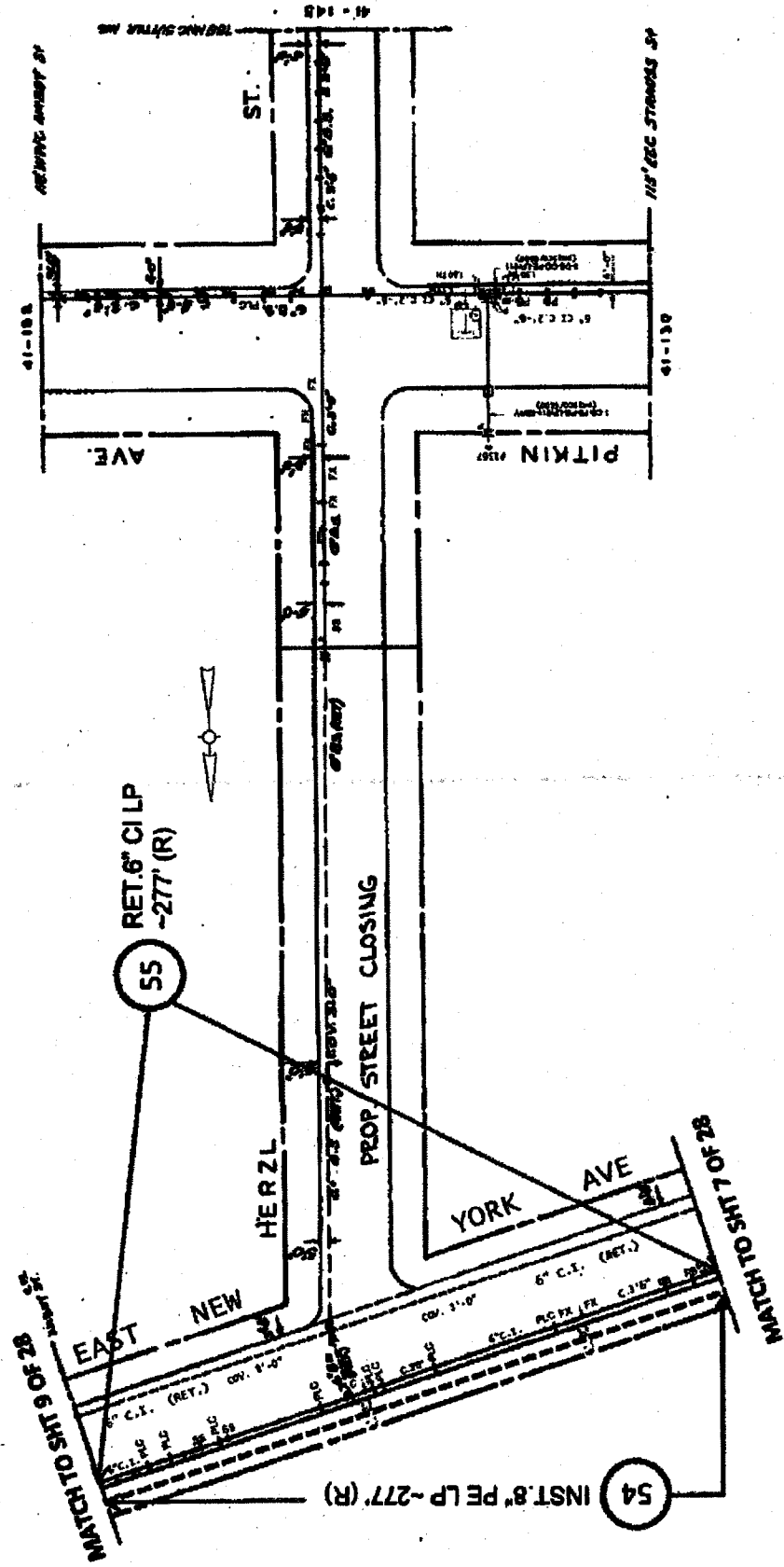
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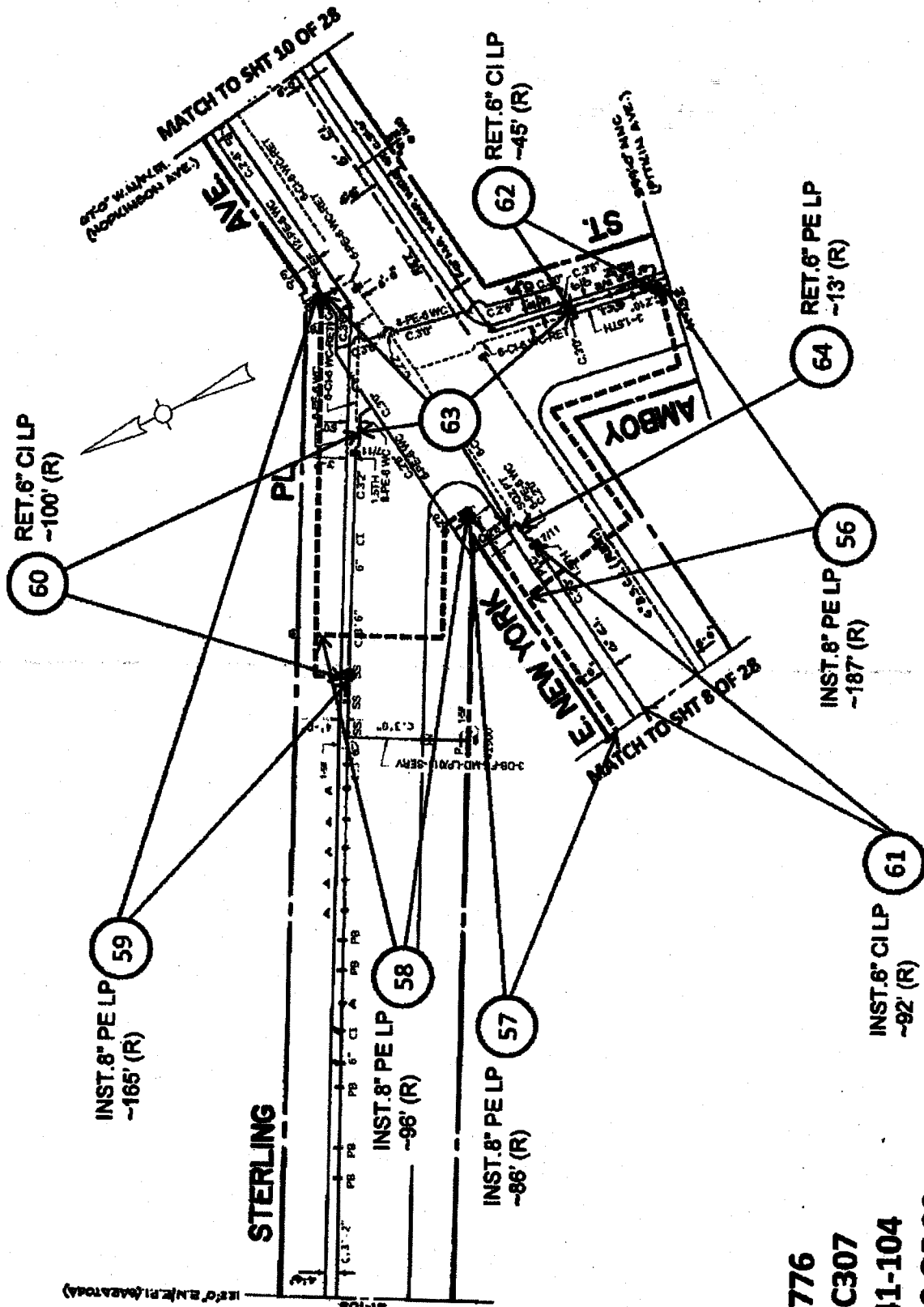
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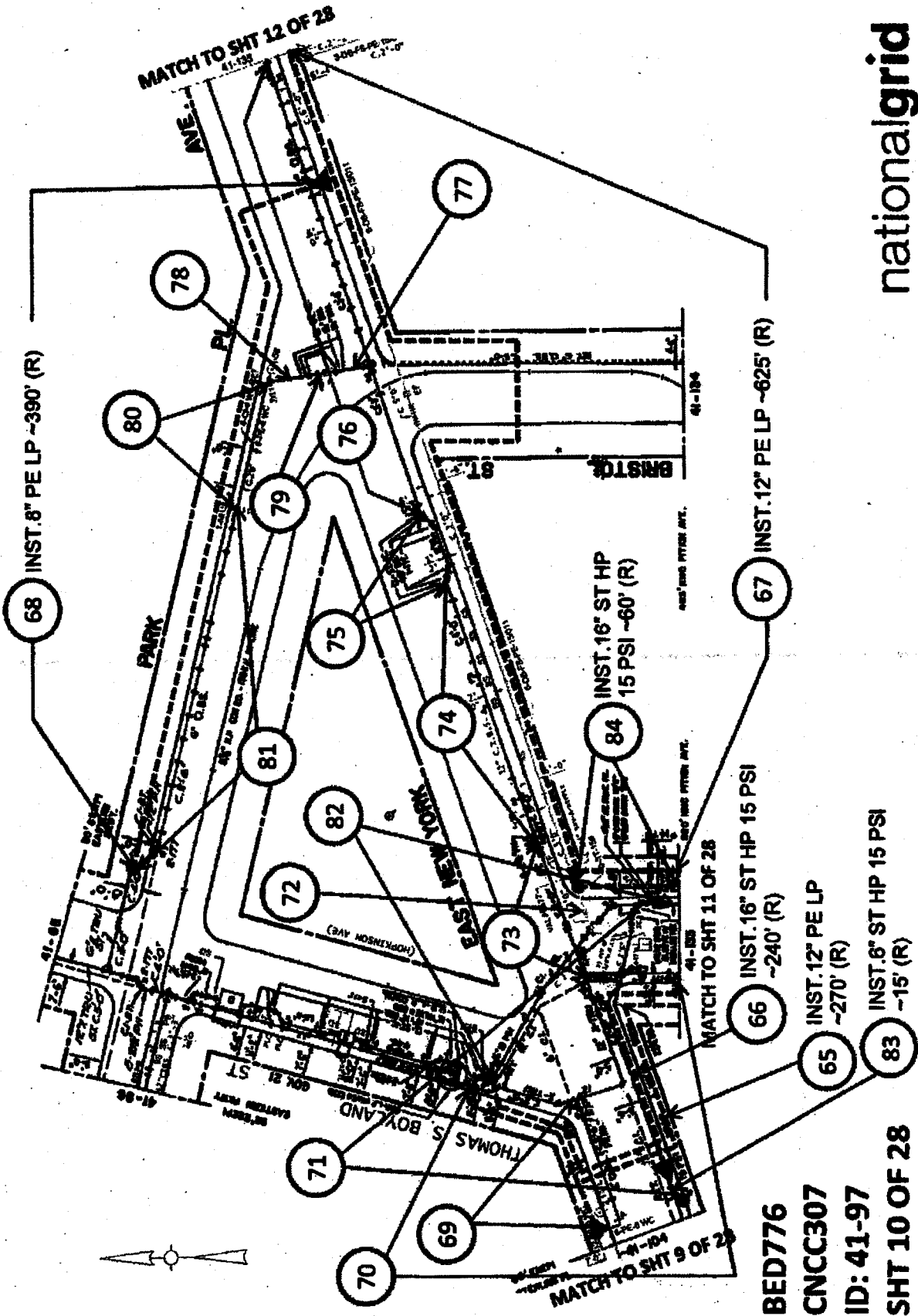
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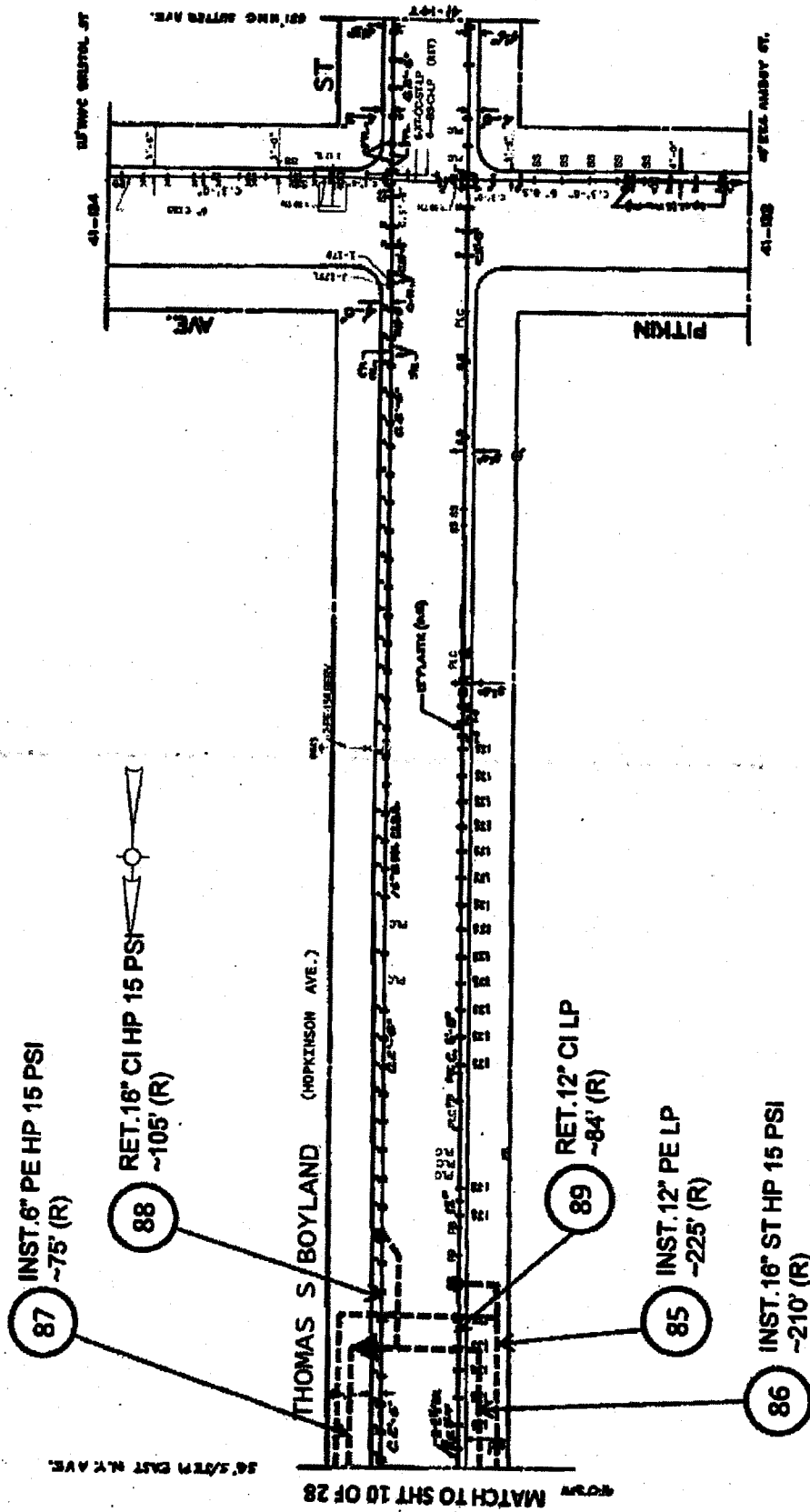
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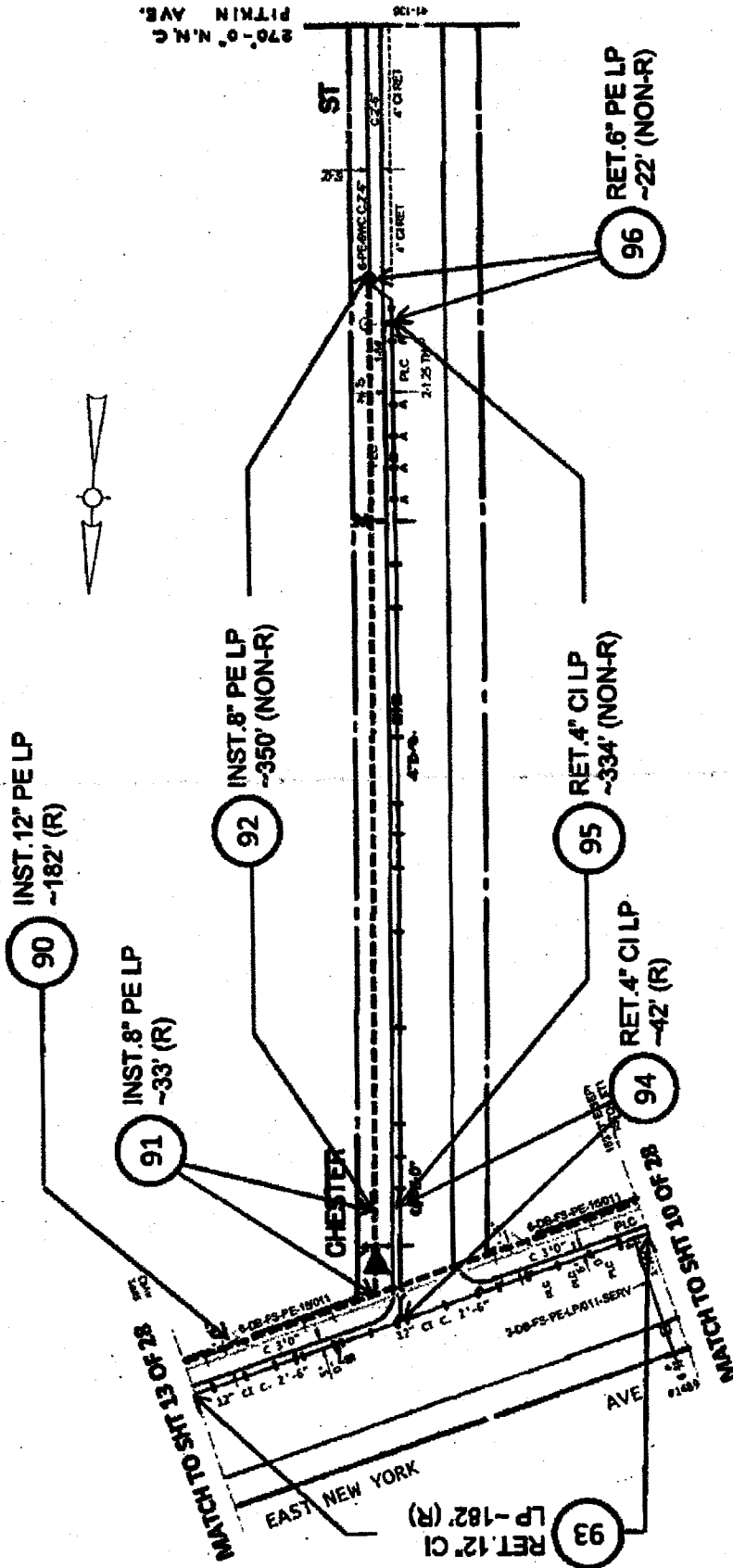


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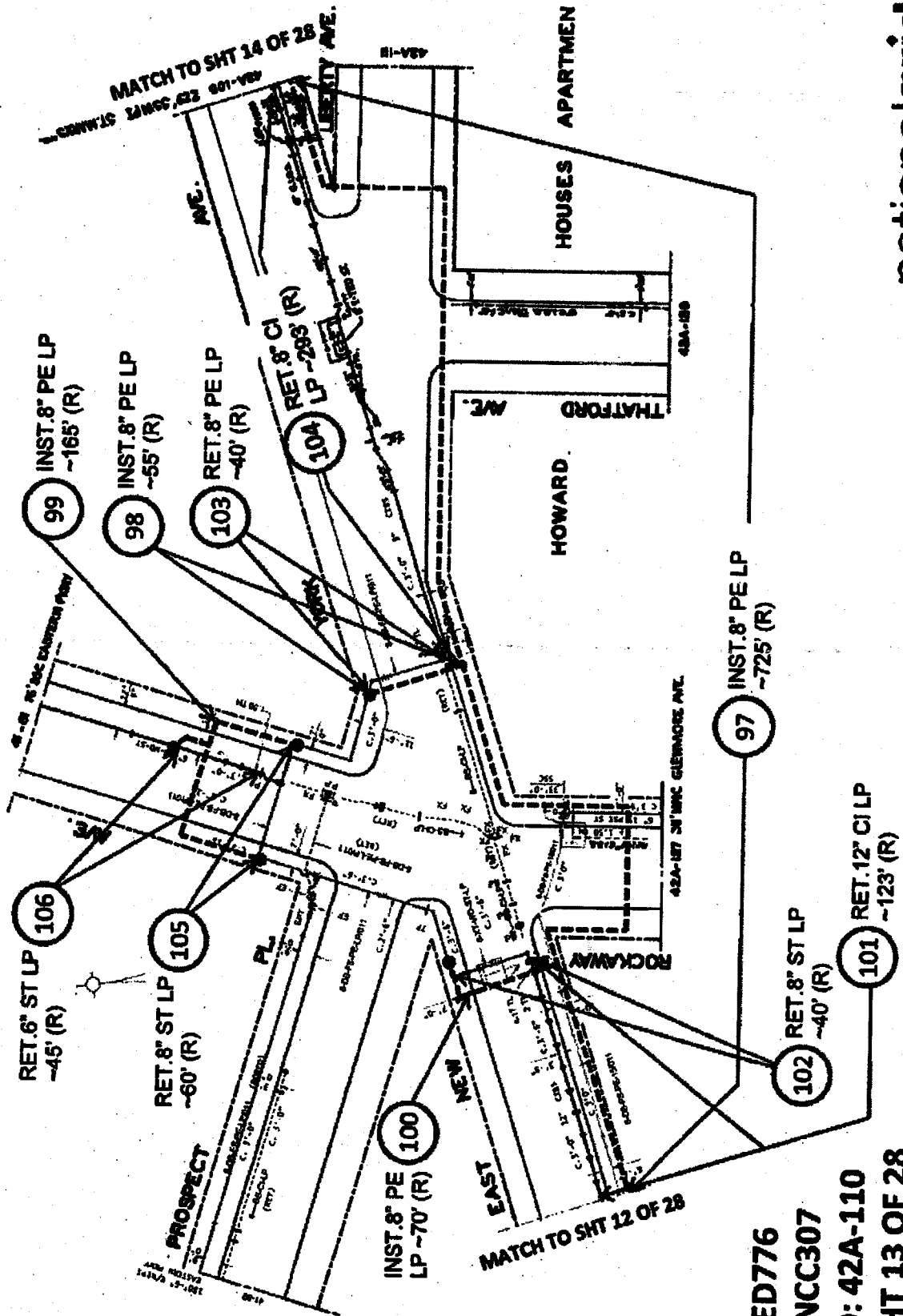
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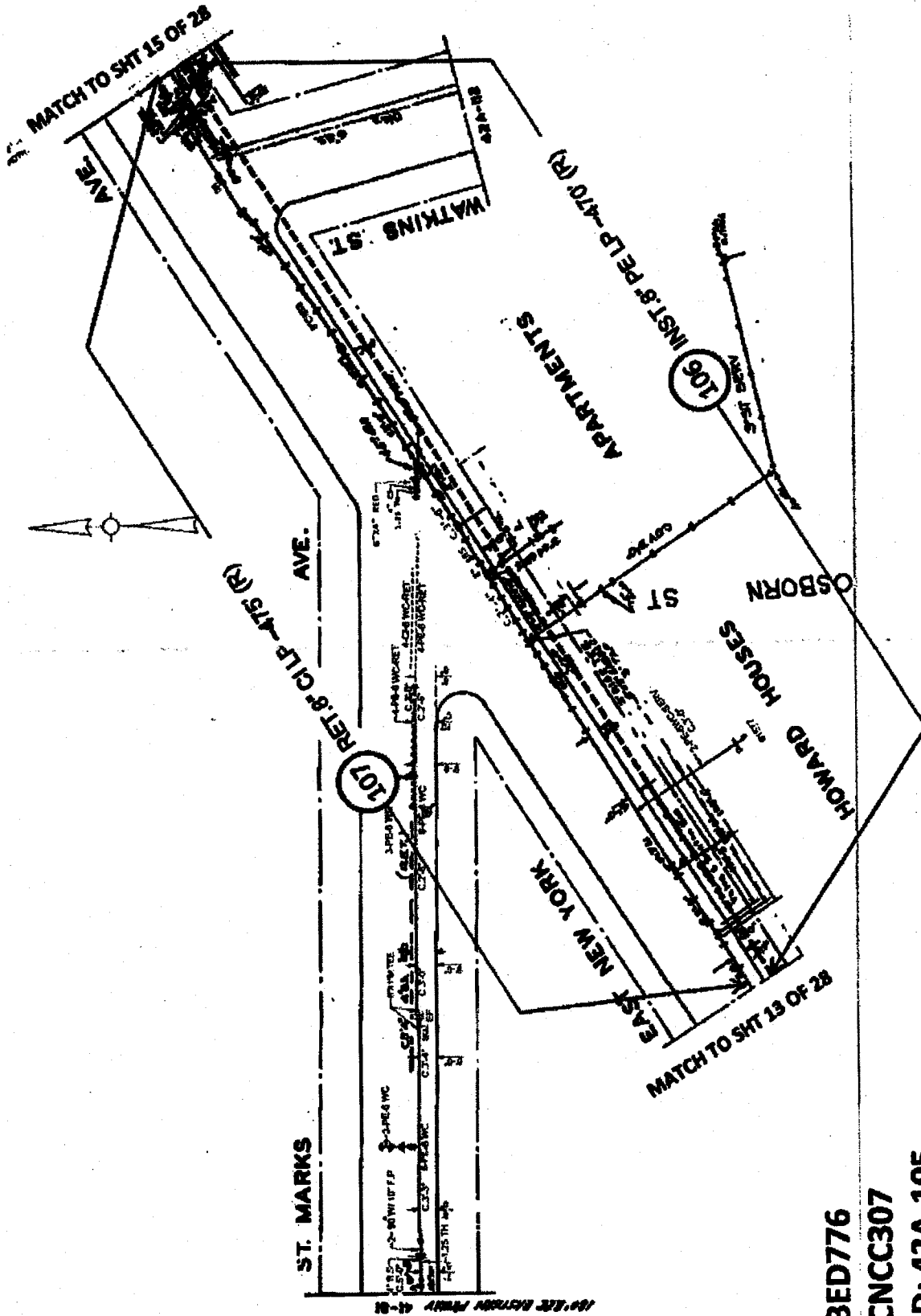
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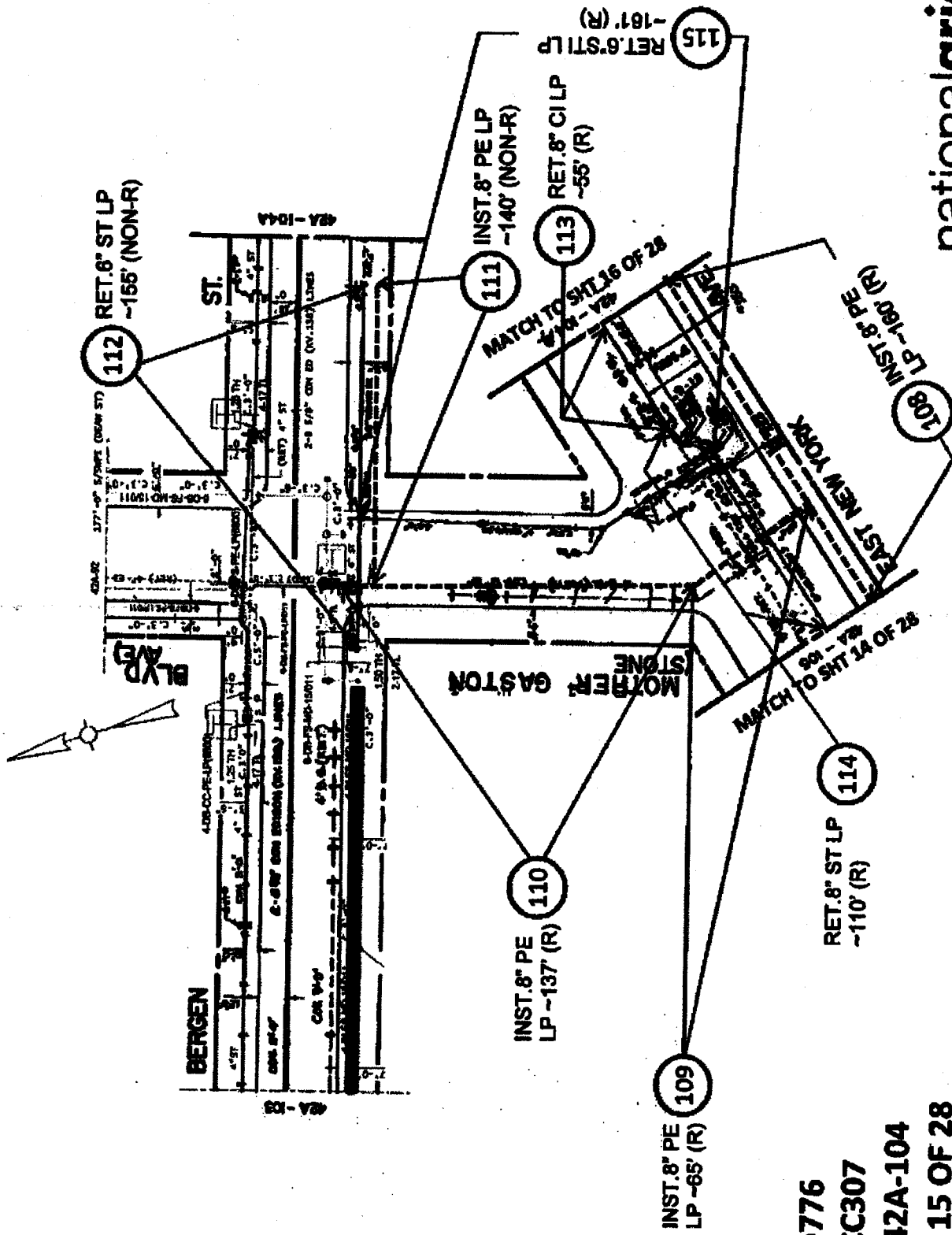
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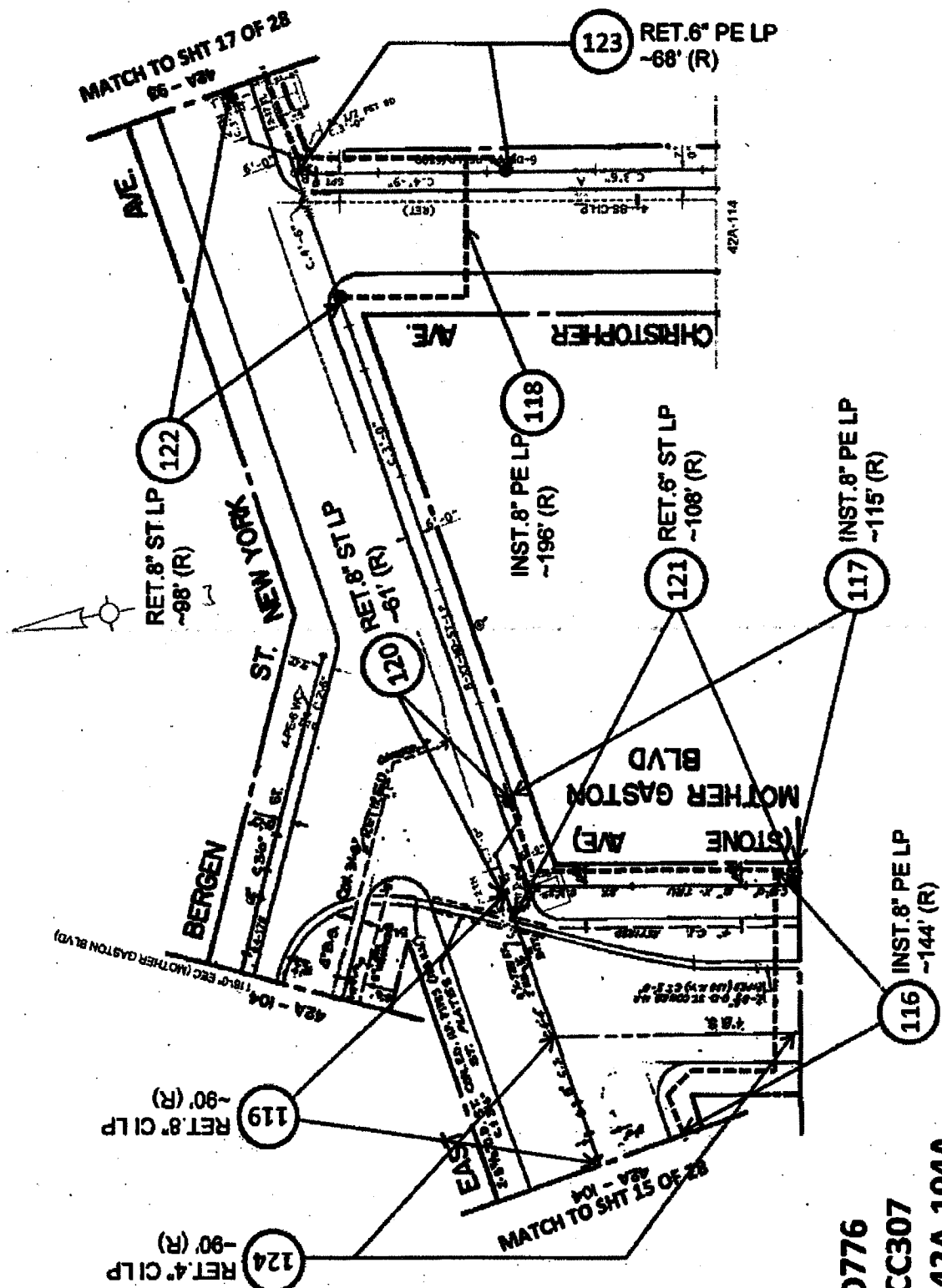
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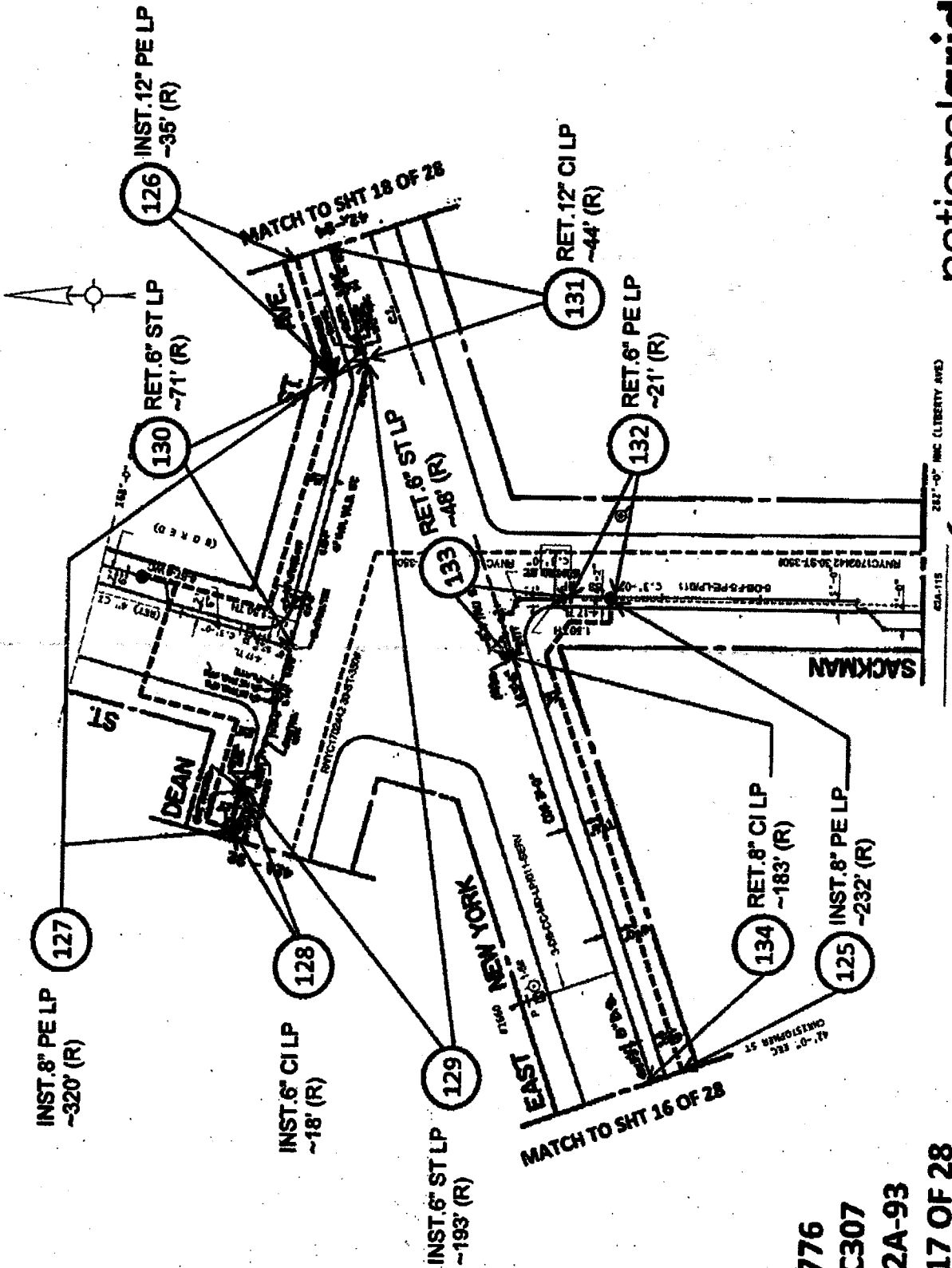
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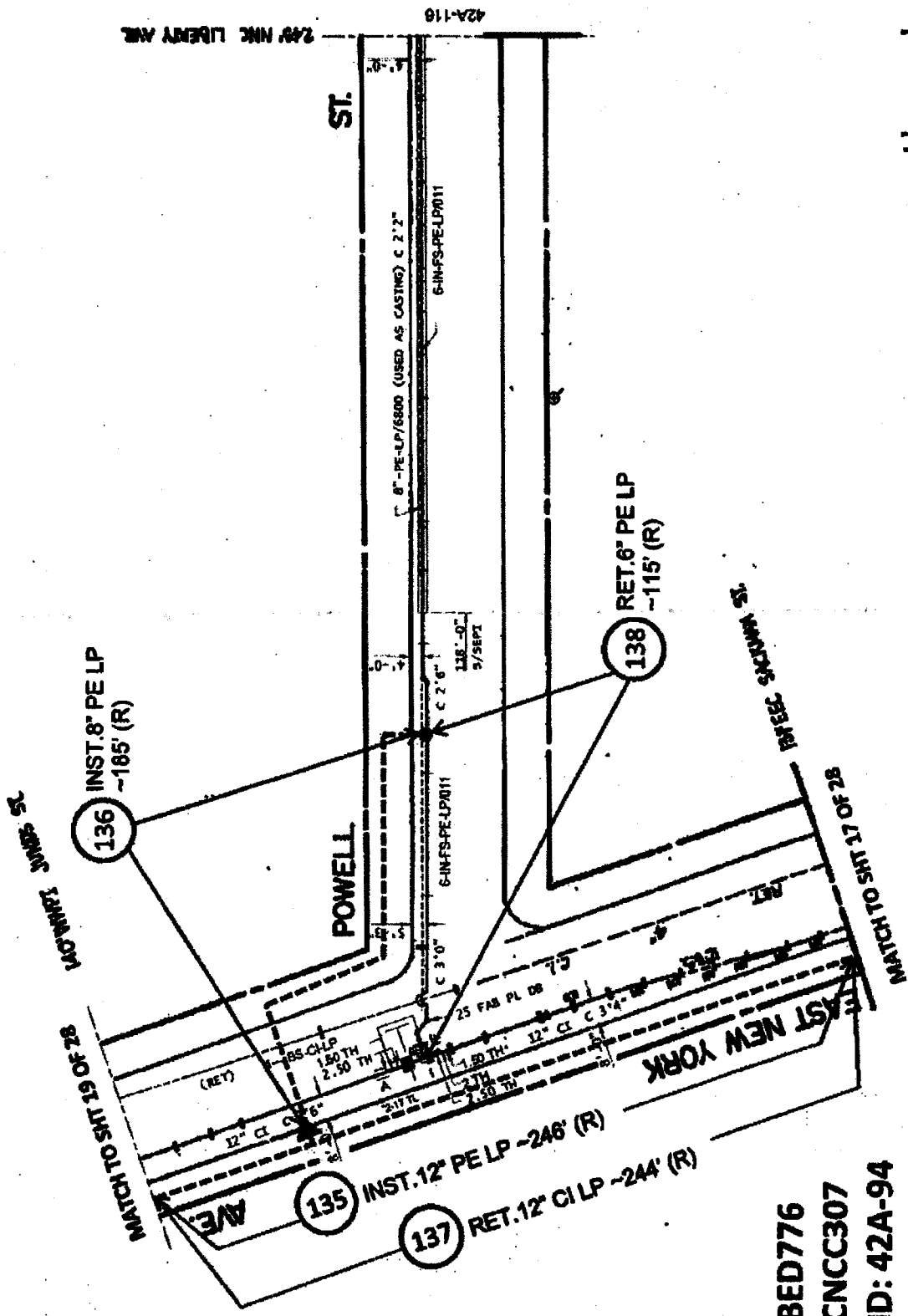


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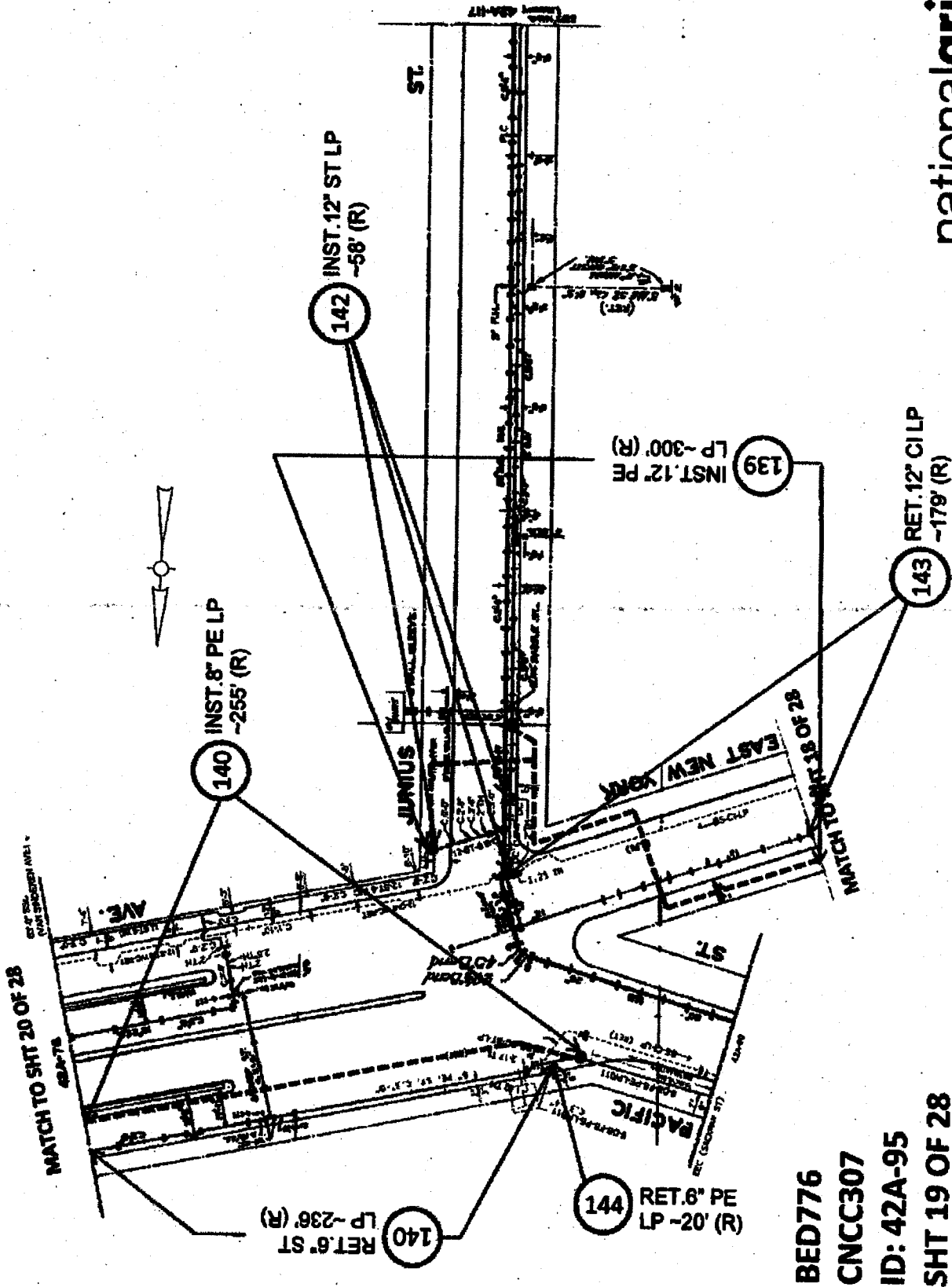
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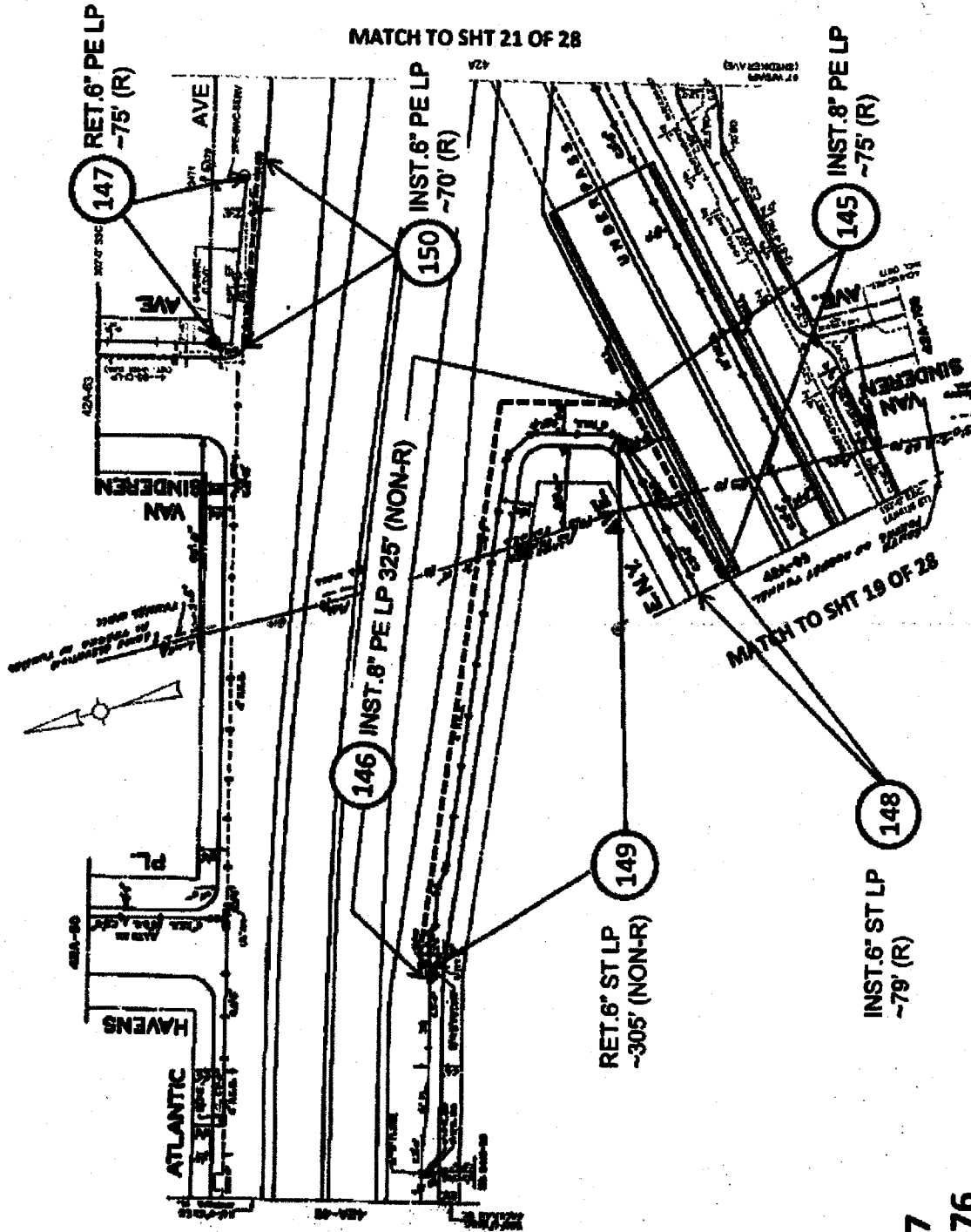
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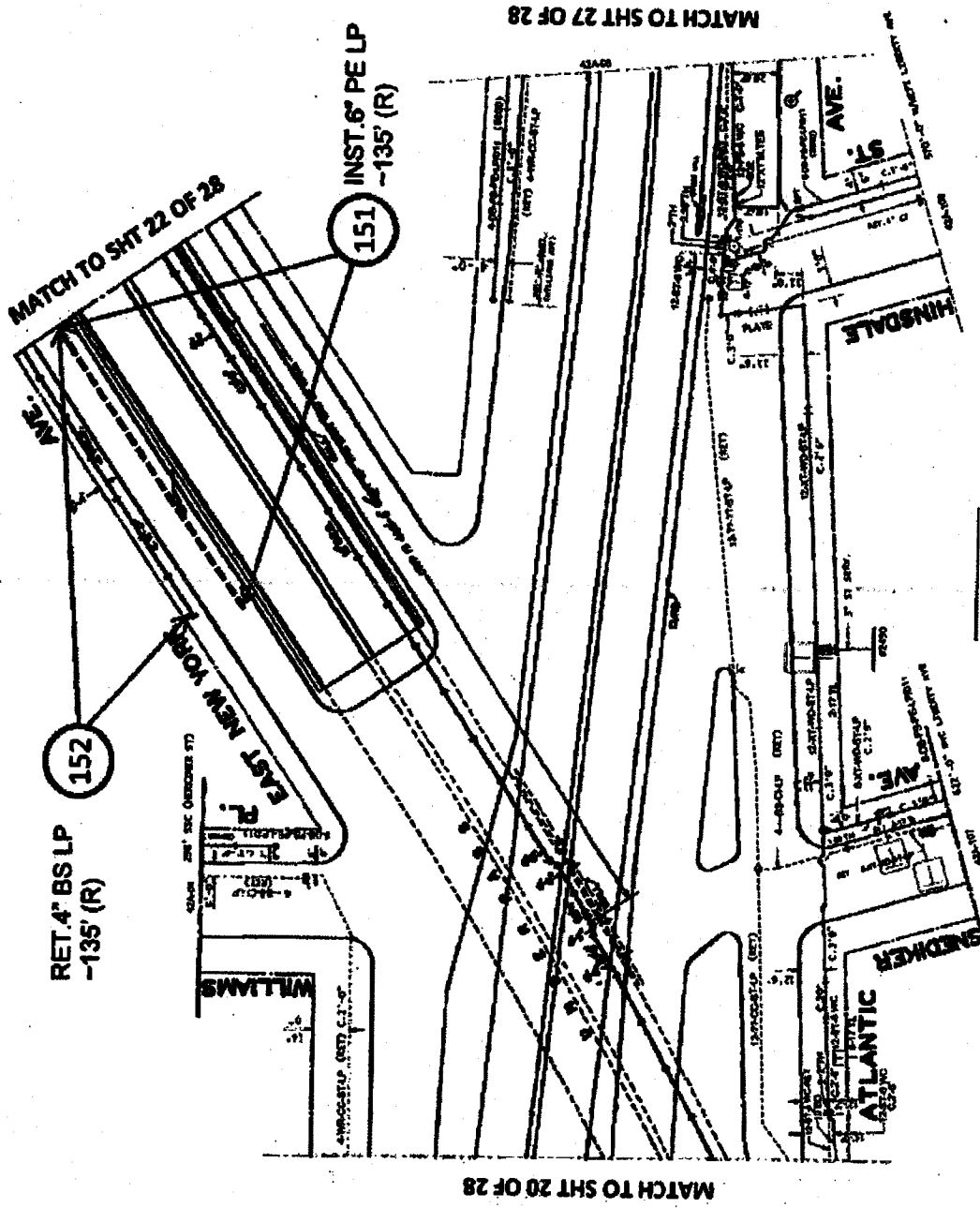
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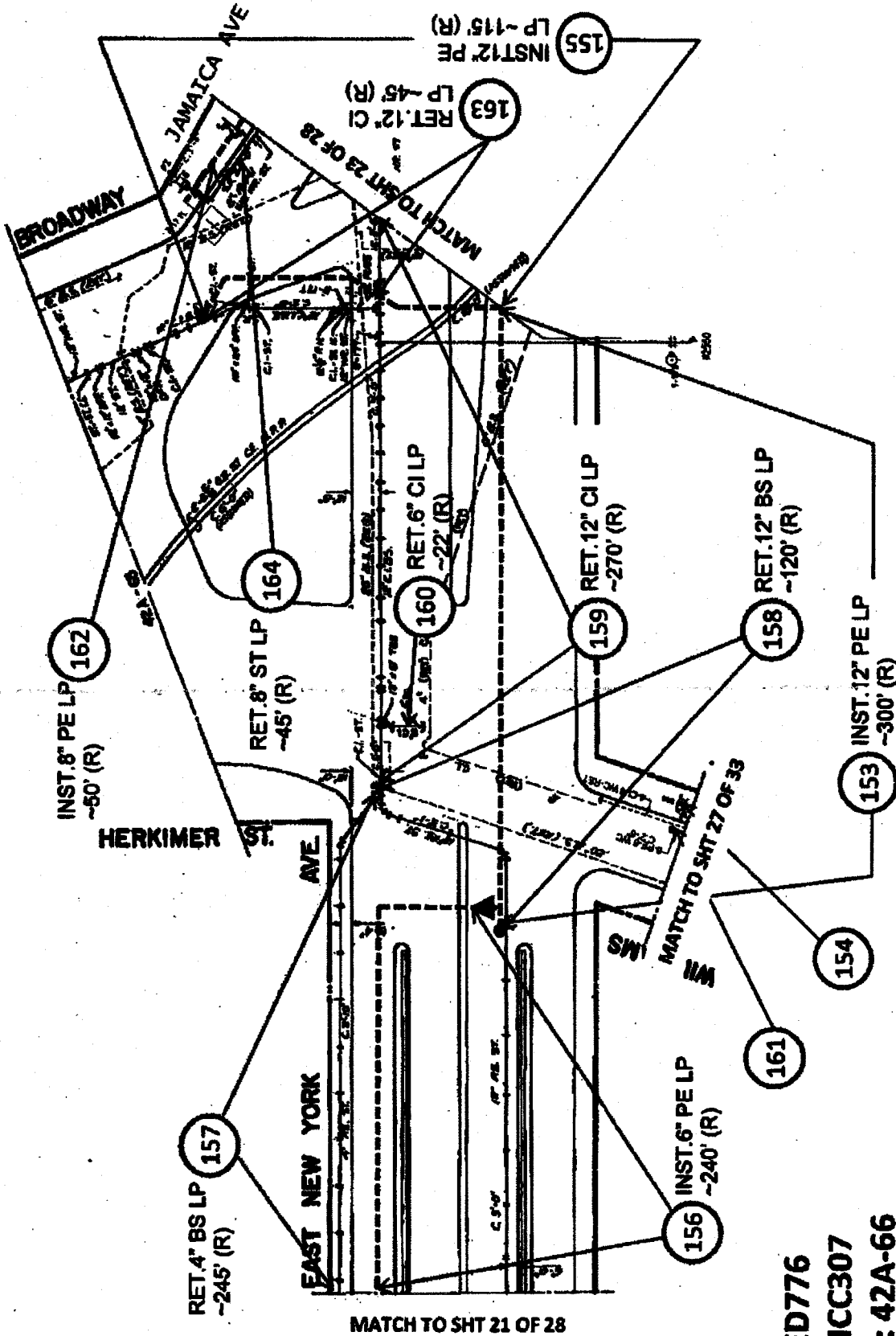
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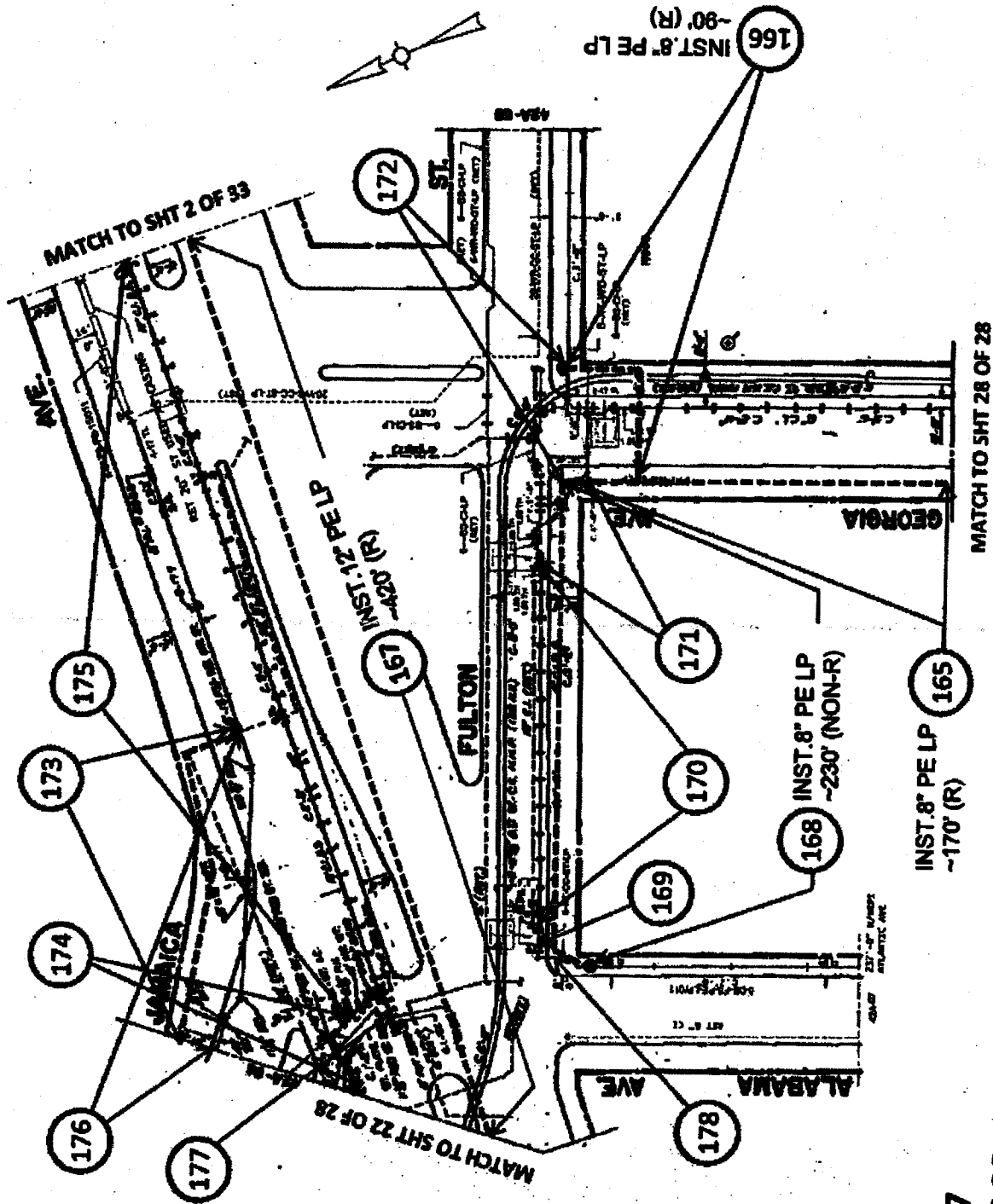
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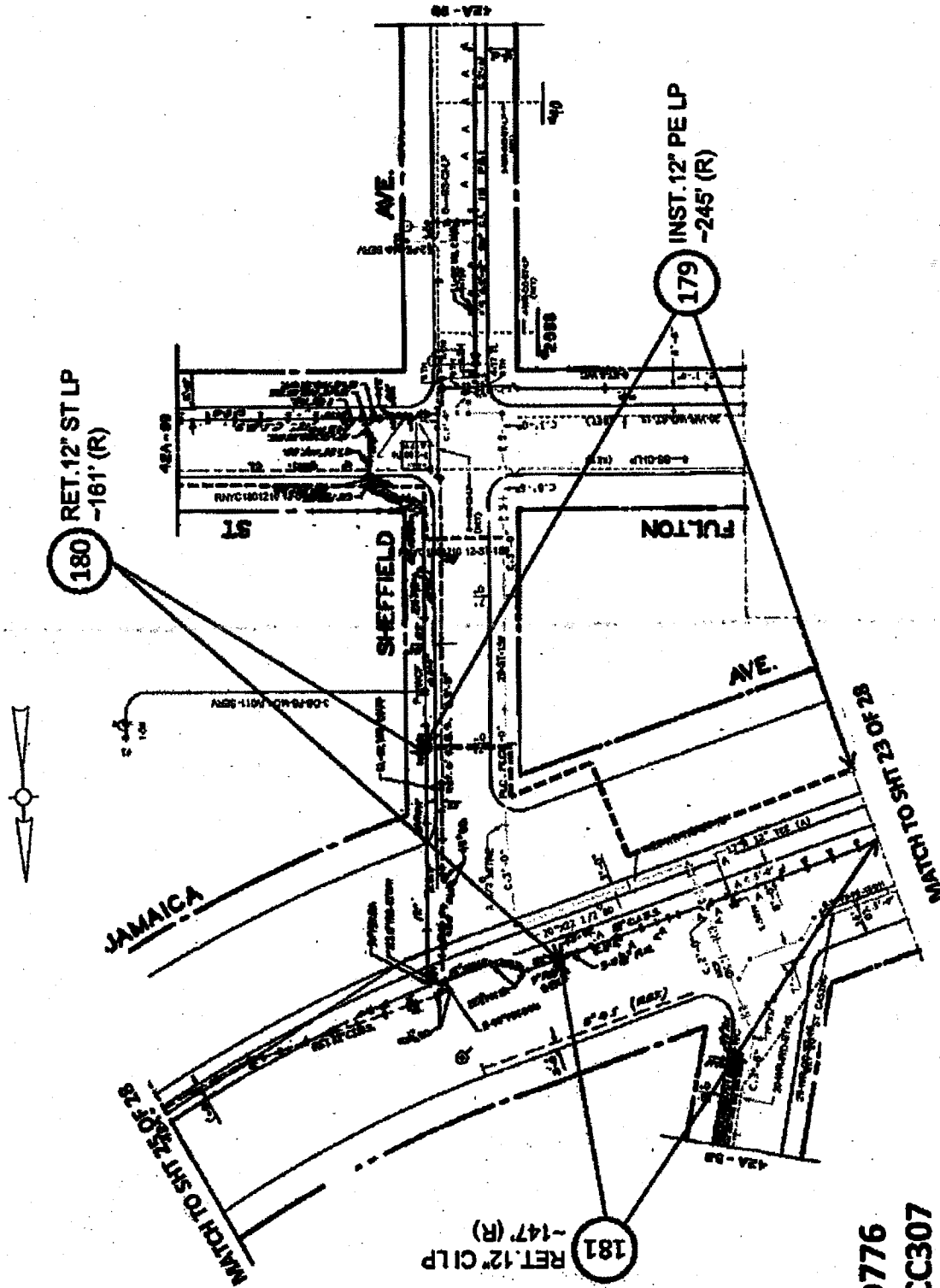
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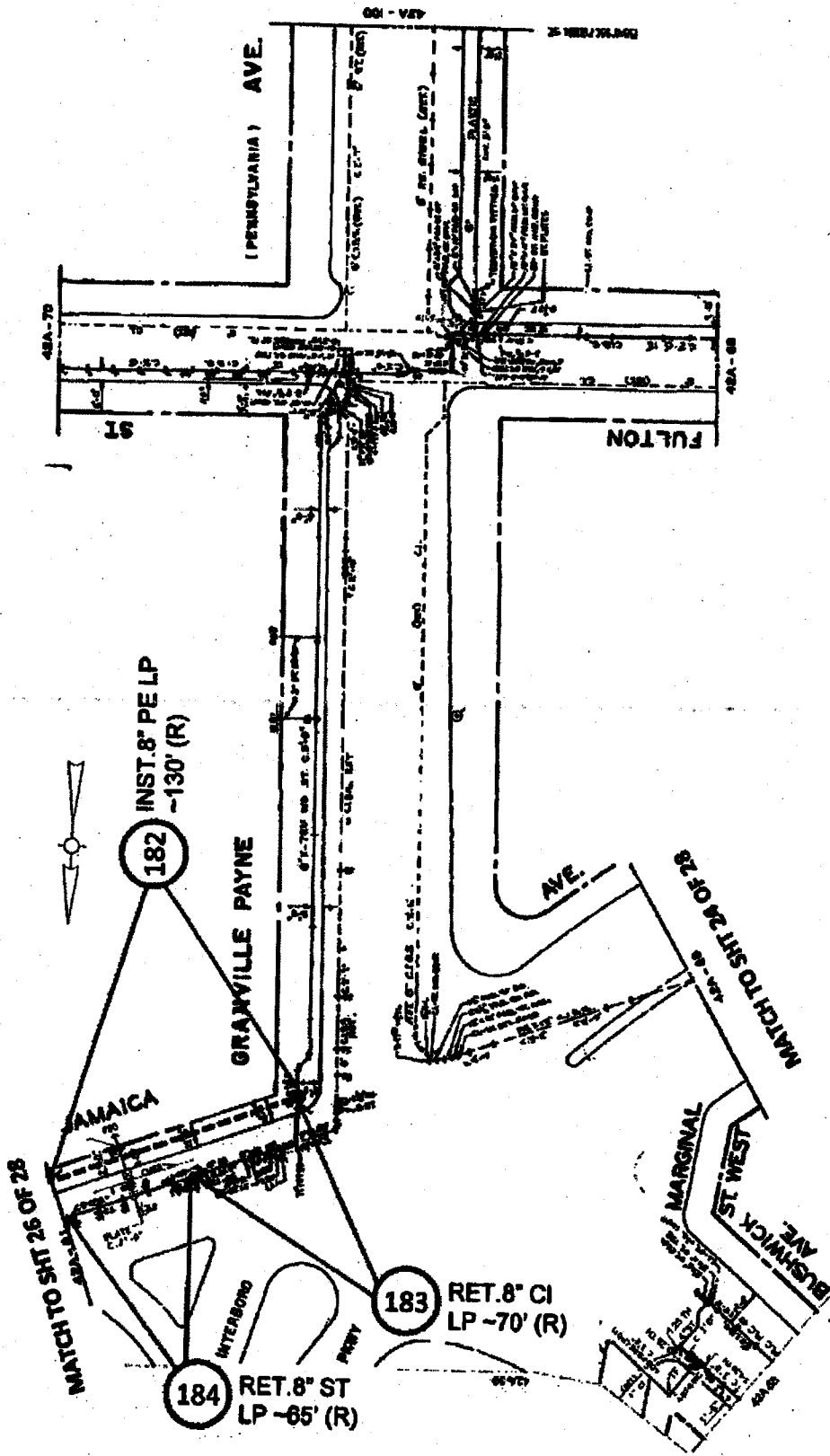


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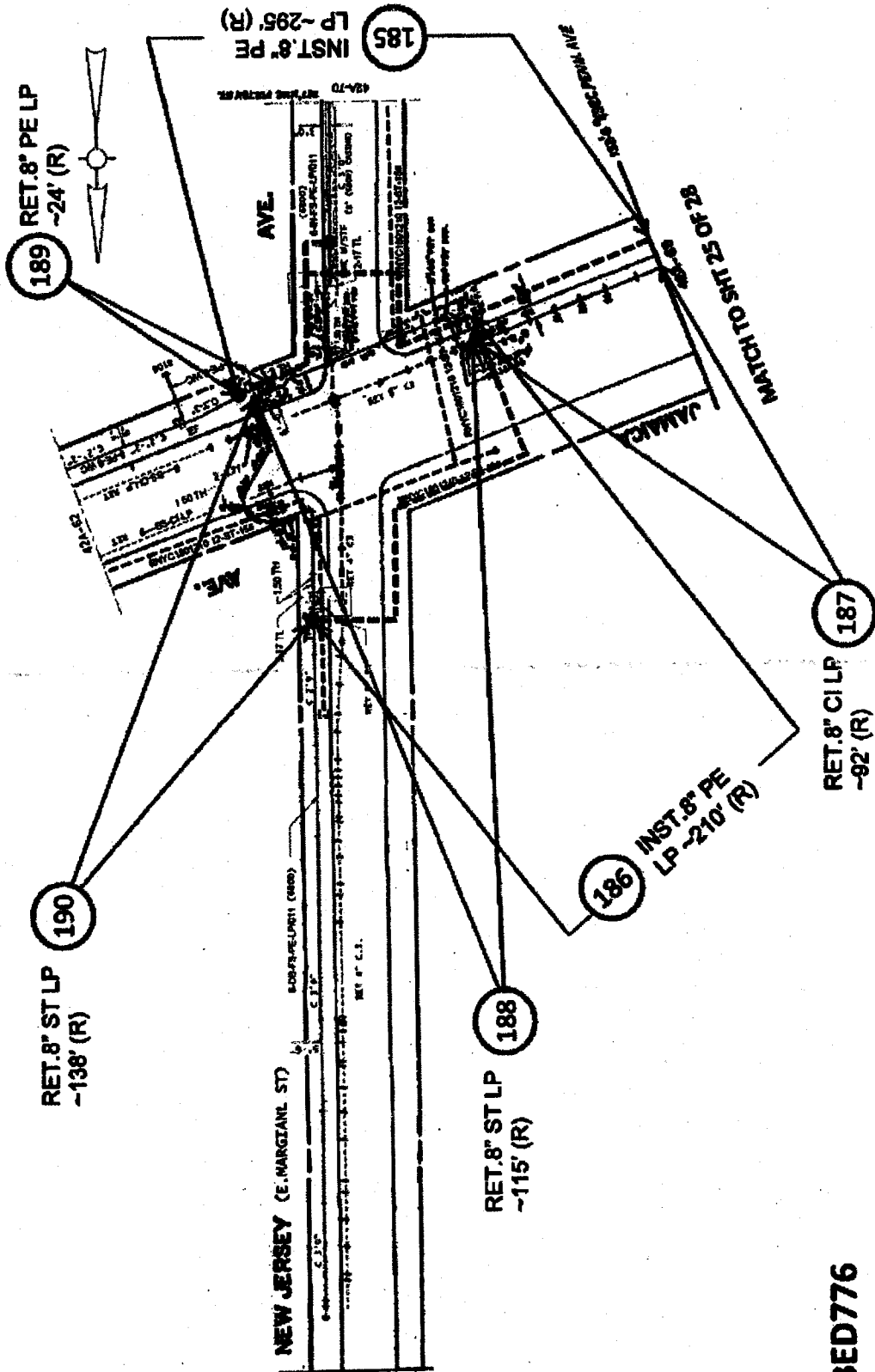


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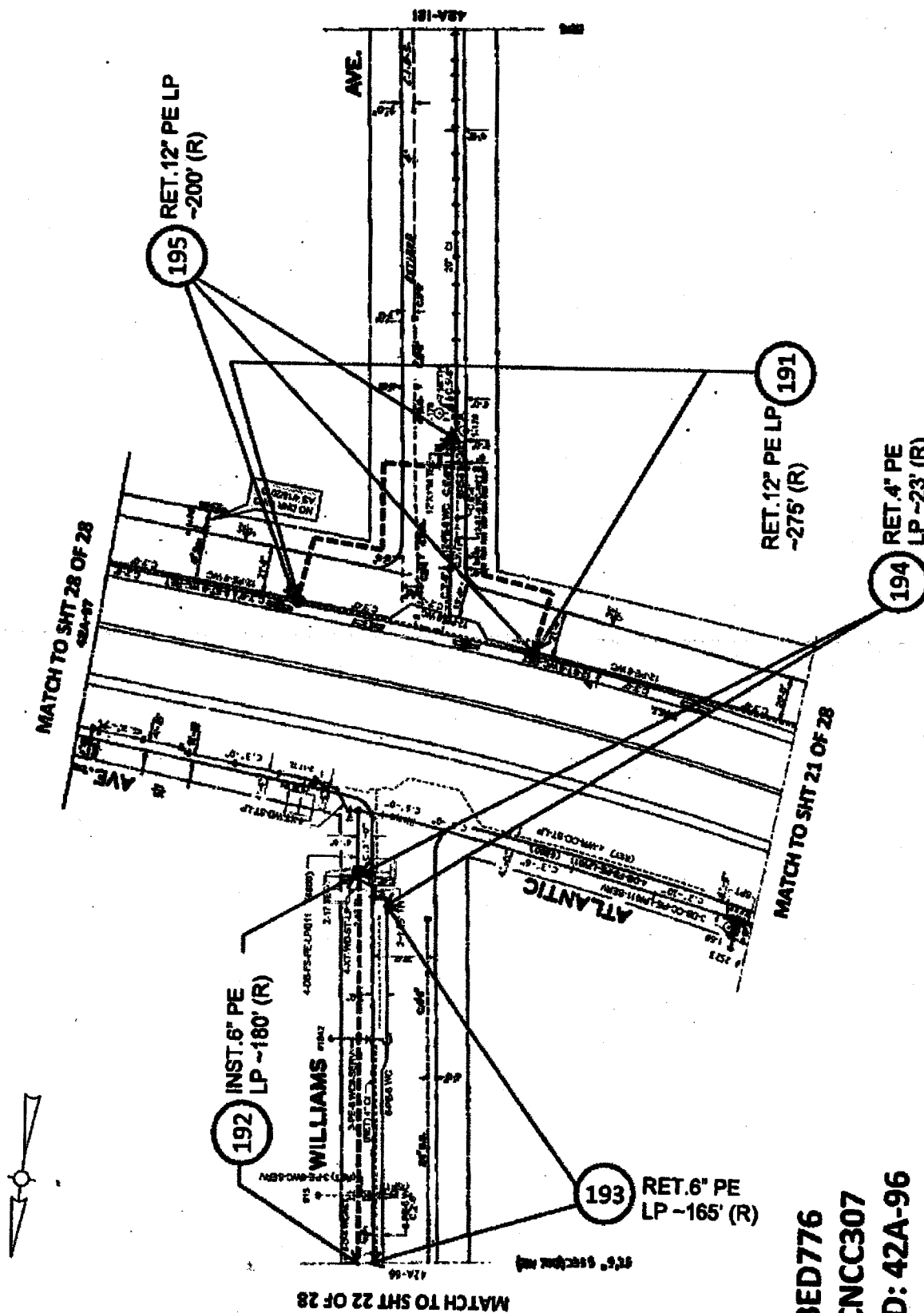


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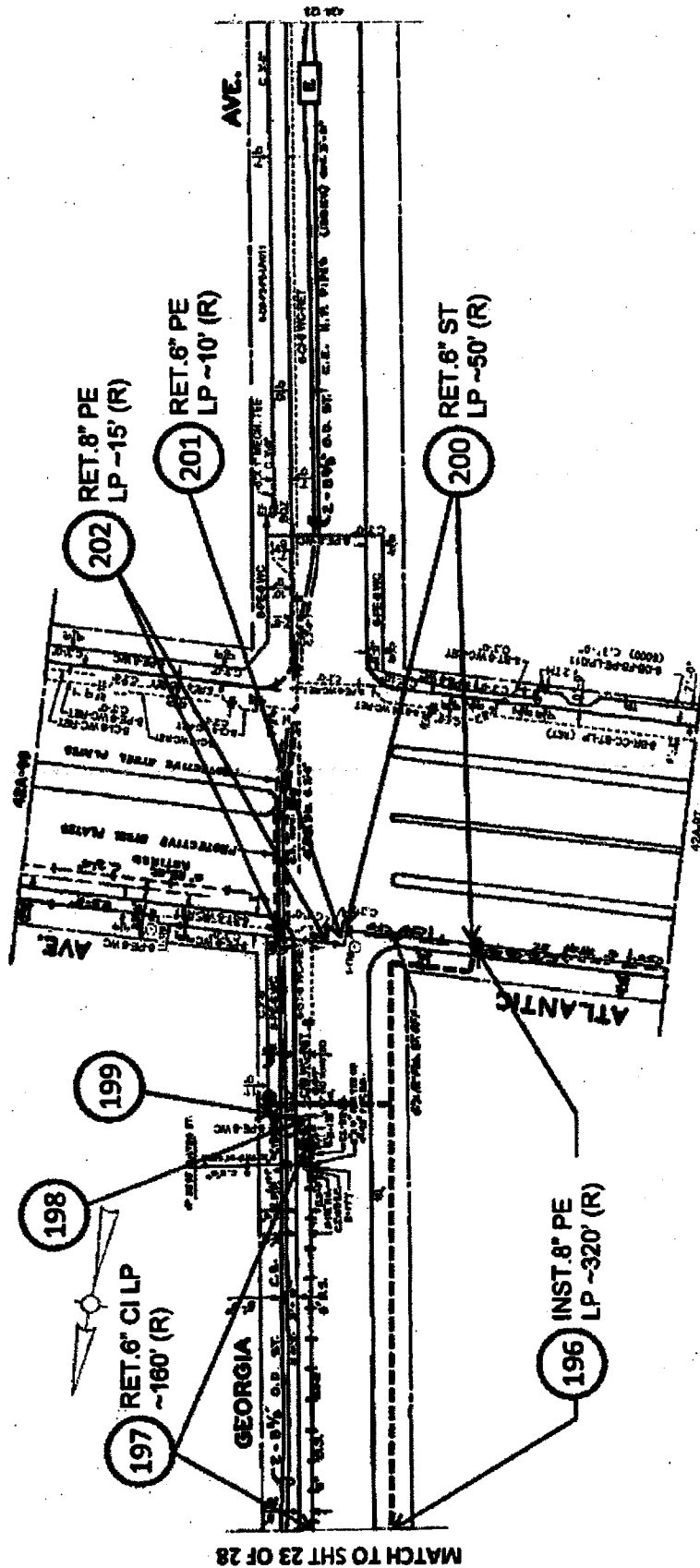
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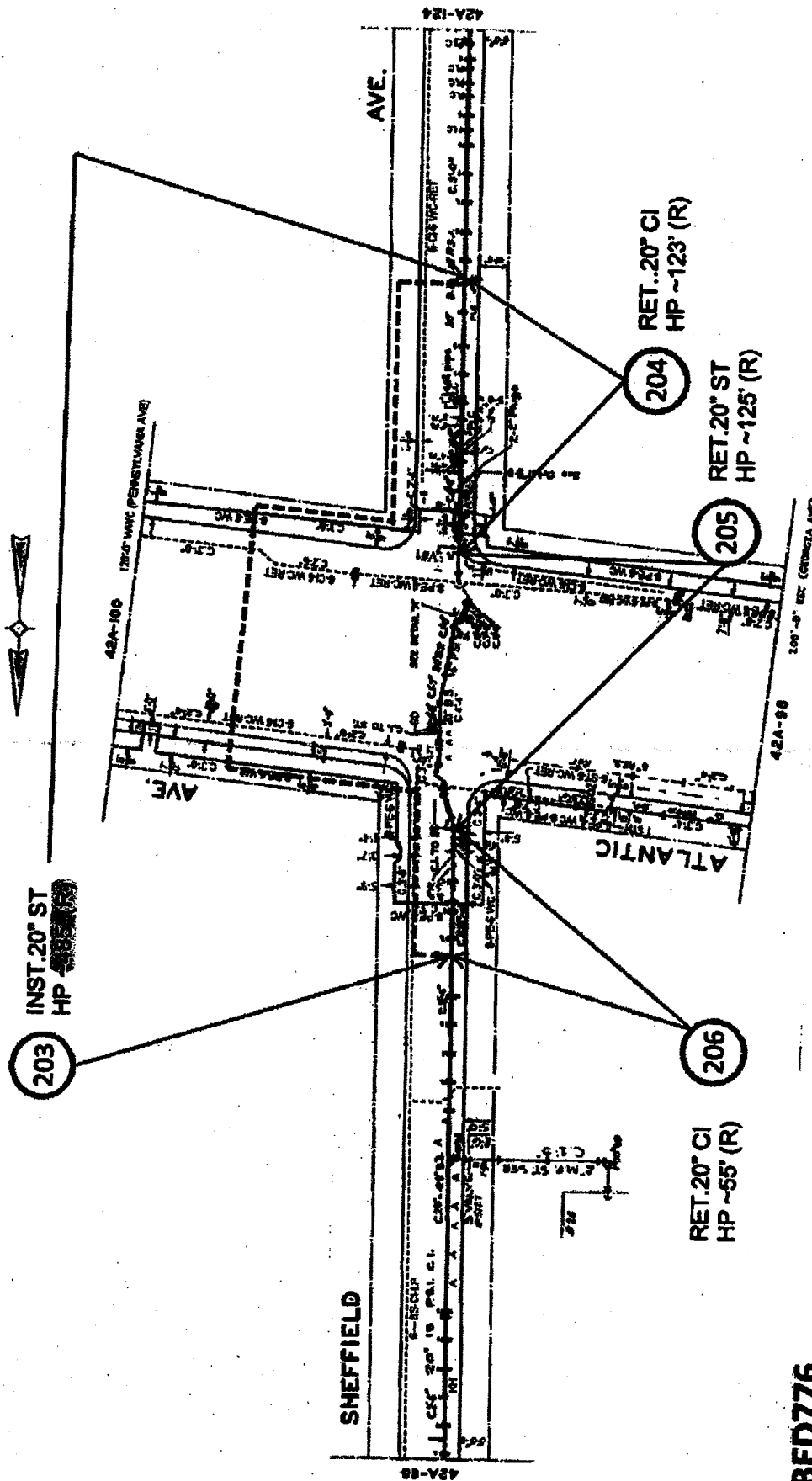
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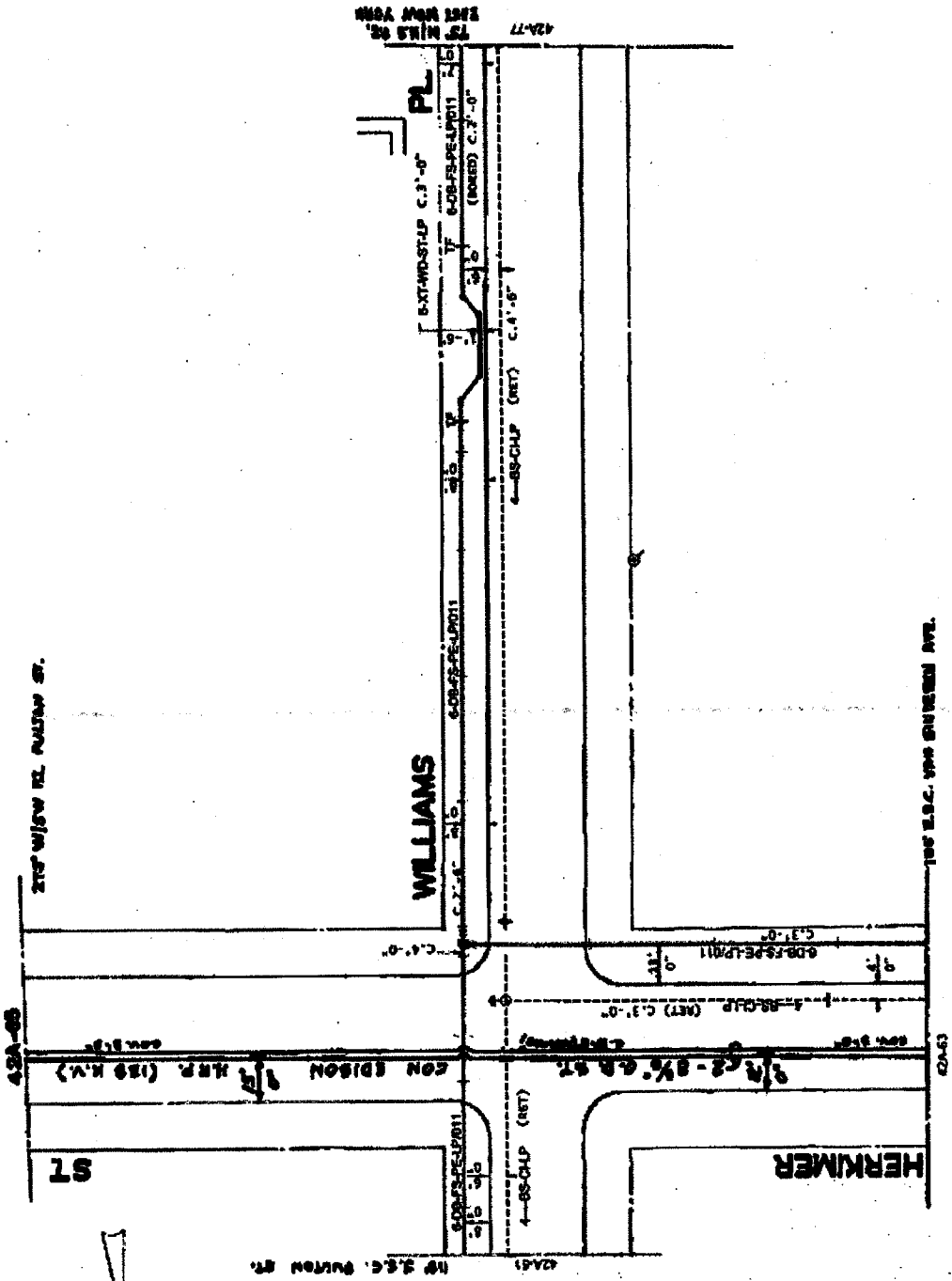


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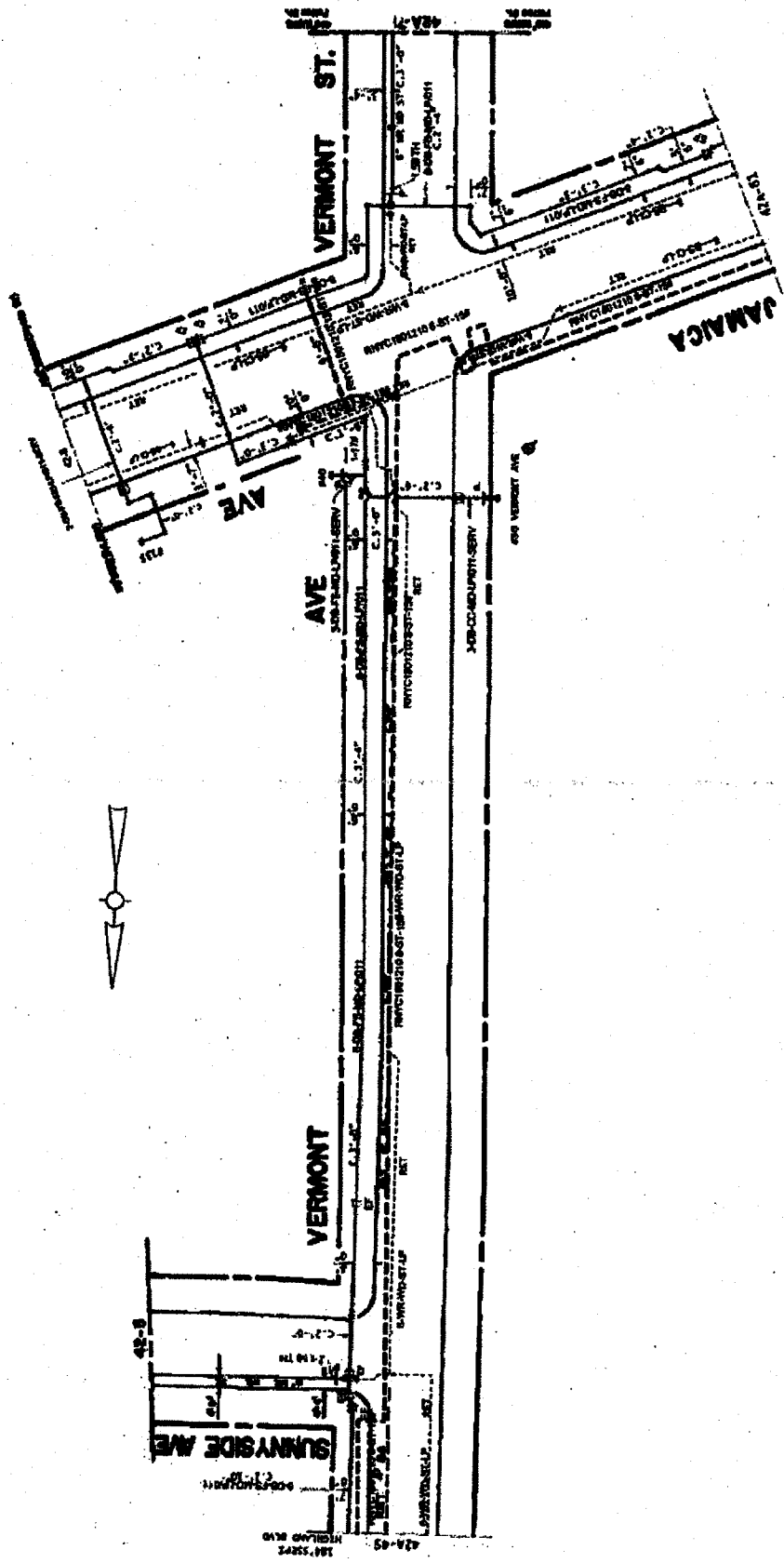


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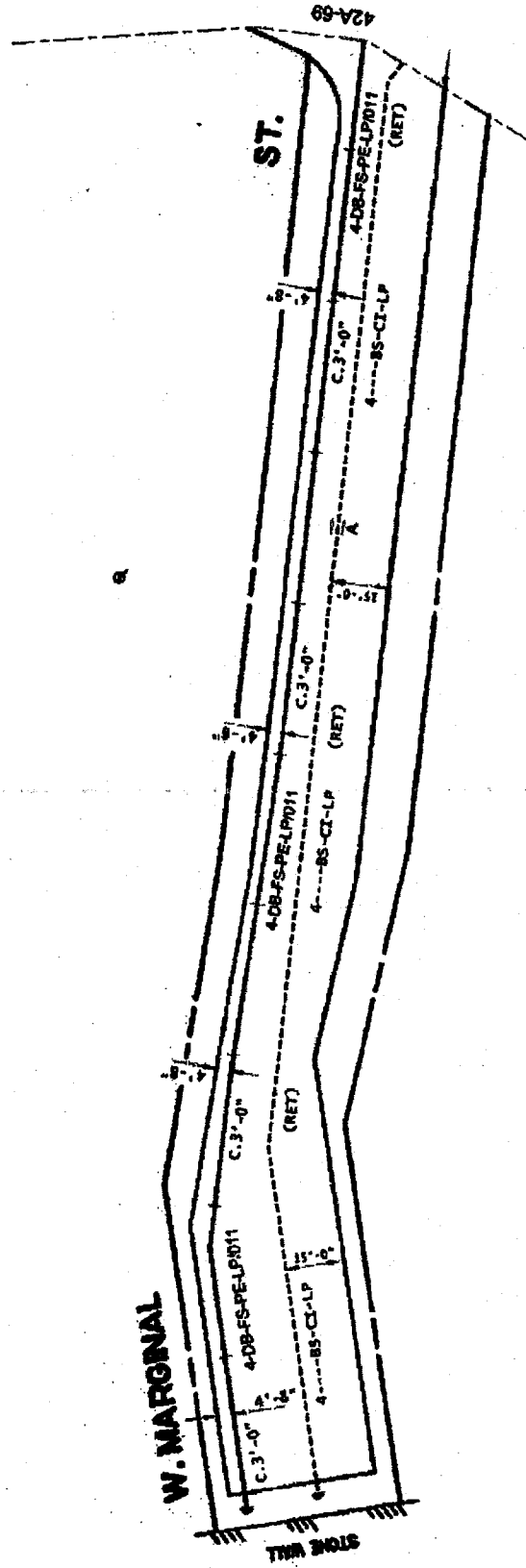


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ST.

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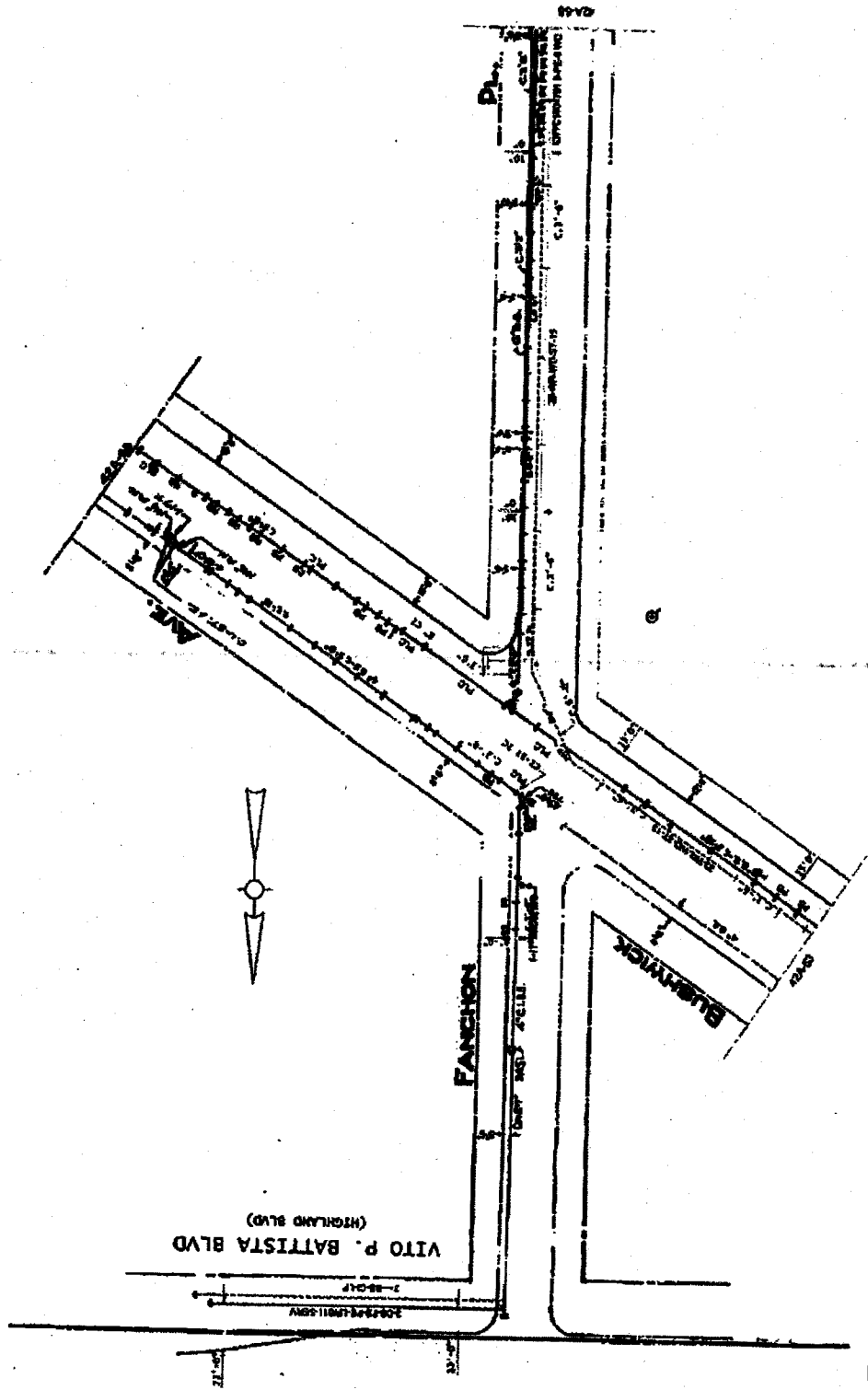
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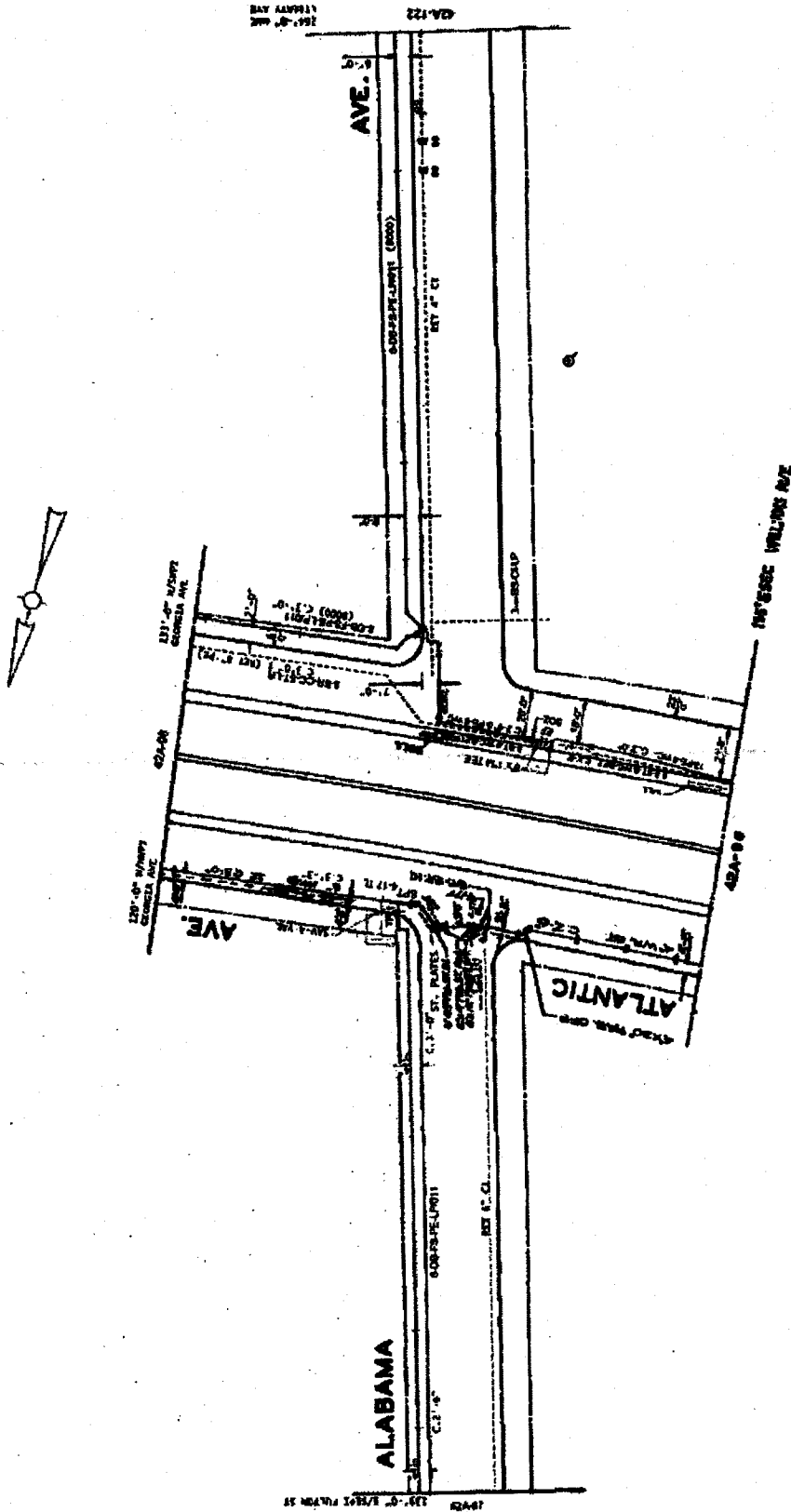
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**VI - LISTING OF APPROXIMATE LOCATIONS OF EP-7 BID
ITEMS QUANTITIES**

(NO TEXT IN THIS AREA, TURN PAGE)

**SCOPE OF WORK
SUPPORT AND PROTECTION
FOR CONTRACT NUMBER BED776**

The City of New York Department of Design and Construction is planning to install sewers and/or water mains and all appurtenances in various locations in The City of New York along with all work incidental thereto.

6.01.1 (NG) - Gas Main Crossing Sewer Up To 24" Diameter (Ea.)

- 1 in East New York Ave Bet Strauss & Herzl St
- 3 in East New York Ave Bet Alabama Ave & Fanchon Pl
- 2 in Georgia Ave Bet Atlantic Ave & Fulton St
- 1 in Sheffield Ave Bet Jamaica Ave & Fulton St
- 1 in Pitkin Ave Bet Howard Ave & Eastern Parkway
- 1 in Bristol St Bet East New York Ave & Pitkin Ave

6.01.3 (NG) - Gas Main Crossing Sewer 36" Thru 42" in Diameter (Ea.)

- 1 in East New York Ave Bet Howard Ave & Grafton St

6.01.8 (NG) - Gas Services Crossing Trenches and/or Excavations (Ea.)

- 3 in Georgia Ave Bet Atlantic Ave & Fulton St
- 4 in East New York Ave Bet Williams Ave & Williams Pl
- 1 in East New York Ave @ Christopher Ave
- 4 in East New York Bet St Marks Ave & Watkins St
- 7 in East New York Ave Bet Howard Ave & Lincoln Pl
- 2 in East New York Ave Bet Saratoga Ave & Strauss St
- 1 in St Johns Pl Bet Saratoga Ave & Eastern Pkwy

**SCOPE OF WORK
SUPPORT AND PROTECTION
FOR CONTRACT NUMBER BED776**

The City of New York Department of Design and Construction is planning to install sewers and/or water mains and all appurtenances in various locations in The City of New York along with all work incidental thereto.

6.01.9 (NG) - Gas Main Crossing Water Up To 20" Diameter (Ea.)

- 1 in Chester St Bet East New York Ave & Pitkin Ave
- 1 in Prospect Pl Bet Rockway Ave & Eastern Pkwy
- 2 in East New York Ave Bet Rockway Ave & Chester St
- 2 in East New York Ave Bet Rockway Ave & Thatford Ave
- 2 in East New York Ave Bet Sackman St & Powell St
- 2 in East New York Ave @ Mother Gaston Blvd
- 1 in Bristol St Bet East New York Ave & Pitkin Ave
- 2 in Pacific St Bet Sackman St & East New York Ave
- 4 in East New York Ave Bet Williams Ave & Alabama Ave
- 4 in East New York Ave Bet Sterling Pl & Thomas S. Boyland St
- 2 in Georgia Ave Bet Atlantic Ave & Fulton St
- 1 in East New York Ave Bet Herzl St & Amboy St
- 1 in Strauss St Bet East New York Ave & Pitkin Ave
- 2 in East New York Ave Bet Strauss St & Herzl St
- 1 in East New York Ave Bet Junius St & Van Sinderen Ave
- 1 in Legion St Bet Pitkin Ave & Sutter Ave
- 2 in Grafton St Bet Pitkin Ave & Sutter Ave
- 1 in Howard Ave Bet East New York Ave & Lincoln Pl
- 4 in East New York Ave Bet Howard Ave & Grafton St
- 1 in East New York Ave Bet Tapscott St & Howard Ave
- 2 in East New York Ave Bet Bristol St & Chester St
- 2 in Jamaica Ave Bet Pennsylvania Ave & NJ Ave

**SCOPE OF WORK
SUPPORT AND PROTECTION
FOR CONTRACT NUMBER BED776**

The City of New York Department of Design and Construction is planning to install sewers and/or water mains and all appurtenances in various locations in The City of New York along with all work incidental thereto.

- 1 in Van Sinderen Ave Bet East New York Ave & Liberty Ave
- 4 in Jamaica Ave Bet Georgia Ave & Fanchon Pl
- 1 in Vermont St Bet Jamaica Ave & Fulton St
- 2 in Alabama Ave @ Atlantic Ave
- 2 in Williams Ave @ Atlantic Ave
- 2 in Hinsdale St @ Atlantic Ave
- 1 in Van Sinderen Ave Bet Atlantic Ave & Herkimer St
- 1 in Atlantic Ave @ Snediker Ave
- 1 in Herkimer St @ Williams Pl
- 2 in East New York Ave Bet Powell St & Junius St
- 2 in East New York Ave Bet Legion St & Saratoga Ave
- 2 in Sheffield Ave @ Atlantic Ave
- 2 in Pennsylvania Ave @ Atlantic Ave

6.01.12 (NG) – Gas Main Crossing Water: 48"-54" Diameter

- 1 in East New York Ave Bet Sterling PL & Thomas S. Boyland St
- 1 in East New York Ave Bet Howard Ave & Grafton St
- 1 in Jamaica Ave Bet Pennsylvania Ave to NJ Ave
- 1 in East New York Ave Bet Rockaway Ave to Thatford Ave
- 1 in East New York Ave Bet Ave Rockaway Ave to Chester St
- 1 in East New York Ave Bet Georgia Ave & Fanchon Pl
- 1 in East New York Ave Bet Sackman St & Powell St
- 2 in East New York Ave Bet Powell St & Junius St

**SCOPE OF WORK
SUPPORT AND PROTECTION
FOR CONTRACT NUMBER BED776**

The City of New York Department of Design and Construction is planning to install sewers and/or water mains and all appurtenances in various locations in The City of New York along with all work incidental thereto.

- 1 in East New York @ Mother Gaston Blvd
- 2 in East New York Bet Williams Ave & Alabama Ave
- 1 in Pacific St @ East New York Ave
- 1 in East New York Ave Bet Strauss St & Herzl St
- 1 in East New York Ave Bet Legion & Saratoga Ave

6.02 (NG) - Extra Excavation for the Installation of Catch Basin Sewer Drain Pipes W/Gas Interferences (Ea.)

- 1 in Pacific St @ East New York Ave
- 1 in Sheffield Ave Bet Jamaica Ave & Fulton St
- 1 in Fanchon Pl Bet Jamaica Ave & Bushwick Ave

6.03 (NG) - Removal of Abandoned Gas Facilities - All Sizes (L.F.)

3000 in Various Locations as Required

6.03.1 (NG) - Removal of Abandoned Gas Facilities with Possible Coal Tar Wrap. All Sizes (For National Grid Work Only) (L.F.)

1000 in Various Locations as Required

**SCOPE OF WORK
SUPPORT AND PROTECTION
FOR CONTRACT NUMBER BED776**

The City of New York Department of Design and Construction is planning to install sewers and/or water mains and all appurtenances in various locations in The City of New York along with all work incidental thereto.

6.04 (NG) – Adjust Hardware to Grade Using Spacer Rings/ Adopters (Street Repaving) (Ea.)

35 in Various Locations as Required

6.05 (NG) – Adjust Hardware to Grade by Resetting (Road Reconstruction) (Ea.)

45 in Various Locations as Required

6.06 (NG) – Special Care Excavation and Backfilling (C.Y.)

5400 CY in Various Locations as Required, Including but Not Limited
To All Gas Services Crossing Unsheeted Water Main Trenches

6.06a (NG) – Special Care Excavation and Backfill for Transmission Mains (CY)

200 CY in East New York Ave @ Sackman St

6.07 (NG) – Test Pits for Gas Facilities (C.Y.)

50 in Various Locations as Required

EP-7 (1.0)

EP-7

END OF EP-7 PAGES

**THE EP-7 PAGES CONSIST OF EIGHTY-FOUR (84) PAGES, INCLUDING
THIS PAGE.**

(NO TEXT ON THIS PAGE)

HAZ - PAGES

**SPECIFICATIONS FOR HANDLING,
TRANSPORTATION AND DISPOSAL
OF NONHAZARDOUS AND POTENTIALLY
HAZARDOUS CONTAMINATED MATERIALS**

NOTICE

THE PAGES CONTAINED IN THIS SECTION ARE ISSUED FOR THE PURPOSE OF SPECIFYING THE REQUIREMENTS OF THE CONTRACT DOCUMENTS AND HEREBY MADE PART OF SAID CONTRACT DOCUMENTS.

(NO TEXT ON THIS PAGE)

**SPECIFICATIONS FOR
HANDLING, TRANSPORTATION, AND DISPOSAL
OF POTENTIAL AND IDENTIFIED
CONTAMINATED AND HAZARDOUS MATERIALS**

**48" TRUNK WATER MAIN AND 20", 12", 8" DISTRIBUTION WATER MAIN REPLACEMENT
IN EAST NEW YORK AVENUE/JAMAICA AVENUE BETWEEN TAPSCOTT STREET TO
VERMONT STREET IN ATLANTIC AVENUE BETWEEN VAN SINDEREN AVENUE AND
GEORGIA AVENUE ETC.**

**BOROUGH OF BROOKLYN
CITY OF NEW YORK**

Capital Project ID: BED776

Prepared By:

**NYC
DDC** **Department of
Design and
Construction**

30-30 Thomson Avenue
Long Island City, New York 11101

December 5, 2019

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ITEM 8.01 C1 HANDLING, TRANSPORTING, AND DISPOSAL OF NON-HAZARDOUS, CONTAMINATED SOILS

8.01 C1.1 WORK TO INCLUDE

A. General

This work will consist of the handling, transportation, and disposal of contaminated soils. The materials covered by this specification are soils that are contaminated with petroleum or chemical products but cannot be classified as hazardous waste. For the purpose of this specification, soil will be defined as any material excavated below the pavement (concrete and/or asphalt) and pavement base (concrete and/or asphalt).

Soil to be excavated can be classified as non-contaminated, contaminated, or hazardous soil. Non-contaminated soils are defined as soils not exhibiting any of the following characteristics.

- Exceedances of New York State Department of Environmental Conservation (NYSDEC) Part 375-6 Restricted Commercial Soil Cleanup Objectives (SCOs) for street work, Restricted Residential SCOs for work areas in parkland, or Residential SCOs for housing projects.
- Elevated Photo-Ionization Detector (PID) readings, subsequently confirmed by laboratory analysis and showed exceedances of applicable SCOs.
- Visual evidence of contamination, such as the presence of staining, discoloration.
- Petroleum and/or chemical odors, subsequently confirmed by laboratory analysis and showed exceedances of applicable SCOs.
- Physical evidence of coal ash, municipal solid waste, construction and demolition debris, or dredged spoils.

Contaminated soils are defined as soils exhibiting one or more of the above characteristics. Contaminated soils must be handled, transported, and disposed of in accordance with the specifications for Item 8.01 C1 – Handling, Transporting, and Disposal of Non-Hazardous Contaminated Soils.

Hazardous soils are defined as soils showing exceedances of Toxicity Characteristic Leaching Procedure (TCLP) Regulatory Levels for Hazardous Waste published in Resource Conservation and Recovery Act (RCRA), 6 New York Codes, Rules, and Regulations (NYCRR) Part 371, or 40 Code of Federal Regulations (CFR) Section 261. Hazardous soils must be handled, transported, and disposed of in accordance with the specifications of this section.

This entire specification 8.01 covers the handling, transportation, and disposal of contaminated soils and hazardous soils only. Non-contaminated soil can be reused at the project site, provided it meets other contract requirements. Excess non-contaminated soil becomes the property of the Contractor.

The Contractor must ensure that all operations associated with the handling, sampling, loading, transportation, and disposal of contaminated soils are in compliance with all applicable Federal, State, and City statutes and regulations.

The Contractor must supply all equipment, material and labor required to conduct the specified work of this Item. The Contractor must document the excavation, handling, transportation and disposal of contaminated soils.

B. Request for Approval of Subcontractors

A subcontractor/subconsultant, such as the independent Environmental Consultant and the waste hauler, is not permitted to start work until approved by the Engineer. If the Contractor performs work using a subcontractor/subconsultant prior to approval, the Contractor will not be paid for the work performed by that subcontractor/subconsultant and the Contractor may be subject to sanctions including, but not limited to, initiation of default proceedings.

The Contractor must submit a completed original Request for Approval of Subcontractors (RFAS) form and all required documents, such as legal identity, project reference list, Corporate Health and Safety Plan (HASP), waste transporter permits, Occupational Safety and Health Administration (OSHA) 10 certification, Hazardous Waste and Emergency Response (HAZWOPER) certification, etc., to the Engineer at least 30 days prior to the scheduled subcontract work start date. The Engineer must then submit the original RFAS to DDC Safety and Site Support, Office of Environmental and Geotechnical Services (OEGS) for review and approval. If the RFAS is denied by OEGS, OEGS will issue the final denial and return the original RFAS to the Engineer. If the RFAS is approved by OEGS, OEGS will forward the original RFAS package and an approval memo to the DDC ACCO for further review and approval. The ACCO's Vendor Integrity Unit and Office of Contract Opportunity (OCO) will review the subcontractor/subconsultant's overall business integrity and compliance with Vendor Exchange System (VENDEX), Executive Order 50, Local Law 1, and Minority- and Women-Owned Business Enterprise/ Disadvantaged Business Enterprise (MWBE/DBE) participation as per the contract. ACCO will issue the final Approval or Denial. The original RFAS will be returned to the Engineer, who will subsequently notify and return the original RFAS to the Contractor.

C. Independent Environmental Consultant

The Contractor must retain an independent Environmental Consultant to obtain all permits, prepare the plans required in the specification 8.01, and perform all field screening, sampling, air monitoring, and other health and safety services. The independent Environmental Consultant must be approved under the RFAS process and must demonstrate the minimum requirements as set forth below:

1. The independent Environmental Consultant project supervisor on site and other designated key personnel must have a minimum of three (3) years of experience in the environmental field dealing with issues associated with contaminated soils. Such experience must include oversight on environmental, specifically volatile organic compounds and dust monitoring services as a routine part of its daily operations.
2. The independent Environmental Consultant must be experienced in work of similar nature, size, and complexity and must have previous experience in working with DDC.
3. The independent Environmental Consultant must furnish a project listing identifying the location, nature of services provided, owner, owner's contact, contact's working telephone number, project duration and value for at least five (5) projects within the last 3 years.

D. Sampling and Analysis

Prior to the performance of soil sampling, the Contractor will submit a Field Sampling Plan (FSP). Soil sampling must not be conducted until OEGS has approved the FSP. The Contractor must conduct sampling and analysis of the impacted soils as specified under Item 8.01 C2 – In-Situ and Ex-Situ Soil Sampling and Analysis for Waste Disposal Parameters. The laboratory results must be forwarded to OEGS for review to determine if the soils would be handled and disposed of as contaminated soils or hazardous soils.

E. Material Handling Plan

At least 45 days prior to the commencement of work, the Contractor must submit to the OEGS for review a Material Handling Plan (MHP). The MHP must be approved by the OEGS prior to the Contractor beginning any soil excavation work. The MHP must, at a minimum, consist of:

1. The Contractor's procedures for identifying contaminated soils during excavation, including the specific model and manufacturer of intended organic vapor monitoring equipment and calibration procedures to be used. It should also include the training and experience of the personnel who will operate the equipment.
2. The Contractor's procedures for safely handling contaminated soils. The procedures must include personnel safety and health as well as environmental protection considerations.
3. For the proposed laboratory for analysis of representative soil samples, provide the following: (a) name, (b) address, (c) telephone number, and (d) New York State Department of Health's (NYSDOH) Environmental Laboratories Accreditation Program (ELAP) status.
4. Identification of the Contractor's proposed waste transporter(s) (hauler). This information must include:
 1. Name and Waste Transporter Permit Number
 2. Address
 3. Name of responsible contact for the waste transporter
 4. Telephone number for the contact
 5. All necessary permit authorizations for each type of waste transported
 6. Previous experience in performing the type of work specified herein
5. The name and location of the facility where an off-site scale is located. The Contractor must outline the procedures on controlling trucks leaving the work site and en-route to the off-site scale.
6. All staging/stockpiling areas (if stockpiling areas are intended and available), or alternate procedures that will be used. Alternate procedures may include, but are not limited to, agreements from the intended disposal facilities to accept boring data and/or analytical data previously obtained during the site characterization so that materials may be directly loaded into vehicles for shipment to the disposal facility.
7. A backup facility must be provided, should the staging/stockpile areas become unavailable, insufficient in area or presented by some other unforeseen difficulty.
8. Identification of the Contractor's two proposed Treatment Storage or Disposal (TSD) facilities for contaminated soils (primary and back-up) for final disposal of the soils. Both primary and backup TSD facilities must be currently state-licensed disposal facilities approved to receive contaminated soil. The information required for each facility must include:
 - a. General Information
 1. Facility name and the State identification number
 2. Facility location

3. Name of responsible contact for the facility
4. Telephone number for contact
5. Signed letter of agreement to accept waste as specified in this contract. The letter must indicate agreement to handle and accept the specified estimated quantities and types of material during the time period specified in the project schedule and any time extension as deemed necessary.
6. Unit of measure utilized at disposal facility for costing purposes
 - b. A listing of all permits, licenses, letters of approval, and other authorizations to operate, which are currently held and valid for the proposed facility.
 - c. A listing of all permits, licenses, letters of approval, and other authorizations to operate which have been applied for by the proposed facility but not yet granted or issued.
 - d. The Contractor must specify and describe the disposal/containment unit(s) that the proposed facility will use to manage the waste. The Contractor must identify the capacity available in the units and the capacity reserved for the subject waste.
 - e. The Contractor must provide the date of the proposed facility's last compliance inspection.
 - f. A list of all active (unresolved) compliance orders (or agreements), enforcement notices, or notices of violations issued to the proposed facility must be provided. The source and nature of the cause of violation must be stated, if known.
9. Description of all sampling and field/laboratory analyses that will be needed to obtain disposal facility approval.

8.01 C1.2 MATERIALS

- A. The Contractor must provide containers as specified in the United State Department of Transportation (USDOT) regulations.
- B. The Contractor must provide polyethylene sheeting, which is to be placed under (20 mil. thickness minimum) and over (10 mil. thickness minimum) soil piles.
- C. The Contractor must assure that the waste transporter's appropriate choice of vehicles and operating practices are fitted to prevent spillage or leakage of contaminated material during transportation.
- D. The Contractor must provide, install, and maintain any temporary stockpiling or loading facilities on site as required until completion of material handling activities. The location and design of any such facilities must be included in the MHP.

8.01 C1.3 CONSTRUCTION DETAILS

A. Material Handling

1. Immediately after excavation of non-hazardous contaminated soil the Contractor must:
 - a. Load material directly onto trucks/tankers/roll offs for disposal off site; or

- b. If interim stockpiling is required, place contaminated soil on a minimum of 20 mil. polyethylene sheeting and cover it securely by minimum of 10 mil. polyethylene sheeting to protect against cross contamination, airborne dust, leaching or runoff of contaminants into the subsurface, groundwater, or stormwater. Weight or secure the sheeting by appropriate means and seal seams as approved by the DDC to prevent tearing or removal by wind or weather. Grade surrounding surface to provide for positive drainage away from pile. Each stockpile must not exceed 500 cubic yards. Contaminated soils must be stockpiled separately from uncontaminated and hazardous soil at an off-site location approved by DDC or secured on-site by the Contractor, meeting all required Federal, State and Local stipulations. Stockpiles must be at least 800 feet away from any sensitive receptors, such as schools, daycare center, hospitals, nursing homes, etc., and at least 100 feet away from any water body.
2. Institute appropriate procedures and security measures to ensure the protection of site personnel and the public from contaminated materials as described in the approved MHP, Site HASP, and Item 8.01 S - Health and Safety.
3. Any soil encountered that appears to contain unknown contaminants (based on visual, odor, or other observation), or that vary substantially from the material originally identified must be segregated in stockpiles and the independent Environmental Consultant promptly notified to collect soil samples for analysis. Construct stockpiles to the same requirements as stated in subsection (A)(1)(b) above.
4. Provide any dewatering that is necessary to complete the work. Contaminated water must be disposed of in accordance with Item 8.01 W1 – Removal, Treatment and Discharge/Disposal of Contaminated Water.
5. Provide and operate field organic vapor test equipment, a photoionization detector (PID) or a flame ionization detector (FID), to detect general organic vapor levels at intervals of approximately 50 cubic yards of soil excavated, when visual or odor observations indicate the material may substantially differ from the soil previously excavated and/or as directed by the independent Environmental Consultant.

B. Off-Site Transportation to Disposal Facility

1. General

- a. The Contractor must furnish all labor, equipment, supplies and incidental costs required to transport contaminated material from the work area to the off-site disposal facility, and any other items and services required for transporting contaminated material for disposal at an off-site facility.
- b. The Contractor will be responsible for tracking all materials and vehicles from the site to the off-site scale.
- c. The Contractor must submit to the Engineer the certified tare and gross weight slips for each load received at the accepted facility which must be attached to each returned manifest. These documents must be maintained and kept with project field records.
- d. Contaminated soils must be delivered to the disposal or treatment facility within 30 calendar days after excavation.
- e. The Contractor must coordinate the schedule for truck arrival and material deliveries at the job site to meet the approved project schedule.

- f. The Contractor must inspect all vehicles leaving the project site to ensure that contaminated soils adhering to the wheels or undercarriage are removed prior to the vehicle leaving the site.
- g. The Contractor must obtain letters of commitment from the waste haulers and the TSD facility to haul and accept shipments.
- h. The Contractor must provide waste profile forms to OEGS for review and approval before transporting contaminated soil to the approved TSD facility.

2. Hauling

- a. The Contractor must coordinate manifesting, placarding of shipments, and vehicle decontamination. All quantities must be measured and recorded upon arrival at the disposal facility. If any deviation between the two (2) records occurs, the matter is to be reported immediately to the Engineer and to be resolved by the Contractor to the satisfaction of the Engineer.
- b. The Contractor will be held responsible, at its own cost for any and all actions necessary to remedy situations involving material spilled in transit or mud and dust tracked off-site.
- c. The Contractor must ensure that trucks are protected against contamination by properly covering and lining them with polyethylene sheeting or by decontaminating them prior to and between acceptances of loads. Trucks with loaded contaminated soil must be covered securely with tarps before leaving the project site to prevent generation of airborne dust during hauling.
- d. The Contractor will be responsible for inspecting the access routes for road conditions, overhead clearance, and weight restrictions.
- e. The Contractor must only use the transporter(s) identified in the approved MHP for the performance of work. A revised MHP or an addendum to the original approved MHP must be submitted to OEGS for review and approval at no additional cost to the City for any use of substitute or additional transporters.
- f. The Contractor must develop, document, and implement a policy for accident prevention.
- g. The Contractor must not combine contaminated materials from other projects with material from this project.
- h. No material will be transported until approval by the Engineer is obtained.

3. Off-Site Disposal

- a. The Contractor must use only the disposal facility(ies) identified in the approved MHP for the performance of the work. A revised MHP or an addendum to the original approved MHP must be submitted to OEGS for review and approval at no additional cost to the City for any use of substitutions or additions of disposal facility.
- b. The Contractor must be responsible for acceptance of the materials at an approved facility, for ensuring that the facility is properly permitted to accept the stated materials, and for ensuring that the facility provides the stated treatment and/or disposal services.
- c. The City reserves the right to contact and visit the TSD facility and regulatory agencies to verify the agreement to accept the stated materials and to verify any other information provided.

- d. In the event that the identified and approved facility ceases to accept the stated materials or the facility ceases operations, it is the Contractor's responsibility to locate an alternate approved and permitted facility(ies) for accepting materials. The alternate facility(ies) must be approved in writing by the Engineer in the same manner and with the same requirements as for the original facility(ies). This must be done at no extra cost or delay to the City.
 - e. The Contractor must obtain manifest forms, and complete the shipment manifest records required by the appropriate regulatory agencies for verifying the material and quantity of each load in unit of volume and weight. Copies of each manifest must be submitted to the Engineer within four (4) business days following shipment, and within three (3) business days after notification of receipt of the facility. The signed manifests must be maintained and kept with the project field records. Any manifest discrepancies must be reported immediately to the Engineer and be resolved by the Contractor to the satisfaction of the Engineer.
4. Equipment and Vehicle Decontamination
- a. The Contractor must design and construct a portable decontamination station to be used to decontaminate equipment and vehicles that have been used to handle contaminated soil. The cost for this work will be paid under Item 8.01 S - Health and Safety.
 - b. Water generated during the decontamination process must be disposed of in accordance with Item 8.01 W1 – Removal, Treatment and Discharge/Disposal of Contaminated Water.

8.01 C1.4 METHOD OF MEASUREMENT

Quantities for contaminated soils will be measured in tons. The tonnage will be determined by off-site truck scales, as per Subsection 8.01 C1(3)(B)(1), that are capable of generating load tickets.

8.01 C1.5 PRICE TO COVER

- A. The unit bid price per ton for Item 8.01 C1 must include the cost of furnishing all labor, materials, equipment, plan, and insurance for excavation, handling, transportation, disposal, documentation, fees, permits, loading, stockpiling, hauling, and any other incidentals necessary to complete all the work as specified herein for handling, transporting, and disposal of non-hazardous contaminated soil.
- B. Final disposal of hazardous soil will be paid for under Item 8.01 H – Handling, Transporting and Disposal of Hazardous Soils. Disposal of decontamination water will be paid for under Item 8.01 W1 – Removal, Treatment and Discharge/Disposal of Contaminated Water.
- C. Backfill will be paid for under its respective item as specified in the contract document.
- D. The independent Environmental Consultant will be paid under Item 8.01 S – Health and Safety.

Payment will be made under:

<u>ITEM NUMBER</u>	<u>ITEM</u>	<u>PAYMENT UNIT</u>
8.01 C1	Handling, Transporting, and Disposal of Non-Hazardous Contaminated Soil	Tons

**ITEM 8.01 C2 IN-SITU AND EX-SITU SOIL SAMPLING AND
ANALYSIS FOR WASTE DISPOSAL PARAMETERS**

8.01 C2.1 WORK TO INCLUDE

A. Description

The work will consist of collecting and analyzing representative samples of soil to be excavated in-situ and/or ex-situ from stockpiles for parameters typically requested by the disposal facilities to determine if the soil to be excavated is suitable for reuse, or to be hauled off-site for disposal purposes as contaminated and/or hazardous soil.

B. Sampling and Laboratory Analysis

1. At least forty-five (45) days prior to the commencement of work, the Contractor's independent Environmental Consultant must submit an FSP and an Investigation Health and Safety Plan (Investigation HASP) to OEGS for review and approval, prior to conducting the field sampling. The FSP must include, at a minimum, the following information:
 - a. Project information
 - b. Description of sample collection methodology for soil to be excavated and soil which appears to contain unknown contaminants based on field observation
 - c. Type of analyses
 - d. Sample preservation and handling
 - e. Training and experience of the personnel who will collect the samples
 - f. Equipment Decontamination
 - g. Analytical laboratory's name, address, New York State Department of Health's ELAP certification number, and telephone number
 - h. Map of the project area
 - i. Sample location plan
 - j. Chain of Custody

The Investigation HASP must identify actual and potential hazards associated with planned sampling field activities and stipulate appropriate health and safety procedures, so as to minimize field personnel exposures to physical, biological, and chemical hazards that may be present in the sampling media. The Investigation HASP must include, at a minimum, the following information:

- a. Project information
 - b. Description of work to be performed
 - c. Names of responsible health and safety personnel
 - d. Worker training
 - e. Job hazard analysis
 - f. Confined Space Entry Plan (if applicable)
 - g. Personal monitoring (if applicable)
 - h. Community Air Monitoring Plan (CAMP, if applicable)

- i. Personnel Protection Equipment (PPE)
 - j. Decontamination
 - k. Safety rules
 - l. Spill prevention and control, dust control, vapor/odor suppression procedures
 - m. Identification of nearest hospital and route
 - n. Emergency Incident Reporting
2. The Contractor's Environmental Consultant must collect one (1) grab and one (1) composite sample per 500 cubic yards of soil to be excavated in-situ and/or ex-situ from stockpiles. Sample locations must be placed throughout along the project area. For in-situ sampling, each grab soil sample must be collected from either the 6-inch interval above the water table (when encountered) or the 6-inch interval above the bottom of the proposed excavation depth (where recovery allowed), or from the 6-inch interval showing the highest potential for contamination based on field observation. For composite soil sampling, grid sampling must be performed for projects with excavation depth deeper than six (6) feet below grade. Each composite sample must consist of five (5) grab samples collected from various intervals along the depth of excavation at each sampling location. For stockpiled soils, each composite sample must consist of five (5) grab samples collected from various depths within each soil stockpile, at least two feet below the soil surface. For drummed soil, one (1) composite sample per 10 drums must be collected. Each composite soil sample must consist of one (1) grab sample from each of the 10 drums.
 3. The quality of the data from the sampling program is the Contractor's responsibility. The Contractor must furnish all qualified personnel, materials, equipment and instruments necessary to carry out the sampling. Unless directed otherwise, all sampling procedures must follow the NYSDEC sampling guidelines and protocols. All sampling must be conducted by a qualified person trained in sampling protocols using standard accepted practices for obtaining representative samples.
 4. Each grab and composite sample must be analyzed for all parameters required by disposal facilities accepting contaminated and hazardous soil.
 5. All sample containers must be marked and identified with legible sample labels, which must indicate the project name, sample location and/or container, the sample number, the date and time of sampling, preservatives utilized and other information that may be useful in determining the character of the sample. Chain-of-custody must be tracked from laboratory issuance of sample containers through laboratory receipt of the samples.
 6. The Contractor must maintain a bound sample logbook. The Contractor must provide the Engineer access to it at all times and must turn it over to the Engineer in good condition at the completion of the work. The following information, at a minimum, must be recorded to the log:
 - a. Sample identification number
 - b. Sample location
 - c. Field observation
 - d. Sample type
 - e. Analyses
 - f. Date/time of collection
 - g. Collector's name

- h. Sample procedures and equipment utilized
 - i. Date sent to laboratory and name of laboratory
7. The City reserves the right to direct the Contractor to conduct alternative sampling in lieu of the parameters described in subsection 8.01 C2(1)(B)(4), if the situation warrants. The substitute sampling parameters will be of equal or lesser monetary value than those described in subsection 8.01 C2(1)(B)(4), as determined by industry laboratory pricing standards.
 8. Only dedicated sampling equipment may be used to collect these samples. All equipment involved in field sampling must be decontaminated before being brought to the sampling location, and must be properly disposed after use.
 9. The Contractor's Environmental Consultant must prepare a Field Sampling Result Report (FSSR), tabulate the analytical results, and compare the data to the applicable NYSDEC Part 375.6 Soil Cleanup Objectives, and TCLP for Hazardous Waste published in RCRA and 6 NYCRR Part 371, or 40 CFR Section 261. If the soil is to be disposed of in a disposal facility outside of the State of New York, the soil sampling data must also be compared to the applicable regulatory criteria established by the state in which the disposal facility is located. The FSSR, with the tabulated tables and laboratory analytical data, must be submitted to OEGS for review and approval prior to any soil reuse or disposal activities.
 10. Soils exceeding any of the hazardous characteristic criteria meet the legal definition of hazardous soils (rather than non-hazardous contaminated soils) and must be transported or disposed of under Item 8.01 H – Handling, Transporting and Disposal of Hazardous Soils. All analyses must be done by a laboratory that has received approval from the ELAP for the methods to be used. The Contractor must specify the laboratory in the MHP.
 11. The Contractor must contact the disposal facility where the waste will be sent for permanent disposal, and arrange to collect any additional samples required by the facility. The cost associated with additional sampling and testing must be included in the bid price of this Item.

8.01 C2.2 METHOD OF MEASUREMENT

Quantities for samples must be measured as the number of sets of samples that are tested. A set will be defined as one (1) grab and one (1) composite samples per 500 cubic yards to be analyzed for the full range of parameters as specified in subsection 8.01 C2(1)(B)(4).

8.01 C2.3 PRICE TO COVER

The unit price bid per set for Item 8.01 C2 will include the cost of furnishing all labor, materials, equipment, plan, and insurance necessary for sampling, handling, transporting, testing, documentation, fees, permits, and any other incidentals necessary to complete the work as specified herein for in-situ and ex-situ soil sampling and analysis for waste disposal parameters.

Payment will be made under:

<u>ITEM NUMBER</u>	<u>ITEM</u>	<u>PAYMENT UNIT</u>
8.01 C2	In-Situ and Ex-Situ Soil Sampling and Analysis for Waste Disposal Parameters	Set

ITEM 8.01 H HANDLING, TRANSPORTING, AND DISPOSAL OF HAZARDOUS SOILS

8.01 H.1 WORK TO INCLUDE

A. General

This work will consist of the handling, transportation, and disposal of hazardous soils, which are defined as soils showing exceedances of TCLP for Hazardous Waste published in RCRA, 6 NYCRR Part 371, or 40 CFR Section 261. Hazardous soil can also be contaminated soils, as defined in Item 8.01 C1, but must be handled, transported, and disposed of as hazardous soil under Item 8.01 H, in accordance with the specifications herein. For the purpose of this specification, soils will be defined as any materials excavated below the pavement and base for pavement.

The Contractor must ensure that all operations associated with the handling, sampling, loading, transportation, and disposal of hazardous materials are in compliance with the applicable Federal, State, and Local statutes and regulations. The Contractor must supply all equipment, material and labor required to conduct the specified work under this section.

The Contractor must document the excavation, handling, sampling, and testing, transportation, and disposal of hazardous soils. The City must be listed in the disposal documents as the waste generator.

The Contractor must decontaminate all equipment prior to its removal from the exclusion zone and/or following contact with hazardous materials, as detailed in Item 8.01 S - Health and Safety. Water generated during the decontamination process must be disposed of under Item 8.01 W1 - Removal, Treatment and Discharge/Disposal of Contaminated Water.

The Contractor must retain an independent Environmental Consultant, meeting the requirements specified in Section 8.01 C1. The independent Environmental Consultant must conduct sampling for laboratory analysis of soil to be excavated to determine whether the soil is contaminated and/or hazardous.

All work under Item 8.01 H must be performed under the direct supervision of the Contractor's Environmental Consultant, as approved by the OEGS.

B. Material Handling Plan:

At least 45 days prior to the commencement of work, the Contractor must submit to the OEGS for review a MHP. The MHP must be approved by the OEGS prior to the Contractor beginning any soil excavation work. The MHP must, at a minimum, consist of:

1. The Contractor's procedures for identifying hazardous soils during excavation, including the specific model and manufacturer of intended organic vapor monitoring equipment and calibration procedures to be used. It should also include the training and experience of the personnel who will operate the equipment.
2. The Contractor's procedures for safely handling hazardous soils or soils which have not yet been tested but are believed to be potentially hazardous. The procedures must include personnel safety and health as well as environmental protection considerations.
3. Name, address, NYSDOH ELAP status and telephone number of the proposed laboratory for analysis of representative soil samples.
4. Identification of the Contractor's proposed waste transporter(s). This information must include:
 1. Name and Waste Transporter Permit Number
 2. Address
 3. Name of responsible contact for the waste transporter

4. Telephone number for the contact
5. All necessary permit authorizations for each type of waste transported
6. Previous experience in performing the type of work specified herein
5. The name and location of the facility where an off-site scale is located. The Contractor must outline the procedures on controlling trucks leaving the work site and en-route to the off-site scale.
6. All staging/stockpiling areas (if stockpiling areas are intended and available), or alternate procedures that will be used. Alternate procedures may include, but are not limited to, agreements from the intended disposal facilities to accept boring data and/or analytical data previously obtained during the site characterization so that materials may be directly loaded into vehicles for shipment to the disposal facility.
7. A backup facility must be provided, should the staging/stockpile areas become unavailable, insufficient in area or not be present by some other unforeseen difficulty.
8. Identification of the Contractor's two proposed Treatment Storage or Disposal (TSD) facilities for hazardous soils (primary and back-up) for final disposal of the hazardous soils. Both primary and backup TSD facilities must be currently USEPA or State-approved RCRA TSD facilities for hazardous soils. The information required for each facility must include:
 - a. General Information
 7. Facility name and the USEPA identification number
 8. Facility location
 9. Name of responsible contact for the facility
 10. Telephone number for contact
 11. Signed letter of agreement to accept waste as specified in this contract. The letter must indicate agreement to handle and accept the specified estimated quantities and types of material during the time period specified in the project schedule and any time extension as deemed necessary.
 12. Unit of measure utilized at disposal facility for costing purposes
 - b. A listing of all permits, licenses, letters of approval, and other authorizations to operate, which are currently held and valid for the proposed facility.
 - c. A listing of all permits, licenses, letters of approval, and other authorizations to operate which have been applied for by the proposed facility but not yet granted or issued.
 - d. The Contractor must specify and describe the disposal/containment unit(s) that the proposed facility will use to manage the waste. The Contractor must identify the capacity available in the units and the capacity reserved for the subject waste.
 - e. The Contractor must provide the date of the proposed facility's last compliance inspection under RCRA.
 - f. A list of all active (unresolved) compliance orders (or agreements), enforcement notices, or notices of violations issued to the proposed facility must be provided. The source and nature of the cause of violation must be stated, if known.

9. Description of all sampling and field/laboratory analyses that will be needed to obtain disposal facility approval.

8.01 H.2 MATERIALS

- A. The Contractor must provide containers as specified in the USDOT regulations.
- B. The Contractor must provide polyethylene sheeting, which is to be placed under (20 mil. thickness minimum) and over (10 mil. thickness minimum) soil piles.
- C. The Contractor must assure that the waste transporter's appropriate choice of vehicles and operating practices are fitted to prevent spillage or leakage of contaminated material during transportation.
- D. The Contractor must provide, install, and maintain any temporary stockpiling or loading facilities on site as required until completion of material handling activities. The location and design of any such facilities must be included in the MHP.

8.01 H.3 CONSTRUCTION DETAILS

A. Material Handling

1. Immediately after excavation of hazardous soil the Contractor must:
 - a. Load material directly onto drums/trucks/tankers/roll offs for disposal off site. Containers must be labeled as hazardous soil while being held for disposal; or
 - b. If interim stockpiling is required, place hazardous soil on a minimum of 20 mil. polyethylene sheeting and cover it securely by minimum of 10 mil. polyethylene sheeting to protect against cross contamination, airborne dust, leaching or runoff of contaminants into the subsurface, groundwater, or stormwater. Weight or secure the sheeting by appropriate means and seal seams as approved by the Engineer to prevent tearing or removal by wind or weather. Grade surrounding surface to provide for positive drainage away from pile. Each stockpile must not exceed 500 cubic yards. Hazardous soils must be stockpiled separately from uncontaminated and contaminated soil at an off-site location approved by the Engineer or secured on-site by the Contractor, meeting all required Federal, State and Local stipulations. Stockpiles must be labelled as hazardous soil and situated at least 800 feet away from any sensitive receptors, such as schools, daycare center, hospitals, nursing homes, etc., and at least 100 feet away from any water body.
2. Institute appropriate procedures and security measures to ensure the protection of site personnel and the protection of the public from hazardous soils as described in the approved MHP, Site HASP, and Item 8.01 S - Health and Safety.
3. Any soil encountered that appears to contain unknown contaminants (based on visual, odor, or other observation), or that vary substantially from the material originally identified must be segregated in stockpiles and the independent Environmental Consultant promptly notified to collect soil samples for analysis. Construct stockpiles to the same requirements as stated in subsection (A)(1)(b) above.
4. Provide any dewatering that is necessary to complete the work. Contaminated water must be disposed of in accordance with Item 8.01 W1 - Removal, Treatment and Discharge/Disposal of Contaminated Water.

5. Provide and operate field organic vapor test equipment, a PID or a FID, to detect general organic vapor levels at intervals of approximately 50 cubic yards of soil excavated, when visual or odor observations indicate the material may substantially differ from the soil previously excavated and/or as directed by the independent Environmental Consultant.

C. Off-Site Transportation to Disposal Facility

1. General

- a. The Contractor must furnish all labor, equipment, supplies and incidental costs required to transport contaminated material from the work area to the off-site disposal facility, and any other items and services required for transporting hazardous material for disposal at an off-site facility.
- b. The Contractor is responsible for obtaining the USEPA hazardous waste generator identification number for the City. The application must be submitted to OEGS for review and approval prior to submission to USEPA. The Contractor must prepare the annual hazardous waste report for the project and submit to the NYSDEC and USEPA.
- c. The Contractor will be responsible for tracking all material/vehicles from the site to the off-site scale and to the approved disposal facility.
- d. The Contractor must provide to the Engineer certified tare and gross weight slips for each load received at the accepted facility which must be attached to each returned manifest. These documents must be maintained and kept with project field records.
- e. Hazardous soils must be delivered to the disposal or treatment facility within 30 calendar days after excavation.
- f. The Contractor must coordinate the schedule for truck arrival and material deliveries at the job site to meet the approved project schedule.
- g. The Contractor must inspect all vehicles leaving the project site to ensure that hazardous soils adhering to the wheels or undercarriage are removed prior to the vehicle leaving the site.
- h. The Contractor must obtain letters of commitment from the waste haulers and the TSD facility to haul and accept shipments.
- i. The Contractor must provide waste profile forms to OEGS for review and approval before transporting hazardous soil to the approved TSD facility.

2. Hauling

- a. The Contractor must coordinate manifesting, placarding of shipments, and vehicle decontamination. All quantities must be measured and recorded upon arrival at the disposal facility. If any deviation between the two records occurs, the matter is to be reported immediately to the Engineer and to be resolved by the Contractor to the satisfaction of the Engineer.
- b. The Contractor will be responsible, at its own cost for any and all actions necessary to remedy situations involving material spilled in transit or mud and dust tracked off-site.
- c. The Contractor must ensure that trucks are protected against contamination by properly covering and lining them with polyethylene sheeting or by decontaminating them prior to and between acceptances of loads. Trucks with loaded contaminated soil must be covered securely with tarp before leaving the project site to prevent generation of airborne dust during hauling.

- d. The Contractor will be responsible for inspecting the access routes for road conditions, overhead clearance, and weight restrictions.
 - e. The Contractor must only use the transporter(s) identified in the approved MHP for the performance of work. Only a transporter with a current Part 364 Waste Transporter Permit from NYSDEC may transport hazardous soil. A revised MHP or an addendum to the original approved MHP must be submitted to OEGS for review and approval at no additional cost to the City for any use of substitute or additional transporters.
 - f. The Contractor must develop, document, and implement a policy for accident prevention.
 - g. The Contractor must not combine hazardous materials from other projects with material from this project.
 - h. No material will be transported until approval by the Engineer is obtained.
3. Off-Site Disposal
- a. The Contractor must use only the disposal facility(ies) identified in the approved MPH for the performance of the work. A revised MHP or an addendum to the original approved MHP must be submitted to OEGS for review and approval at no additional cost to the City for any use of substitutions or additions of disposal facility.
 - b. The Contractor will be responsible for acceptance of the materials at an approved facility, for ensuring that the facility is properly permitted to accept the stated materials, and for ensuring that the facility provides the stated treatment and/or disposal services.
 - c. The City reserves the right to contact and visit the TSD facility and regulatory agencies to verify the agreement to accept the stated materials and to verify any other information provided.
 - d. In the event that the identified and approved facility ceases to accept the stated materials or the facility ceases operations, it is the Contractor's responsibility to locate an alternate approved and permitted facility(ies) for accepting materials. The alternate facility(ies) must be approved in writing by the Engineer in the same manner and with the same requirements as for the original facility(ies). This must be done at no extra cost or delay to the City.
 - e. The Contractor must obtain manifest forms, and complete the shipment manifest records required by the appropriate regulatory agencies for verifying the material and quantity of each load in unit of volume and weight. Copies of each manifest must be submitted to the Engineer within four (4) business days following shipment, and within three (3) business days after notification of receipt of the facility. The signed manifests must be maintained and kept with the project field records. Any manifest discrepancies must be reported immediately to the Engineer and be resolved by the Contractor to the satisfaction of the Engineer.
 - f. The Contractor must submit all results and weights to the Engineer.
 - g. The Contractor is responsible to pay all fees associated with the generation and disposal of all excavated hazardous waste. These fees include, but are not limited to, the New York State Department of Finance and Taxation (DFT) quarterly fees for hazardous waste and the NYSDEC annual hazardous waste regulatory fee program. The Contractor must submit a copy of proof of payment to the Engineer and OEGS.

4. Equipment and Vehicle Decontamination

- a. The Contractor must design and construct a portable decontamination station to be used to decontaminate equipment and vehicles that have been used to handle contaminated soil. The cost for this work will be paid under Item 8.01 S - Health and Safety.
- b. Water generated during the decontamination process must be disposed of in accordance with Item 8.01 W1 – Removal, Treatment, and Discharge/Disposal of Contaminated Water.

8.01 H.4 METHOD OF MEASUREMENT

Quantities for hazardous soils will be measured in tons. The tonnage will be determined by off-site truck scales, as per Subsection 8.01 H1.3.B, that are capable of generating load tickets.

8.01 H.5 PRICE TO COVER

- B. The unit bid price bid per ton for Item 8.01 H will include the cost of furnishing all labor, materials, equipment, plan, and insurance for excavation, handling, transportation, disposal, documentation, fees, permits, loading, stockpiling, hauling, and any other incidentals necessary to complete all the work as specified herein for handling, transporting, and disposal of hazardous soil.
- B. Final disposal of contaminated soil will be paid for under Item 8.01 C1 – Handling, Transporting and Disposal of Non-Hazardous Contaminated Soils. Disposal of decontamination water will be paid for under Item 8.01 W1 – Removal, Treatment and Discharge/Disposal of Contaminated Water.
- C. Backfill will be paid for under its respective item as specified in the contract document.
- D. The independent Environmental Consultant will be paid under Item 8.01 S – Health and Safety.

Payment will be made under:

<u>ITEM NUMBER</u>	<u>ITEM</u>	<u>PAYMENT UNIT</u>
8.01 H	Handling, Transporting, and Disposal of Hazardous Soil	Tons

ITEM 8.01 S HEALTH AND SAFETY

8.01 S.1 WORK TO INCLUDE

Health and Safety Requirements

A. Scope of Work

It is the Contractor's responsibility to stage and conduct the Contractor's work in a safe manner. The Contractor must implement a Health and Safety Plan (HASP) for contaminated/hazardous soil intrusive activities as set forth in OSHA Standards 1910.120 and 1926.650-652. The Contractor must ensure that all workers have at a minimum hazard awareness training. The Contractor must segregate contaminated work area in secured exclusion zones. These zones must limit access to Contractor personnel specifically trained to enter the work area. The exclusion zone must be set up to secure the area from the public and untrained personnel. The project health and safety program will apply to all construction personnel including persons entering the work area. In addition, the Contractor must protect the public from on-site hazards, including subsurface contaminants associated with on-site activities. The HASP must be signed off by a Certified Industrial Hygienist and reviewed and approved by OEGS.

Work must include, but not be limited to:

1. Implementation of a baseline medical program.
2. Providing safety equipment and protective clothing for site personnel, including maintenance of equipment on a daily basis; replacement of disposable equipment as required; decontamination of clothing, equipment and personnel; and providing all other health and safety measures.
3. Providing, installing, operating and maintaining on-site emergency medical first aid equipment as specified in this section for which payment is not provided under other pay items in this Contract.
4. Providing, installing, operating, maintaining and decommissioning all equipment and personnel decontamination facilities specified within this section, including, but not limited to, the decontamination pad, decontamination water supply, decontamination water collection equipment and all other items and services required for the implementation of the health and safety requirements for which pay items are not provided elsewhere in this Contract.
5. Provide the minimum health and safety requirements for excavation activities within the limits of this Contract.
6. Implement and enforce a HASP: The HASP as presented in these specifications is dynamic with provisions for change to reflect new information, new practices or procedures, changing site environmental conditions or other situations which may affect site workers and the public. The HASP will also address measures for community protection, accident prevention, personnel protection, emergency response/contingency planning, air monitoring, odor control and hazardous chemicals expected on site. Providing a Confined Space Entry Program as defined in the Occupational Safety and Health Act, Confined Space Entry Standard, 29 CFR 1910.146.

B. Environmental Consulting Services

The Contractor must retain an independent Environmental Consultant to obtain all permits and perform all field screening, air monitoring, community air monitoring, soil and water sampling, and health and safety services.

4. If conditions within the exclusion zone are deemed hazardous, then the Contractor and its independent Environmental Consultant must ensure that all personnel working within identified exclusion zones and/or involved (direct contact) with the handling, storage or transport of hazardous and contaminated materials must have completed a minimum of forty (40) hours of Health and Safety Training on Hazardous Waste Sites in accordance with 29 CFR 1910.120(e). The training program must be conducted by a qualified safety instructor. If conditions in the exclusion zone are deemed to be non-hazardous, the independent Environmental Consultant must provide site specific training.
5. The Contractor must ensure that on-site management and supervisors directly responsible for or who supervise employees engaged in hazardous waste operations must receive the training specified in above and at least eight (8) additional hours of specialized training on managing such operations at the time of job assignment.

C. Submittals

1. The Contractor must submit a written HASP, as specified herein, to OEGS for review and approval. The written HASP must be submitted, within thirty (30) calendar days after the availability of analytical results of the soil and groundwater testing, as required under Section 8.01 C2 and Section 8.01 W2. The Contractor must make all necessary revisions required by OEGS and resubmit the HASP to OEGS for acceptance. Start-up work for the project will not be permitted until written acceptance has been issued by OEGS.
2. Daily safety logs must be maintained by the Contractor and must be submitted to the Engineer either on request or on completion of the work. Training logs must be maintained by the Contractor and submitted to the Engineer either on request or on completion of the work. Daily logs on air monitoring during excavation activities must be prepared and maintained by the Contractor and submitted to the Engineer either on request or upon completion of the work.
3. A closeout report must be submitted by the Contractor to the Engineer upon completion of the work within the defined exclusion zones. This report must summarize the daily safety and monitoring logs and provides an overview of the Contractor's performance regarding environmental and safety issues. The report must carefully document all areas where contamination has been found including pictures, addresses of locations, and potential sources.
4. Medical Surveillance Examinations: The Contractor must submit to the Engineer the name, office address and telephone number of the medical consultant utilized. Evidence of baseline medical examinations together with the evidence of the ability to wear National Institute for Occupational Safety and Health (NIOSH) approved respirators (as specified in American National Standards Institute (ANSI) Z88.6) must be provided to the Engineer for all construction personnel who are to enter the exclusion zones.
5. Accident Reports: All accidents, spills, or other health and safety incidents must be reported to the Engineer.

D. Health and Safety Plan

The HASP must comply with OSHA regulations 29 CFR 1910.120/1926.65. This document must at a minimum contain the following:

1. Description of work to be performed
2. Site description
3. Key personnel
4. Worker training procedures

5. Work practices and segregation of work area
6. Hazardous substance evaluation
7. Hazard assessment
8. Personal and community air monitoring procedures and action levels
9. Personal protective equipment
10. Decontamination procedures
11. Safety rules
12. Emergency procedures
13. Spill prevention and control, as well as spill reporting procedures
14. Dust control, vapor/odor suppression procedures
15. Identification of the nearest hospital and route
16. Confined space procedures
17. Excavation safety procedures

8.01 S.2 MEASUREMENT

Health and Safety Requirements

- A. 25% of the lump sum price will be paid when the following items are implemented or mobilized:
 - Medical surveillance program
 - Health and safety training
 - Health and safety plan
 - Environmental and personnel monitoring
 - Instrumentation
 - Spill control
 - Dust control
 - Personnel and equipment decontamination facilities
 - Personnel protective clothing
 - Communications
 - Mobilization
- B. 50% will be paid in proportional monthly amounts over the period of work.
- C. 25% will be paid when the operation is demobilized and removed from the project site.

8.01 S.3 PRICE TO COVER

Health and Safety Requirements

The lump sum price bid for the health and safety requirements will include all labor, materials, equipment, and insurance necessary to complete the work in accordance with these specifications. The price bid will include, but not be limited to, the following:

- A. Providing training, safety personnel, air monitoring and medical examinations as specified.
- B. Providing safety equipment and protective clothing for site personnel, including maintenance of equipment on a daily basis; replacement of disposable equipment as required; decontamination of clothing, equipment and personnel; and all other health and safety activities or costs not paid for under other pay items in this Contract.
- C. Providing, installing, operating and maintaining on-site emergency medical and first aid equipment. This includes all furnishings, equipment, supplies and maintenance of all medical equipment, and all other health and safety items and services for which payment is not provided under other pay items in this Contract.
- D. Providing, installing, operating, maintaining, and decommissioning all personnel and equipment decontamination facilities, including decontamination pad, decontamination water supply, and all other items and services required for the implementation of the health and safety requirements for which pay items are not provided elsewhere in this Contract. Vehicle decontamination pads will be included in the price of this item. Disposal of decontamination fluid will be paid for under Item 8.01 W1 – Removal, Treatment and Discharge/Disposal of Contaminated Water.
- E. Spill Control
 - 1. Payment will account for furnishing, installing, and maintaining all spill control equipment and facilities. Payment will include equipment and personnel to perform emergency measures required to contain any spillage and to remove spilled materials and soils or liquids that become contaminated due to spillage during work within the exclusion zones and handling of excavated soils and liquids from these areas. This collected spill material will be properly disposed of.
 - 2. Payment under this item will not include testing, handling, transportation or disposal of petroleum-contaminated/potentially hazardous soils excavated during construction. The price for this work will be paid for under Items 8.01 C1 – Handling, Transporting and Disposal of Non-Hazardous Contaminated Soils, 8.01 C2 – Sampling and Testing of Contaminated/Potentially Hazardous Soil for Disposal Parameters or 8.01 H – Handling, Transporting and Disposal of Hazardous Soils, as appropriate.
- F. Dust Control

Payment will account for furnishing, installing, and maintaining dust control equipment and facilities to be used whenever applicable dust levels are exceeded. Payment will include all necessary labor, equipment, clean water, foam, and all other materials required by the Dust Control Plan. The NYSDOH Community Air Monitoring Plan (CAMP) may be used as guidance.
- G. Vapor/Odor Suppression

Payment will account for furnishing, installing and maintaining vapor/odor control equipment and facilities to be used whenever organic vapor monitoring or the presence of odors indicates that vapor suppression is required to protect workers or the public. Payment will include all necessary labor, equipment, clean water, foam and all other materials required by the Vapor/Odor Suppression Plan.
- H. Mobilization/Demobilization
 - 1. Mobilization

Payment will include the following, but not be limited to:

 - a. All work required to furnish, install and maintain all signs, fencing, support zone facilities, parking areas and all temporary utilities;

- b. All work required to furnish, install, and maintain an office space with phone and utilities for health and safety personnel;
- c. All work required for complete preparation of lay down area for roll-off containers, including sampling, and any required fencing;
- d. All direct invoiced cost from bonding companies and government agencies for permits and costs of insurance; and
- e. All other items and services required for mobilization and site preparation.

2. Demobilization

Payment will include but not be limited to: All work required to sample the area; remove from the site all equipment, temporary utilities and supporting facilities; performance of necessary decontamination and repairs; disposal of disposable equipment and protective gear and other items and services required for complete demobilization.

Payment will be made under:

<u>ITEM NUMBER</u>	<u>ITEM</u>	<u>PAYMENT UNIT</u>
8.01 S	Health and Safety	Lump Sum

ITEM 8.01 W1 REMOVAL, TREATMENT, AND DISCHARGE/DISPOSAL OF CONTAMINATED WATER

8.01 W1.1 WORK TO INCLUDE

General: This work must consist of the proper removal and disposal of all contaminated groundwater and decontamination water generated during construction operations. The Contractor must be solely responsible for the proper disposal or discharge of all contaminated water generated at the job site. The Contractor will have the option of treating water on-site for discharge to the sewer system or removing contaminated water for off-site disposal. The Contractor must be responsible to choose a method compatible to the construction work and will be compensated on a per day basis regardless of method employed. The Contractor will be compensated for only those days where the system is in full operation.

The Contractor must retain a dewatering/water treatment Specialist (hereinafter the "Specialist") and laboratory as specified under Item 8.01 W2 – Sampling and Testing of Contaminated Water, to conduct any testing that may be required for disposal of impacted water.

The dewatering/water treatment Specialist is responsible to obtain all permits; perform all water sampling, testing; and provide ancillary services related to dewatering and water treatment. The Specialist must at a minimum provide documentation to OEGS demonstrating the minimum requirements as set forth below:

1. The Specialist must demonstrate that it has, at a minimum, three (3) years' experience in the design of dewatering plans. The Specialist should demonstrate expertise dealing with issues associated with contaminated water. During that three (3) year period, the Specialist must demonstrate that it provided dewatering and water treatment systems as a routine part of its daily operations.
2. The Specialist must be experienced in work of this nature, size, and complexity and must have previous experience in working with the NYCDEC.
3. The Specialist must furnish a project listing identifying the location, nature of services provided, owner, owner's contact, contact's telephone number, project duration and value for at least five (5) projects within the last three (3) years of a similar nature, size, and complexity to this one.
4. If conditions within the exclusion zone are deemed hazardous, then the Contractor and its independent Environmental Consultant must ensure that all personnel working within identified exclusion zones and/or involved (direct contact) with the handling, storage or transport of hazardous and contaminated material must have completed a minimum of forty (40) hours of Health and Safety Training on Hazardous Waste Sites in accordance with 29 CFR 1910.120(e). The training program must be conducted by a qualified safety instructor. If conditions in the exclusion zone are deemed to be non-hazardous, the Specialist will be responsible to provide site-specific training to its employees and other affected personnel.
5. The Contractor must ensure that on-site management and supervisors directly responsible for or who supervise employees engaged in hazardous waste operations must receive the training specified in above and at least eight (8) additional hours of specialized training on managing such operations at the time of job assignment.

The Contractor must document all operations associated with the handling, sampling and disposal of contaminated water, and ensure that they are in compliance with applicable Federal, State and Local statutes and regulations.

The Contractor must supply all labor, equipment, transport, plant, material, treatment, and other incidentals required to conduct the specified work of this section.

If water will be disposed of into the sewer system, the Contractor must ensure the Specialist treats the water to comply with the New York City Department of Environmental Protection (NYCDEP) Sewer Effluent Limit concentrations prior to discharge. The Contractor is responsible for providing settling or filtering tanks and any other apparatus required by NYCDEP. Alternatively, the Contractor can provide a plan for transport and disposal at an off-site waste disposal facility.

Within forty-five (45) calendar days after award of Contract, the Contractor must submit to OEGS for review and approval, a Water Handling Plan (WHP). The WHP must be approved by OEGS prior to the Contractor's commencement of work. The minimum requirements for the WHP are specified herein Item 8.01W 1.2, for each type of disposal (disposal into the sewer or off-site disposal). The Contractor must maintain a complete, up to date copy of the WHP on the job site at all times.

8.01 W1.2 CONSTRUCTION DETAILS

For each disposal method the Contractor proposes to utilize (disposal to sewer or off-site disposal), the WHP must include the information required in paragraphs A and B below, as appropriate.

A. On-site treatment and discharge into New York City sewers.

1. Regulations: The Contractor must comply with all applicable regulations. This includes but may not be limited to:
Title 15-New NYCDEP Sewer Use Regulations.
2. Permits: The Contractor is solely responsible to obtain all necessary and appropriate Federal, State and Local permits and approvals. The Contractor will be responsible for performing all and any system pilot tests required for permit approval. This includes but may not be limited to:
 - a. Industrial waste approval for the New York City sewer system.
 - b. Groundwater discharge permit for the New York City sewer system (NYCDEP Division of Sewer Regulation and Control), if discharge to sewer exceeds 10,000 gallons per day.
 - c. The Contractor must comply with NYCDEC State Pollutant Discharge Elimination System (SPDES) Permit Number GP-0-10-001, General Permit for Stormwater Discharges.
 - d. Long Island well permit for Brooklyn and Queens sites, if well points are used for dewatering.
 - e. Wastewater quality control application, NYCDEP.
3. The WHP for this portion of the work must include the following at a minimum:
 - a. Identification and design of Contractor's proposed treatment to assure that the water meets the NYCDEP sewer use guidelines prior to discharge to the sewer, including identification of all materials, procedures, settling or filtering tanks, filters and other appurtenances proposed for treatment and disposal of contaminated water.
 - b. The name, address and telephone number of the contact for the Contractor's proposed chemical laboratory, as well as the laboratory's certifications under Federal, State or non-governmental bodies.

- c. The name, address and telephone number of the contact for the Contractor's proposed independent Environmental Consultant.
- d. Copies of all submitted permit applications and approved permits the Contractor have received.

4. Materials

The Contractor must supply all settling or filtering tanks, pumps, filters, treatment devices and other appurtenances for treatment, temporary storage and disposal of contaminated water. All equipment must be suitable for the work described herein.

5. Execution

- a. The Contractor is solely responsible for disposal of all water, in accordance with all Federal, State and Local regulations.
- b. The Contractor is solely responsible for any treatment required to assure that water discharged into the sewer is in compliance with all permits and Federal, State and Local statutes and regulations.
- c. The Contractor is solely responsible for the quality of the water disposed of into the sewers.
- d. The Contractor is responsible for sampling and testing of water for the NYCDEP Sewer Effluent Limit concentrations. The quality of the data is the Contractor's responsibility. Any sampling and testing must be conducted and paid in accordance with Item 8.01 W2 – Sampling and Testing of Contaminated Water.
- e. The Contractor will be responsible to maintain the discharge rate to the sewer such that all permit requirements are met, the capacity of the sewer is not exceeded and no surcharging occurs downstream due to the Contractor's actions. Dewatering by means of well points or deep wells will not be allowed in the Boroughs of Brooklyn or Queens where the rate of pumping exceeds forty-five (45) gallons per minute unless the appropriate permit has been secured from the NYCDEC.
- f. Disposal of Treatment Media
 - (1) The Contractor will be responsible for disposal or recycling of treatment media in accordance with all Federal, State and Local regulations.
 - (2) The Contractor must provide the Engineer with all relevant documentation concerning the disposal of treatment media, including manifests, bills of lading, certificates of recycling or destruction and other applicable documentation.
 - (3) **Disposal of treatment media will not be considered as a separate pay item; instead it will be considered as incidental work thereto and included in the unit price bid.**

B. Off-Site Disposal

- 1. Regulations: The Contractor must conform to all applicable Federal, State and Local regulations pertaining to the transportation, storage and disposal of any hazardous and/or non-hazardous materials as listed in Attachment 2.
- 2. The following must be submitted to the Engineer prior to initiating any off-site disposal:
 - a. (1) Name and waste transporter permit number

- (2) Address
 - (3) Name of responsible contact for the waste transporter
 - (4) Any and all necessary permit authorizations for each type of waste transported
 - (5) Previous experience in performing the type of work specified herein
- b. General information for each proposed treatment/disposal facility and at least one backup treatment/disposal facility
- (1) Facility name and USEPA identification number
 - (2) Facility location
 - (3) Name of responsible contact for the facility
 - (4) Telephone number for contact
 - (5) Unit of measure utilized at facility for costing purposes
- c. A listing of all permits, licenses, letters of approval and other authorizations to operate, which are currently held and valid for the proposed facility as they pertain to receipt and management of the wastes derived from this Contract.
- d. A listing of all permits, licenses, letters of approval and other authorizations to operate which have been applied for by the proposed facility but not yet granted or issued. Provide dates of application(s) submitted. Planned submittals must also be noted.
- e. The Contractor must specify and describe the disposal/containment unit(s) that the proposed facility will use to manage the waste and provide dates of construction and beginning of use, if applicable. Drawings may be provided. The Contractor must identify the capacity available in the units and the capacity reserved for the subject waste.
- f. The Contractor must provide the date of the proposed facility's last compliance inspection.
- g. A list of all active (unresolved) compliance orders, agreements, enforcement notices or notices of violations issued to the proposed facility must be submitted. The source and nature of the cause of violation must be stated, if known. If groundwater contamination is noted, details of the facility's groundwater monitoring program must be provided.
- h. Description of all sampling and field/laboratory analyses that will be needed to obtain disposal facility approval.
3. Materials
- All vessels for temporary storage and transport to an off-site disposal facility must be as required in DOT regulations.
4. Execution
- a. General
- (1) The Contractor must organize and maintain the material shipment records/manifests required by Federal, State and Local laws. The Contractor must include all bills of lading, certificates of destruction, recycling or treatment and other applicable documents.

- (2) The Contractor must coordinate the schedule for truck arrival and material deliveries at the job site to meet the approved project schedule. The schedule must be compatible with the availability of equipment and personnel for material handling at the job site.
- (3) The Contractor must inspect all vehicles leaving the project site to ensure that contaminated liquids are not spilling and are contained for transport.
- (4) The Contractor must obtain letters of commitment from the waste haulers and the treatment, disposal or recovery facility to haul and accept shipment. The letter must indicate agreement to handle and accept the specified estimated quantities and types of material during the time period specified in the project schedule and any time extension as deemed as necessary.
- (5) The Contractor must verify the volume of each shipment of water from the site.
- (6) The Contractor is responsible for sampling and testing of water for off-site disposal. The quality of the data is the Contractor's responsibility. Any sampling and testing must be conducted and paid in accordance with Item 8.01 W2 – Sampling and Testing of Contaminated Water.
- (7) The Contractor is responsible for any additional analyses required by the TSD facility, and for the acceptance of the water at an approved TSD facility.

b. Hauling

- (1) The Contractor must not deliver waste to any facility other than the TSD facility(ies) listed on the shipping manifest.
- (2) The Contractor must coordinate manifesting, placarding of shipments, and vehicle decontamination. All quantities must also be measured and recorded upon arrival at the TSD facility(ies). If any deviation between the two records occurs, the matter is to be reported immediately to the Engineer and must be resolved by the Contractor to the satisfaction of the Engineer.
- (3) The Contractor will be responsible for any and all actions necessary to remedy situations involving material spilled in transit or mud and dust tracked off-site. This cleanup must be accomplished at the Contractor's expense.
- (4) The Contractor will be responsible for inspecting the access routes for road conditions, overhead clearance and weight restrictions.
- (5) The Contractor must only use the transporter(s) identified in the WHP for the performance of work. Only a transporter with a current Part 364 Waste Transporter Permit from NYCDEC may transport this material. Any use of substitute or additional transporters must have previous written approval from the Engineer at no additional cost to the City.
- (6) The Contractor must develop, document, and implement a policy for accident prevention.
- (7) The Contractor must not combine waste materials from other projects with material from this project.
- (8) The Contractor must obtain for the City a hazardous waste generator identification number and will sign the manifest as the generator, if necessary.

(9) No material must be transported until approved by the Engineer.

c. Disposal Facilities

- (1) The Contractor must use only the TSD facility(ies) identified in the WHP for the performance of the work. Substitutions or additions must not be permitted without prior written approval from OECS, and, if approved, must be at no extra cost to the City.
- (2) The Contractor will be responsible for acceptance of the material at an approved TSD facility, for ensuring that the facility is properly permitted to accept the stated material, and that the facility provides the stated storage and/or disposal services.
- (3) The City reserves the right to contact and visit the disposal facility and regulatory agencies to verify the agreement to accept the stated material and to verify any other information provided. This does not in any way relieve the Contractor of the Contractor's responsibilities under this Contract.
- (4) In the event that the identified and approved facility ceases to accept the stated materials or the facility ceases operations, it is the Contractor's responsibility to locate an alternate approved and permitted facility(ies) for accepting materials. The Contractor is responsible for making the necessary arrangements to utilize the facility(ies), and the alternate facility(ies) must be approved in writing by the Engineer in the same manner and with the same requirements as for the original facility(ies). This must be done with no extra cost or delay to the City.

d. Equipment and Vehicle Decontamination

- (1) The Contractor must design and construct a portable decontamination station to be used to decontaminate equipment and vehicles exiting the exclusion zone. The cost for this work will be paid under Item 8.01 S – Health and Safety.

8.01 W1.3 METHOD OF MEASUREMENT

The quantity for on-site treatment and discharge or off-site disposal will be on a per day basis.

8.01 W1.4 PRICE TO COVER

- A. The per day price bid for Item 8.01 W1 will include the cost of furnishing all labor, materials, equipment, plan, and insurance for handling, transportation, disposal, documentation, permits, hauling, mobilization and demobilization, and any other incidentals thereto to complete the work.
- B. The Contractor will not be paid for water that is within the NYCDEP Sewer Discharge Limits.

Payment will be made under:

<u>ITEM NUMBER</u>	<u>ITEM</u>	<u>PAYMENT UNIT</u>
8.01 W1	Removal, Treatment and Disposal/Discharge of Contaminated Water	Day

ITEM 8.01 W2 SAMPLING AND TESTING OF CONTAMINATED WATER

8.01 W2.1 WORK TO INCLUDE

A. Description

The work will consist of sampling and testing of potentially contaminated groundwater, surface runoff within the excavated area and all contaminated water generated during the decontamination process.

B. Sampling and Testing

1. The Contractor is responsible, at a minimum, for sampling and testing of contaminated water for the NYCDEP Sewer Effluent Limit concentrations as listed in Attachment 1, and in accordance with the Engineer-approved SSP/FSP and the Investigation HASP, as specified in 8.01 C2. The quality of the data is the Contractor's responsibility. Any additional testing required by the Federal, State and/or disposal facilities must be included in the bid price of this Item.
2. All sampling and testing must be conducted by a person trained in sampling protocols using accepted standard practices and/or the NYCDEC sampling guidelines and protocols.
3. All sample containers must be marked with legible sample labels which must indicate the project name, sample location and/or container, the sample number, the date and time of sampling, preservatives utilized, how the sample was chilled to 4 degrees Celsius, and other information that may be useful in determining the character of the sample.
4. Chain-of-custody must be tracked from laboratory issuance of sample containers through receipt of the samples.
5. The Contractor must maintain a bound sample log book. The Contractor must provide the Engineer access to it at all times and must turn it over to the Engineer in good condition at the completion of the work. The following information, as a minimum, must be recorded to the log:
 - a. Sample identification number
 - b. Sample location
 - c. Field observation
 - d. Sample type
 - e. Analyses
 - f. Date/time of collection
 - g. Collector's name
 - h. Sample procedures and equipment used
 - i. Date sent to laboratory/name of laboratory
6. Only dedicated sampling equipment may be used to collect these samples. All equipment involved in field sampling must be decontaminated before being brought to the site, and must be properly disposed of after use.
7. Samples must be submitted to the Contractor's laboratory within the holding times for the parameters analyzed.

8. All analyses must be done by a laboratory that has received approval from the NYSDOH's ELAP for the methods to be done. The Contractor must specify the laboratory in the WHP.
9. Analytical results for water discharged to the sewer and for off-site disposal must be submitted to the Engineer no later than five (5) days after sample collection.
10. The City reserves the right to direct the Contractor to conduct alternative sampling in lieu of the parameters described above, if the situation warrants. The substitute sampling parameters will be of equal or lesser monetary value than those described above, as determined by industry laboratory pricing standards.

8.01 W2.2 METHOD OF MEASUREMENT

Quantities for samples will be measured as the number of sets of samples that are tested for the NYCDEP Sewer Effluent Limit concentrations. A set will be defined as one (1) representative sample analyzed for the full range of NYCDEP parameters as specified in Attachment 1.

8.01 W2.3 PRICE TO COVER

The unit price bid per set for Item 8.01 W2 will include the cost of furnishing all labor, materials, equipment, plan, and insurance for handling, transport, sampling, testing, documentation, permits, other incidentals necessary to complete the work of sampling and testing of contaminated water. Any additional costs incurred by the Contractor for sampling and testing of contaminated water will be included in the bid price of this Item.

Payment will be made under:

<u>ITEM NUMBER</u>	<u>ITEM</u>	<u>PAYMENT UNIT</u>
8.01 W2	Sampling and Testing of Contaminated Water	Set

ATTACHMENT 1: NYCDEP LIMITATIONS FOR DISCHARGE TO SEWER

**NEW YORK CITY DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTEWATER TREATMENT**

Limitations for Effluent to Sanitary or Combined Sewers

Parameter ¹	Daily Limit	Units	Sample Type	Monthly Limit
Non-polar material ²	50	mg/l	Instantaneous	---
pH	5-11	SU's	Instantaneous	---
Temperature	< 150	Degree F	Instantaneous	---
Flash Point	> 140	Degree F	Instantaneous	---
Cadmium	2	mg/l	Instantaneous	---
	0.69	mg/l	Composite	---
Chromium (VI)	5	mg/l	Instantaneous	---
Copper	5	mg/l	Instantaneous	---
Lead	2	mg/l	Instantaneous	---
Mercury	0.05	mg/l	Instantaneous	---
Nickel	3	mg/l	Instantaneous	---
Zinc	5	mg/l	Instantaneous	---
Benzene	134	ppb	Instantaneous	57
Carbontetrachloride	---	---	Composite	---
Chloroform	---	---	Composite	---
1,4 Dichlorobenzene	---	---	Composite	---
Ethylbenzene	380	ppb	Instantaneous	142
MTBE (Methyl-Tert-Butyl-Ether)	50	ppb	Instantaneous	---
Naphthalene	47	ppb	Composite	19
Phenol	---	---	Composite	---
Tetrachloroethylene (Perc)	20	ppb	Instantaneous	---
Toluene	74	ppb	Instantaneous	28
1,2,4 Trichlorobenzene	---	---	Composite	---
1,1,1 Trichloroethane	---	---	Composite	---
Xylenes (Total)	74	ppb	Instantaneous	28
PCB's (Total) ³	1	ppb	Composite	---
Total Suspended Solids (TSS)	350 ⁴	mg/l	Instantaneous	---
CBOD ⁵	---	---	Composite	---
Chloride ⁵	---	---	Instantaneous	---
Total Nitrogen ⁵	---	---	Composite	---
Total Solids ⁵	---	---	Instantaneous	---

¹ All handling and preservation of collected samples and laboratory analyses of samples must be performed in accordance with 40 C.F.R. pt. 136. If 40 C.F.R. pt. 136 does not cover the

pollutant in question, the handling, preservation, and analysis must be performed in accordance with the latest edition of "Standard Methods for the Examination of Water and Wastewater." All analyses must be performed using a detection level less than the lowest applicable regulatory discharge limit. If a parameter does not have a limit, then the detection level is defined as the least of the Practical Quantitation Limits identified in NYSDEC's Analytical Detectability and Quantitation Guidelines for Selected Environmental Parameters, December 1988

2. Analysis for *non-polar materials* must be done by USEPA method 1664 Rev. A. Non-Polar Material will mean that portion of the oil and grease that is not eliminated from a solution containing N-Hexane, or any other extraction solvent the USEPA will prescribe, by silica gel absorption.
3. Analysis for PCBs is required if *both* conditions listed below are met:
 - 1) if proposed discharge $\geq 10,000$ gpd;
 - 2) if duration of a discharge > 10 days.Analysis for PCBs must be done by USEPA method 608 with MDL= <65 ppt. PCB's (total) is the sum of PCB-1242 (Arochlor 1242), PCB-1254 (Arochlor 1254), PCB-1221 (Arochlor 1221), PCB-1232 (Arochlor 1232), PCB-1248 (Arochlor 1248), PCB-1260 (Arochlor 1260) and PCB-1016 (Arochlor 1016).
4. For discharge $\geq 10,000$ gpd, the TSS limit is 350 mg/l. For discharge $< 10,000$ gpd, the limit is determined on a case by case basis.
5. Analysis for Carbonaceous Biochemical Oxygen Demand (CBOD), Chloride, Total Solids and Total Nitrogen are required if proposed discharge $\geq 10,000$ gpd.

ATTACHMENT 2: APPLICABLE REGULATIONS

Applicable regulations include, but are not limited to:

1. 49 CFR 100 to 179 - DOT Hazardous Materials Transport and Manifest System Requirements
2. 6 NYCRR 375-6 - NYSDEC Remedial Program Soil Cleanup Objectives
3. 6 NYCRR 360-1 NYCDEC Solid Waste Management Facilities
4. 6 NYCRR 364- Waste Transporter permits
5. Local restrictions on transportation of waste/debris
6. 40 CFR 260 to 272 - Hazardous Waste Management (RCRA)
7. 6 NYCRR 371 - Identification and Listing of Hazardous Wastes
8. 6 NYCRR 372 - Hazardous Waste Manifest System and Related Standards for Generators, Transporters and Facilities
9. 6 NYCRR 373-1 - Hazardous Waste Treatment, Storage and Disposal Facility Permitting Requirements
10. 6 NYCRR 376 - Land Disposal Restrictions
11. Posted weight limitations on roads or bridges
12. Transportation Skills Programs, Inc. 1985 - Hazardous Materials and Waste Shipping Papers and Manifests
13. Other local restrictions on transportation of waste/debris
14. Occupational Safety and Health Administration (OSHA), Standards and Regulations, 29 CFR 1910 (General Industry)
15. OSHA 29 CFR 1910.120 Hazardous Waste Operations and Emergency Response
16. OSHA Safety and Health Standards 29 CFR 1926 (Construction Industry)
17. OSHA 29 CFR 1910.146 Confined Space Entry Standard
18. Standard Operating Safety Guidelines, USEPA Office of Emergency and Remedial Response Publication, 9285.1-03
19. NIOSH / OSHA / USCG / USEPA Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities (1986)
20. U.S. Department of Health and Human Services (DHHS) "NIOSH Sampling and Analytical Methods," DHHS (NIOSH) Publication 84-100
21. ANSI, Practice for Respiratory Protection, Z88.2 (1980)
22. ANSI, Emergency Eyewash and Shower Equipment, Z41.1 (1983)
23. ANSI, Protective Footwear, Z358.1 (1981)
24. ANSI, Physical Qualifications for Respirator Use, Z88.6 (1984)
25. ANSI, Practice for Occupational and Educational Eye and Face Protection, Z87.1 (1968)
26. Water Pollution Control Federation "Manual of Practice No. 1, Safety in Wastewater Works"
27. NFPA No. 327 "Standard Procedures for Cleaning and Safeguarding Small Tanks and Containers"
28. Occupational Safety and Health Act Confined Space Entry Standard 29 CFR 1910.146.87

29. Department of Transportation 49 CFR 100 through 179
30. Department of Transportation 49 CFR 387 (46 FR 30974, 47073)
31. Environmental Protection Agency 40 CFR 136 (41 FR 52779)
32. Environmental Protection Agency 40 CFR 262 and 761
33. Resource Conservation and Recovery Act (RCRA)
34. Any transporter of hazardous or non-hazardous materials must be licensed in the State of New York and all other states traversed in accordance with all applicable regulations.

ATTACHMENT 3: DEFINITIONS

- Contaminated Groundwater and Decontamination Fluids:** Groundwater within the excavation trench or decontamination water that contains regulated compounds above the NYCDEP Discharge to Sewer Effluent limits.
- Disposal or Treatment Facility:** A facility licensed to accept either non-hazardous regulated waste or hazardous waste for either treatment or disposal.
- Exclusion Zone:** Work area that will be limited to access by Contractor personnel specifically trained to enter the work area only. The exclusion zone will be set up to secure the area from the public and untrained personnel. The project health and safety program will apply to all construction personnel including persons entering the work area.
- Hazard Assessment:** An assessment of any physical hazards that may be encountered on a work site.
- Hazardous Soils:** Soils that exhibit any of the characteristics of a hazardous waste, namely ignitability, corrosivity, reactivity, and toxicity, as defined in 6 NYCRR Part 371, Section 371.3 and 40 CFR Section 261.
- Hazardous Substance Evaluation:** An evaluation of the possible or known presence of any hazardous substances that may be encountered on a job site. This evaluation is included in the Health and Safety Plan and will include the identification and description of any hazardous substances expected to be encountered. Material Safety Data Sheets (MSDS) will be included for each substance.
- Health and Safety Plan:** A plan employed at a work site that describes all the measures that will be taken to assure that all work is conducted in a safe manner, and that the health of the workers and the public will be insured.
- Material Handling Plan:** A plan outlining the methods that will be employed to handle, transport and dispose of contaminated materials.
- Non-Hazardous Contaminated Soils:** Soils which exhibit a distinct chemical or petroleum odor, or exhibit elevated photoionization detector readings but are not classified as hazardous waste under 6 NYCRR Part 371, Section 371.3 and 40 CFR Section 261.
- New York State Health Department's Environmental Laboratory Approval Program:** A program by which the state of New York approves and accredits environmental testing laboratories.
- PCBs:** Polychlorinated biphenyls are a group of toxic compounds commonly used as a coolant in transformers and other electrical components.
- Photoionization Detector:** A hand held instrument used to measure volatile organic compounds in air. The instrument ionizes the organic molecules through the use of an ultraviolet lamp.
- RCRA Hazardous Waste Characteristics:** Characteristics of a material which may indicate the material is hazardous. These include: ignitability corrosivity, reactivity, and toxicity.
- Total Petroleum Hydrocarbons:** An analytical procedure used to determine the total amount of petroleum compounds in a material.

ATTACHMENT 4: PHASE II SUBSURFACE CORRIDOR INVESTIGATION REPORT

- Final -

Phase II Subsurface Corridor Investigation Report
for
Trunk Water Main Replacement in East New York Avenue
between Tapscott Street to Vermont Street
Brooklyn, New York

DDC PROJECT NO. BED776

WOL NO. 12450-LBA-4-11627

CONTRACT REGISTRATION NO. 20151405733

Prepared for:



Office of Environmental and Geotechnical Services

30-30 Thomson Avenue, 3rd Floor

Long Island City, New York 11101

Prepared by:



Louis Berger & Assoc., P.C.

48 Wall Street, 16th Floor

New York, NY 10005

Tel. (212) 612-7900 Fax (212) 363-4341

PROJECT NO. 2011040.212

July 12, 2017

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Appendices

 A Boring Location Plan

 B Geologic Boring Logs

 C Laboratory Analytical Results (Included on Attached CD)

EXECUTIVE SUMMARY

On behalf of the New York City Department of Design and Construction (DDC), Louis Berger & Assoc., PC. (Louis Berger) conducted a Phase II Subsurface Corridor Investigation (SCI) of the BED776 Corridor in Brooklyn, New York, which consists of excavation for the replacement of the trunk water mains along the Corridor to improve the existing water distribution system and fire protection in the area along and surrounding the Corridor. The 2.53-mile long Corridor is located in the Brownsville, East New York, and Cypress Hills sections of the Borough of Brooklyn, New York (hereinafter referred to as the “Corridor”). The Corridor location is identified on Figure 1 Topographic Corridor Location Map and is comprised of the following street segments:

Street Segments	
East New York Avenue from approximately 50 feet southwest of Tapscott Street to Alabama Avenue	1.22
Jamaica Avenue from Alabama Avenue to approximately 50 feet northeast of Vermont Street [Note: There is a change in street name from East New York Avenue to Jamaica Avenue at the intersection with Alabama Avenue]	0.27
Atlantic Avenue from East New York Avenue to approximately 50 feet east of Pennsylvania Avenue	0.31
Howard Avenue from approximately 50 feet north of Pitkin Avenue to approximately 50 feet south of East New York Avenue	0.04
Grafton Street from Pitkin Avenue to approximately 50 feet southwest of Pitkin Avenue	0.01
Pitkin Avenue from approximately 50 feet west of Howard Avenue to approximately 50 feet east of Grafton Street	0.09
Lincoln Place from East New York Avenue to approximately 50 feet west of East New York Avenue	0.01
Saratoga Avenue from East New York Avenue to approximately 50 feet southeast of East New York Avenue	0.01
Sterling Place from East New York Avenue to approximately 50 feet west of East New York Avenue	0.01
Strauss Street from East New York Avenue to approximately 50 feet southeast of East New York Avenue	0.01
Amboy Street from East New York Avenue to approximately 50 feet southeast of East New York Avenue	0.01

Street Segments	Length (miles)
Thomas S. Boyland Street from East New York Avenue to approximately 50 feet on either side of East New York Avenue	0.02
Park Place from East New York Avenue to approximately 50 feet west of East New York Avenue	0.01
Bristol Street from East New York Avenue to approximately 50 feet southeast of East New York Avenue	0.01
Chester Street from East New York Avenue to approximately 50 feet southeast of East New York Avenue	0.01
Rockaway Avenue from East New York Avenue to approximately 50 feet on either side of East New York Avenue	0.02
Prospect Place from East New York Avenue to approximately 50 feet west of East New York Avenue	0.01
Saint Marks Avenue from East New York Avenue to approximately 50 feet west of East New York Avenue	0.01
Bergen Street from approximately 50 feet west of Mother Gaston Boulevard to East New York Avenue	0.05
Mother Gaston Boulevard from approximately 50 feet northeast of Bergen Street to East New York Avenue	0.04
Mother Gaston Boulevard from East New York Avenue to approximately 50 feet southeast of East New York Avenue	0.01
Christopher Avenue, approximately 50 feet southeast of East New York Avenue	0.01
Sackman Street, approximately 50 feet southeast of East New York Avenue	0.01
Sackman Street, approximately 50 feet north of Dean Street	0.03
Dean Street from approximately 50 feet west of Sackman Street to East New York Avenue	0.03
Powell Street, approximately 50 feet southeast of East New York Avenue	0.01
Pacific Street, approximately 50 feet west of East New York Avenue	0.01
Junius Street, approximately 50 feet southeast of East New York Avenue	0.01
Snediker Avenue, approximately 50 feet southeast of East New York Avenue	0.01
Hinsdale Street from Atlantic Avenue to approximately 50 feet southeast of Atlantic Avenue	0.01
Williams Avenue from East New York Avenue to approximately 50 feet southeast of East New York Avenue	0.01

Street Segment	Value
Williams Avenue, approximately 50 feet on either side of Atlantic Avenue	0.02
Alabama Avenue, approximately 50 feet on either side of Atlantic Avenue	0.02
Alabama Avenue from Jamaica Avenue to approximately 50 feet southeast of Jamaica Avenue	0.01
Georgia Avenue, approximately 50 feet on either side of Atlantic Avenue	0.02
Sheffield Avenue, approximately 50 feet on either side of Atlantic Avenue	0.02
Pennsylvania Avenue, approximately 50 feet on either side of Atlantic Avenue	0.02
Broadway from East New York Avenue to approximately 50 feet northwest of East New York Avenue	0.01
Fulton Street from East New York Avenue to approximately 50 feet northwest of East New York Avenue	0.01
Marginal Street West from Bushwick Avenue to approximately 30 feet north of Bushwick Avenue	0.006
Sheffield Avenue from Jamaica Avenue to approximately 50 feet southeast of Jamaica Avenue	0.01
Bushwick Avenue from Jamaica Avenue to approximately 50 feet northwest of Jamaica Avenue	0.01
Pennsylvania Avenue from Jamaica Avenue to approximately 50 feet southeast of Jamaica Avenue	0.01
Marginal Street East from Jamaica Avenue to approximately 50 feet north of Jamaica Avenue	0.01
New Jersey Avenue from Jamaica Avenue to approximately 50 feet southeast of Jamaica Avenue	0.01
Vermont Street, approximately 50 feet on either side of Jamaica Avenue	0.02

No construction activities are proposed along East New York Avenue from Junius Street to Williams Avenue. Louis Berger prepared a Phase I Corridor Assessment Report (CAR) dated December 15, 2016, which identified 96 final “High” risk sites, and 2 final “Moderate” risk sites with respect to potential impact on the Corridor, and recommended the completion of a Phase II SCI.

The Phase II SCI was conducted to determine if the Corridor’s environmental condition may potentially impact proposed construction activities. The proposed depth of excavation for the DDC infrastructure project is estimated to extend to depths ranging from 6 to 16 feet below grade (ftbg). Based on the review of available information provided by the DDC, and discussions with the DDC

Project Manager, Louis Berger originally proposed the advancement of 43 soil borings along the Corridor area, four (4) of which were proposed to be converted to temporary well points (TWPs), in order to characterize soils and groundwater (if observed) that may be encountered during construction. However, due to permitting issues with the Metropolitan Transportation Authority, eight (8) of the originally proposed borings, seven (7) of which were on Atlantic Avenue, and one (1) that was on East New York Avenue, had to be canceled leaving 35 borings proposed.

The Phase II SCI was conducted on May 8 through 24, 2017, and consisted of the following components:

Scope of Work

- The advancement of 35 soil borings (SB01 through SB35), utilizing hand tools, a Vactron[®], and Geoprobe[®] drill rig with direct push technology. Each soil boring was advanced to terminal depths ranging between 3 and 20 ftbg;
- Field screening, classification and identification of soils from surface grade to the terminal depth of each boring. Soil samples were visually classified in the field using the Burmister Classification, Unified Soil Classification System (USCS), and Munsell Rock Color charts. Field screening of soils consisted of visual and olfactory indicators of impacts, as well as screening with a photoionization detector (PID);
- The collection of one (1) grab soil sample from each boring. If evidence of contamination was identified via visual or olfactory methods or via PID readings, the grab sample was collected from the suspected impacted depth interval. If no impacts were identified, the grab soil samples were collected from either the 6-inch interval above the water table (when encountered) or the 6-inch interval above the bottom of the boring (where recovery allowed). The soil samples were analyzed for Target Compound List (TCL) Volatile Organic Compounds (VOCs) using U.S. Environmental Protection Agency (USEPA) Method 8260C;
- The collection of one (1) composite waste characterization soil sample from each boring. The waste characterization sample was a composite from the entire soil column (ground surface to end of boring (where recovery allowed). The waste characterization sample was analyzed for Polycyclic Aromatic Hydrocarbons (PAHs) by USEPA Method 8270C, Total Petroleum Hydrocarbons (TPH-DRO/GRO) by USEPA 8015B, Polychlorinated Biphenyls (PCBs) by USEPA Method 8082A/608, Toxicity Characteristic Leaching Procedure (TCLP) Metals (Resource Conservation and Recovery Act [RCRA] 8) by USEPA Method 1311/6010B, and RCRA Characteristics, including ignitability, reactivity and corrosivity, by USEPA Methods

9012B/9034, 1030/1010A, and 9045C, respectively, as well as Paint Filter Test by USEPA Method 9095B, for waste classification purposes; and,

- The preparation of this report, which includes tables summarizing the laboratory analytical results, and figures depicting boring locations, significant Corridor features and, if applicable, contamination occurrence and distribution.

In order to evaluate subsurface soil quality for waste characterization purposes, laboratory analytical results of grab and composite soil samples were compared with regulatory standards identified in: New York State Department of Environmental Conservation (NYSDEC) Subpart 375-6: Remedial Program Unrestricted, Restricted-Residential, and Commercial Use (Track 1 and Track 2) Soil Cleanup Objectives (SCOs) and/or Toxicity Characteristic Regulatory Levels for Hazardous Waste published in RCRA and 6 New York Codes, Rules and Regulations (NYCRR) Part 371.

Based on the evaluation of the field screening data and the laboratory analytical results, and a comparison to applicable regulatory standards, the following findings are presented:

Findings

- No visual or olfactory evidence of contamination was observed and no elevated PID readings were detected at any soil boring location;
- Fill material, of mostly moderate brown to dark yellowish brown to pale brown, and pale green to olive gray, consisting of sandy cobbles to clay, and mostly with silty sand, was found in all 35 soil boring locations at depths ranging from 0 to 20 ftbg. Anthropogenic fill material was observed in 28 soil borings (SB03-SB05, SB09-SB20, SB22-SB29, and SB31-SB35). The anthropogenic fill material consisted of brick, asphalt, ash, slag, glass, plastic, and concrete. Anthropogenic fill was observed at depths ranging from ground surface to 20 ftbg;
- Groundwater was not encountered at any of the boring locations. Bedrock was not encountered at any of the boring locations;
- One (1) VOC (methylene chloride) was detected above the laboratory's reporting limits in soil samples collected from SB12 and SB20; however, it was below the regulatory standards;
- Several PAHs were detected above the laboratory's reporting limits in 18 soil samples (SB01-SB02, SB04, SB08-SB10, SB12, SB19-SB20, SB22-SB24, SB26-SB29, SB32, and SB34);

however, only two (2) soil samples (SB10 and SB29) exhibited concentrations above regulatory standards. Laboratory results indicate that benzo(a)pyrene was detected above the Unrestricted Use (Track 1), Restricted Residential Use (Track 2), and Commercial Use (Track 2) SCOs at 1.7 parts per million [ppm] in SB10 and 1.2 ppm in SB29. Benzo[a]anthracene (2.0 ppm in SB10 and 1.5 ppm in SB29), benzo[b]fluoranthene (2.3 ppm in SB10 and 1.5 ppm in SB29), dibenzo[a,h]anthracene (0.33 ppm in SB10), and indeno[1,2,3-cd]pyrene (0.94 ppm in SB10 and 0.64 ppm in SB29) were detected above the Unrestricted Use (Track 1) and Residential Use (Track 2) SCOs. Chrysene (1.9 ppm in SB10 and 1.5 ppm in SB29) was detected above the Unrestricted Use (Track 1) SCO;

- Laboratory results indicate a PCB detection above the laboratory's reporting limits in one soil sample collected from SB10; however, it was below the regulatory standards;
- Waste characterization laboratory results indicate that TCLP barium was detected in 21 soil samples (SB01-SB06, SB08-SB12, SB18-SB21, SB23, SB25, SB28, SB29, SB32, and SB33) and TCLP lead was detected in five (5) soil samples (SB02, SB09, SB19, SB20, and SB33). All detected concentrations for TCLP barium and TCLP lead were below RCRA Hazardous Waste Levels;
- TPH-GRO was not detected in any of the waste characterization soil samples, while TPH-DRO concentrations were detected above the laboratory's reporting limits in nine (9) waste characterization soil samples (SB01, SB02, SB10, SB12, SB18, SB21, SB23, SB29, and SB32) with a maximum concentration of 270 ppm at SB10; however, there are no regulatory standards for TPH; and
- The analytical laboratory results of the soil samples show that none of the RCRA parameters (reactivity, ignitability, or corrosivity) were detected or exceeded. Therefore, results of these analyses indicate that the soil samples collected from the Corridor do not exhibit evidence of hazardous waste characteristics. However, positive detections for the paint filter test were found in two (2) soil samples (SB19 and SB28), which is indicative of the presence of free liquids in the soil. However, field observations indicated that the soils from both samples were moist. Therefore, it is believed that these samples were compromised from ice melt during transport to the lab and that these results are not representative of actual soil conditions.

Based on the results of the field investigation and laboratory analytical results, the following conclusions and recommendations are provided:

Conclusions

- Fill material, consisting of mostly moderate brown to dark yellowish brown to pale brown, and pale green to olive gray, sandy cobbles to clay, and mostly with silty sand, was found in all 35 soil boring locations at depths ranging from 0 to 20 ftbg. Anthropogenic fill material was observed in 28 of the 35 borings (SB03-SB05, SB09-SB20, SB22-SB29, and SB31-SB35). The anthropogenic fill material consisted of brick, asphalt, ash, slag, glass, plastic, and concrete. Anthropogenic fill was observed at depths ranging from ground surface to 20 ftbg;
- Groundwater was not encountered at any of the boring locations. Bedrock was not encountered at any of the boring locations;
- One (1) VOC (methylene chloride) was detected above the laboratory's reporting limits in soil samples collected from SB12 and SB20; however, it was below the regulatory standards;
- Several PAHs were detected above the laboratory's reporting limits in 18 soil samples; however, only two (2) soil samples (SB10 and SB29) exhibited concentrations above regulatory standards. Laboratory results indicate that benzo(a)pyrene was detected above the Unrestricted Use (Track 1), Restricted Residential Use (Track 2), and Commercial Use (Track 2) SCOs in SB10 and in SB29. Benzo[a]anthracene, benzo[b]fluoranthene, and indeno[1,2,3-cd] pyrene were detected above the Unrestricted Use (Track 1) and Residential Use (Track 2) SCOs in both SB10 and SB29, while dibenzo[a,h]anthracene was detected above those two SCOs in SB10 only. Chrysene was detected above the Unrestricted Use (Track 1) SCO in SB10 and SB29. Lithology indicates the presence of historic fill material in all soil borings; therefore, the PAH exceedances may be attributed to contaminants related to historic fill material;
- Total PCBs were detected above the laboratory's reporting limits in one soil sample collected from SB10; however, it was below the regulatory standards;
- Waste characterization laboratory results indicate that TCLP barium was detected in 21 soil samples and TCLP lead was detected in five (5) soil samples. All detected concentrations for TCLP barium and TCLP lead were below RCRA Hazardous Waste Levels;
- No TPH-GRO concentrations were detected above the laboratory's reporting limits in any of the waste characterization soil samples. TPH-DRO was detected in nine (9) soil samples with a maximum concentration of 270 parts per million (ppm) in soil sample SB10. Lithology shows the presence of fill material in all of the soil borings; therefore, the TPH-DRO detection may

be attributed to historic fill material. It is also possible that the TPH concentration observed during the Phase II SCI is the result of petroleum releases within or adjacent to the Corridor;

- Laboratory results indicate that the soil samples collected beneath the Corridor do not exhibit evidence of hazardous waste characteristics. However, positive detections for the paint filter test were found in two (2) soil samples (SB19 and SB28), which is indicative of the presence of free liquids. However, field observations of the soils for both samples show a moisture content of moist. Therefore, it is believed that these samples were compromised from ice melt during transport to the lab and that these results are not representative of actual soil conditions.

Recommendations

- The Contract documents should identify provisions for managing, handling, transporting and disposing of contaminated non-hazardous soil. The Contractor should be required to submit a Material Handling Plan to identify the specific protocol and procedures that will be employed to manage the waste in accordance with applicable regulations;
- Dust control procedures are recommended and should be implemented during excavation activities to minimize the creation and dispersion of fugitive airborne dust. The Contractor should implement dust control measures to minimize potential airborne contaminants released into the ambient environment as a direct result of construction activities;
- Groundwater was not encountered during the Phase II SCI activities. However, if dewatering is necessary, the contractor will be required to obtain a New York City Department of Environmental Protection (NYCDEP) sewer discharge permit and perform sampling and laboratory analysis prior to discharge into the combined sewers;
- In addition, should discharge into a surface water body be required during dewatering, it may be performed under the appropriate NYSDEC State Pollutant Discharge Elimination System (SPDES) permit. Additional sampling and laboratory analysis may be required to satisfy NYSDEC requirements prior to discharge into the water body; and,
- Before beginning any excavation activity, the contractor should submit a site-specific health and safety plan (HASP) that will meet the requirements set forth by the Occupational, Safety and Health Administration (OSHA), the New York State Department of Health (NYSDOH) and any other applicable regulations. The HASP should identify the possible locations and risks associated with the potential contaminants that may be encountered, and the administrative and engineering controls that will be utilized to mitigate concerns.

1.0 INTRODUCTION

On behalf of the New York City Department of Design and Construction (DDC), Louis Berger & Assoc., PC. (Louis Berger) conducted a Phase II Subsurface Corridor Investigation (SCI) of the BED776 Corridor in Brooklyn, New York which consists of excavation for the replacement of the trunk water mains along the Corridor to improve the existing water distribution system and fire protection in the area along and surrounding the Corridor. The 2.53-mile long Corridor is located in the Brownsville, East New York, and Cypress Hills sections of the Borough of Brooklyn, New York (hereinafter referred to as the “Corridor”). The Corridor location is identified on Figure 1 Topographic Corridor Location Map and is comprised of the following street segments:

East New York Avenue from approximately 50 feet southwest of Tapscott Street to Alabama Avenue	1.22
Jamaica Avenue from Alabama Avenue to approximately 50 feet northeast of Vermont Street [Note: There is a change in street name from East New York Avenue to Jamaica Avenue at the intersection with Alabama Avenue]	0.27
Atlantic Avenue from East New York Avenue to approximately 50 feet east of Pennsylvania Avenue	0.31
Howard Avenue from approximately 50 feet north of Pitkin Avenue to approximately 50 feet south of East New York Avenue	0.04
Grafton Street from Pitkin Avenue to approximately 50 feet southwest of Pitkin Avenue	0.01
Pitkin Avenue from approximately 50 feet west of Howard Avenue to approximately 50 feet east of Grafton Street	0.09
Lincoln Place from East New York Avenue to approximately 50 feet west of East New York Avenue	0.01
Saratoga Avenue from East New York Avenue to approximately 50 feet southeast of East New York Avenue	0.01
Sterling Place from East New York Avenue to approximately 50 feet west of East New York Avenue	0.01
Strauss Street from East New York Avenue to approximately 50 feet southeast of East New York Avenue	0.01
Amboy Street from East New York Avenue to approximately 50 feet southeast of East New York Avenue	0.01

Street Segment	Length (miles)
Thomas S. Boyland Street from East New York Avenue to approximately 50 feet on either side of East New York Avenue	0.02
Park Place from East New York Avenue to approximately 50 feet west of East New York Avenue	0.01
Bristol Street from East New York Avenue to approximately 50 feet southeast of East New York Avenue	0.01
Chester Street from East New York Avenue to approximately 50 feet southeast of East New York Avenue	0.01
Rockaway Avenue from East New York Avenue to approximately 50 feet on either side of East New York Avenue	0.02
Prospect Place from East New York Avenue to approximately 50 feet west of East New York Avenue	0.01
Saint Marks Avenue from East New York Avenue to approximately 50 feet west of East New York Avenue	0.01
Bergen Street from approximately 50 feet west of Mother Gaston Boulevard to East New York Avenue	0.05
Mother Gaston Boulevard from approximately 50 feet northeast of Bergen Street to East New York Avenue	0.04
Mother Gaston Boulevard from East New York Avenue to approximately 50 feet southeast of East New York Avenue	0.01
Christopher Avenue, approximately 50 feet southeast of East New York Avenue	0.01
Sackman Street, approximately 50 feet southeast of East New York Avenue	0.01
Sackman Street, approximately 50 feet north of Dean Street	0.03
Dean Street from approximately 50 feet west of Sackman Street to East New York Avenue	0.03
Powell Street, approximately 50 feet southeast of East New York Avenue	0.01
Pacific Street, approximately 50 feet west of East New York Avenue	0.01
Junius Street, approximately 50 feet southeast of East New York Avenue	0.01
Snediker Avenue, approximately 50 feet southeast of East New York Avenue	0.01
Hinsdale Street from Atlantic Avenue to approximately 50 feet southeast of Atlantic Avenue	0.01
Williams Avenue from East New York Avenue to approximately 50 feet southeast of East New York Avenue	0.01
Williams Avenue, approximately 50 feet on either side of Atlantic Avenue	0.02

Alabama Avenue, approximately 50 feet on either side of Atlantic Avenue	0.02
Alabama Avenue from Jamaica Avenue to approximately 50 feet southeast of Jamaica Avenue	0.01
Georgia Avenue, approximately 50 feet on either side of Atlantic Avenue	0.02
Sheffield Avenue, approximately 50 feet on either side of Atlantic Avenue	0.02
Pennsylvania Avenue, approximately 50 feet on either side of Atlantic Avenue	0.02
Broadway from East New York Avenue to approximately 50 feet northwest of East New York Avenue	0.01
Fulton Street from East New York Avenue to approximately 50 feet northwest of East New York Avenue	0.01
Marginal Street West from Bushwick Avenue to approximately 30 feet north of Bushwick Avenue	0.006
Sheffield Avenue from Jamaica Avenue to approximately 50 feet southeast of Jamaica Avenue	0.01
Bushwick Avenue from Jamaica Avenue to approximately 50 feet northwest of Jamaica Avenue	0.01
Pennsylvania Avenue from Jamaica Avenue to approximately 50 feet southeast of Jamaica Avenue	0.01
Marginal Street East from Jamaica Avenue to approximately 50 feet north of Jamaica Avenue	0.01
New Jersey Avenue from Jamaica Avenue to approximately 50 feet southeast of Jamaica Avenue	0.01
Vermont Street, approximately 50 feet on either side of Jamaica Avenue	0.02

No construction activities are proposed along East New York Avenue from Junius Street to Williams Avenue. Louis Berger prepared a Phase I Corridor Assessment Report (CAR) dated December 15, 2016, which identified 96 final “High” risk sites, and 2 final “Moderate” risk sites with respect to potential impact on the Corridor, and recommended the completion of a Phase II SCI.

The Phase II SCI was conducted to determine if the Corridor’s environmental condition may potentially impact proposed construction activities. The proposed depth of excavation for the DDC infrastructure project is estimated to extend to depths ranging from 6 to 16 feet below grade (ftbg). Based on the review of available information provided by the DDC, and discussions with the DDC Project Manager, Louis Berger originally proposed the advancement of 43 soil borings along the

Corridor area, four (4) of which were proposed to be converted to temporary well points (TWPs), in order to characterize soils and groundwater (if observed) that may be encountered during construction. However, due to permitting issues with the Metropolitan Transportation Authority, eight (8) of the originally proposed borings, seven (7) of which were on Atlantic Avenue, and one (1) that was on East New York Avenue, had to be canceled leaving 35 borings proposed.

1.1 Summary of Previous Environmental Investigations

Louis Berger prepared a Phase I Corridor Assessment Report (CAR) for the Corridor dated December 15, 2016. The Phase I CAR presented the results of an investigation to document the current use, a review of Sanborn fire insurance maps to document historical use, and a review of the state and federal government databases to identify sites on or adjoining the Corridor that constitute a potential environmental concern.

Based on Risk Criteria protocol established by the DDC, findings presented in the Phase I CAR defined these sites as posing either “High”, “Moderate”, or “Low” risk for possible contamination to the subsurface environment along the Corridor. Louis Berger identified 713 sites categorized as initially having a “High” risk with respect to potential impact on the project, and no sites as initially having a “Moderate” risk with respect to potential impact on the project, within a 1/8-mile radius of the Corridor. Based on modifying information, Louis Berger recommended that 2 of the initial 713 “High” risk sites be reclassified as “Moderate” risk sites and 615 of the 713 initial “High” risk sites be reclassified as “Low” risk sites. Therefore, the final evaluation identified 96 final “High” risk sites and 2 final “Moderate” risk sites with respect to potential impact on the project Corridor. The final “High” risk sites are listed below:

“High” Risk Sites:

No.	Facility Name	Address	Map ID
1	Former Filling Station	1725 E. New York Avenue	H#1
2	Power Test #00015; Safe & Sound Car Audio & Auto Alarms	1801 Eastern Parkway	H#2
3	Former Tin Smith	1703 E. New York Avenue	H#3
4	Former Treasure Isle Auto Body; Robo Dry Cleaners	2103 Bergen Street	H#4
5	Auto Repair	245 Rockaway Avenue	H#5
6	Former Langlaise Automotive	1667 Saint Marks Avenue	H#6
7	Former Manufacturing	1613 E. New York Avenue	H#7
8	Former Spice Isle Auto Clinic	320 Rockaway Avenue	H#8
9	Former Paints	1457 E. New York Avenue	H#9

	Name	Address	Map ID
10	Former Paints and Oils and Auto Repair	1383 E. New York Avenue	H#10
11	P&B Collision Auto Body; Lot 25, Tax block 1472	1894 Sterling Place	H#11
12	Lucky Trade Transmissions	1700 Saint Johns Place	H#12
13	Eastern Island, Inc.; 1463 Eastern Petroleum, Inc.; 1463 Eastern PKWY - TTF; 1463 Eastern Parkway, Inc.; BP Filling Station	1463 Eastern Parkway	H#13
14	Con Edison Service Box: 29635; Former Auto Repair Facility	1715 Lincoln Place	H#14
15	Former Blacksmith	1369 E. New York Avenue	H#15
16	Former Printer	1731 Lincoln Place	H#16
17	1412 Eastern Gas Sta - 1412 Eastern Parkway; RCSS Gas Corp.; Citgo; Lot 35, Tax block 1475	1412 Eastern Parkway	H#17
18	Laundry Clean facility; Lot 64, Tax block 1475	1453 Pitkin Avenue AKA 560 Howard Avenue	H#18
19	Boot's Auto Repairs; Lot 23, Tax block 1476	1319 E. New York Avenue	H#19
20	Former Fair Deal Auto Unlimited, Inc.	1430 Pitkin Avenue	H#20
21	Former Filling Station and Auto Repair	1438 Pitkin Avenue	H#21
22	MTA NYC - Subway Electronics Maintenance Division	2020 Broadway	H#22
23	El Menor Auto Repair and M&R Auto Repair	2501 - 2503 Fulton Street	H#23
24	NYCTA - 30 Havens Place; Lot 23, Tax block 1574	30 Havens Place	H#24
25	A-1 Ironworks Contracting	45 Jardine Place	H#25
26	Wrought Originals; Spill Number 0206144; Wrought Originals, Inc.	38 Van Sinderen Avenue	H#26
27	Aries Autoworld, Ltd.; Factory; Apex Airtronics, Inc.	2465 - 2471 Atlantic Avenue	H#27
28	Best Buy Auto Repair	1833 E. New York Avenue	H#28
29	Steel Products Manufacturing	1785 - 1803 E. New York	H#29
30	NYC-TA East New York Bus Depot and Shops; Con Edison - Manhole 21022; East New York Boiler Plant; East New York Truck Shop; Con Edison; NYC Transit East NY Truck Shop; MTA East New York Non Revenue Shop; East New York Depot; New York City Transit Authority; East New York Depot-NYCT; East New York Bus Depot; NYCTA	1 Jamaica Avenue AKA 1997 Broadway AKA 25 Jamaica Avenue	H#30

No.	Facility Name	Address	Map ID
31	Sunoco Station; D&D Auto and Motorcycle Repair; Sunoco Service Station; Sunoco Gas Station	1731 Bushwick Avenue AKA 32 Highland Boulevard	H#31
32	Ale Auto Sales	1751 Bushwick Avenue	H#32
33	Former Auto Repair	1756 Bushwick Avenue	H#33
34	Vagar Service Station, Inc.; Dunkin Donuts; Gas Station Citgo	43 Jamaica Avenue	H#34
35	Former Auto Sales	75 Fanchon Place	H#35
36	Belco Transmissions	1765 Bushwick Avenue	H#36
37	Interboro Foreign Car Repair	1773 Bushwick Avenue	H#37
38	910 Car Service	117 Jamaica Avenue	H#38
39	Marien Groceries, Brooklyn Printing and Romero's Auto Repair Corp.	99 - 115 Jamaica Avenue	H#39
40	NYCHA - Howard Houses; Howard Houses	1548 E. New York Avenue	H#40
41	Pitkin Cleaners; Pitkin Cleaners (old)	1507 Pitkin Avenue	H#41
42	NYC-HA - Marcus Garvey House; NYCHA - Prospect Plaza; Residential Apartment Building; Marcus Garvey Houses	10 Amboy Street	H#42
43	Former Mirror Works and Furniture Finishing	1440 E. New York Avenue	H#43
44	NYPD Fleet Services Division; NYPD - 73rd Precinct; 73rd PCT	1470 E. New York Avenue	H#44
45	Former Blacksmith	1274 E. New York Avenue	H#45
46	Former Commercial with Gas Tank	1470 Pitkin Avenue	H#46
47	Former Dry Cleaner	1464 Pitkin Avenue	H#47
48	BP Filling Station	32 Jamaica Avenue	H#48
49	Block-Wide Site SS Premises - C-O Shell Oil Co.; Shell Station; Jamaica Auto Care, Inc.	70 Jamaica Avenue	H#49
50	Auto Repair Facilities	108 - 110 Jamaica Avenue	H#50
51	Royal Pump	104 Jamaica Avenue	H#51
52	Former Auto Repair and Welding	100 Jamaica Avenue	H#52
53	Complete Auto Repair	134 Jamaica Avenue	H#53
54	American Struts-Shocks Auto Repair	124 Jamaica Avenue	H#54
55	Former Auto Repair	13 Williams Avenue	H#55
56	Former Used Auto Sales	2554 - 2568 E. New York Avenue	H#56
57	Novo Manufacturing Building	2541 Atlantic Avenue	H#57
58	Con Edison; Kane Industries	23 Alabama Avenue	H#58
59	DJ Atlantic Auto Electric	2571 Atlantic Avenue	H#59

	Property	Address	Photo ID
60	Shiny Car Wash & Lube	2591 - 2613 Atlantic Avenue	H#60
61	Con Edison Service Box: 21733; Lot 11, Tax block 3675	1638 - 1640 E. New York Avenue	H#61
62	Former Auto Repair and Filling Station	1648 E. New York Avenue	H#62
63	Caribbean Link Auto Repair	1676 E. New York Avenue	H#63
64	Former Dim Auto Body	1672 E. New York Avenue	H#64
65	Auto Repair Facility	1634 East New York Avenue	H#65
66	Former Dry Cleaner	1696 E. New York Avenue	H#66
67	Former Manufacturing	1698 E. New York Avenue	H#67
68	Perey Turnstiles	2490 Atlantic Avenue	H#68
69	Former Transformer Manufacturing	2 - 12 Hinsdale Street	H#69
70	Former Manufacturing	2516 - 2524 Atlantic Avenue	H#70
71	Former Manufacturing	2526 Atlantic Avenue	H#71
72	USA Mini Storage	2542 - 2564 Atlantic Avenue	H#72
73	Lagmite Paper and Plastic Co.	2566 - 2576 Atlantic Avenue	H#73
74	Former Industrial Building	2578 - 2582 Atlantic Avenue	H#74
75	Former Printing Facility	2610 Atlantic Avenue	H#75
76	Former Manufacturer	2608 Atlantic Avenue	H#76
77	New Construction Underway; Lot 12, Tax block 3687	91 Pennsylvania Avenue AKA 2644 Atlantic Avenue	H#77
78	NYCT - Atlantic Avenue Substation	Atlantic Avenue and Pennsylvania Avenue	H#78
79	NYCTA - Atlantic Avenue Station (L Line)	Atlantic Avenue and Van Sinderen Avenue	H#79
80	NYCTA - Broadway/ENY Station (A/C Line)	Broadway and Jamaica Avenue	H#80
81	Former Auto Repair	1373 - 1377 E. New York Avenue	H#81
82	Former Manufacturing	1723 E. New York Avenue	H#82
83	Former Auto Repair; Lot 50, Tax block 1475	1436 Eastern Parkway	H#83
84	Gulf Filling Station; Lot 16, Tax block 3670; Lot 17, Tax block 3670; Lot 18, Tax block 3670	43 - 47 Pennsylvania Avenue	H#84
85	Former Auto Repair; Lot 9, Tax block 3670; Lot 13, Tax block 3670	61 - 67 Pennsylvania Avenue	H#85
86	Former Iron Works; NYCDEP	30 Williams Place	H#86

		Address	Map ID
87	Block-Wide Site – United Recyclers; Former and Current Manufacturing Buildings; Lot 21, Taxblock1437	2384-2464 Atlantic Avenue; 1733-1739 E. New York Avenue; 2385-2435 Pacific Street; and, 105-127 Sackman Street	H#87
88	Block-Wide Site - Auto Repair Shop; Discount Auto Repair; Con Edison; Dons Collision Body Shop; Auto Repair Shop; Lot 51, Taxblock1450; Lot 50, Tax block 1450;	1641-1671 E. New York Avenue; 154-156 Sackman Street; 2388-2446 Dean Street; 2171-2197 Bergen Street; and 201-221 Mother Gaston Boulevard	H#88
89	Block-Wide Site - Family Dollar Store 7008; All Right Rentals, Inc.	1587-1599 E. New York Avenue; 226 Mother Gaston Boulevard; 2122-2170 Bergen Street; 1738-1776 Eastern Parkway; and, 1689-1739 St. Marks Avenue	H#89
90	Block-Wide Site - Con Edison Service Box: 32680; Con Edison Service Box: 21721; T&D Auto Body; K&W Chung Auto Collision Repair, Inc.	1533-1585 E. New York Avenue; 1662-1728 St Marks Avenue; 1734-1736 Eastern Parkway; and, 301-325 Rockaway Avenue	H#90
91	Block-Wide Site - Frito's Auto Body	1427-1537 E. New York Avenue; 1916-1962 Prospect Place; 1634-1672 Eastern Parkway; 375-379 Hopkins Avenue; and, 1909-1943 Park Place	H#91
92	Block-Wide Site - Venture Metal Products, Incorporated; Carlos Gates & Iron Works, Inc.; Drum Run	1822 E. New York Avenue; 8-36 Williams Avenue; and, 2505-2535 Atlantic Avenue	H#92
93	Block-Wide Site - R&S Strauss; Yeffi Plating; Lots 20, 22, Tax block 3669	2617-2691 Atlantic Avenue; 25-63 Sheffield Avenue; 2618-2640 Fulton Street; and 38-90 Pennsylvania Avenue	H#93

No.	Site Name	Address	Site ID
94	Block-Wide Site - Con Ed V 2312; 1 Junius Street; NABS, Inc.	1738-1740 E. New York Avenue; 1-73 Junius Street; 171-183 Liberty Avenue; and, 160 Van Sinderen Avenue	H#94
95	Block Wide Site - National Metal Enclosures; 2634-2640 Atlantic Ave Realty Corp.; Lots 15, 16, 17, 19, 21, Tax block 3686	2618-2640 Atlantic Avenue; 75-127 Sheffield Avenue; 339-361 Liberty Avenue; and, 92-140 Payne Avenue	H#95
96	Block Wide Site - Elevated platform and rail road tracks and apparent former/current manufacturing buildings	1762-1786 E. New York Avenue; 119-159 Van Sinderen Avenue; 195-217 Liberty Avenue; and, 2-80 Snediker Avenue	H#96

“Moderate” Risk Sites:

No.	Site Name	Address	Site ID
97	Tire Shop	1781 Eastern Parkway	M#1
98	Cypress Hills Car Center	2641 Fulton Street	M#2

1.2 Scope of Work

The Phase II SCI consisted of a field investigation, laboratory analyses, and the preparation of this report, which includes tables summarizing the laboratory analytical results and figures depicting boring locations, significant Corridor features and, if applicable, contamination occurrence and distribution. Drilling and hand-clearing activities were performed by Aquifer Drilling & Testing Environmental Services (ADT). Soil boring oversight and sample collection were conducted by Mr. Martin Donovan, Environmental Technician of Louis Berger. Laboratory analyses were provided by Hampton-Clarke/Veritech (HC-V) of Fairfield, New Jersey, which is a New York State Department of Health (NYSDOH) Environmental Laboratory Approval Program (ELAP)-certified analytical laboratory (No. 11408). Field-derived Quality Assurance/Quality Control (QA/QC) samples (i.e., blind duplicates, equipment/rinsate blanks, and trip blanks) were not collected for this project. The field investigation was conducted on May 8 through 24, 2017, and consisted of the following components:

- The advancement of 35 soil borings (SB01 through SB35), utilizing hand tools, a Vactron® and Geoprobe® drill rig with direct push technology. Each soil boring was advanced to terminal depths ranging between 3 and 20 ftbg;
- Field screening, classification and identification of soils from surface grade to the terminal depth of each boring. Soil samples were visually classified in the field using the Burmister Classification, Unified Soil Classification System (USCS), and Munsell Rock Color charts. Field screening of soils consisted of visual and olfactory indicators of impacts, as well as screening with a photoionization detector (PID);
- The collection of one (1) grab soil sample from each boring. If evidence of contamination was identified via visual or olfactory methods or via PID readings, the grab sample was collected from the suspected impacted depth interval. If no impacts were identified, the grab soil samples were collected from either the 6-inch interval above the water table (when encountered) or the 6-inch interval above the bottom of the boring (where recovery allowed). The soil samples were analyzed for Target Compound List (TCL) Volatile Organic Compounds (VOCs) using U.S. Environmental Protection Agency (USEPA) Method 8260C;
- The collection of one (1) composite waste characterization soil sample from each boring. The waste characterization sample was a composite from ground surface to end of boring (where recovery allowed). The waste characterization sample was analyzed for Polycyclic Aromatic Hydrocarbons (PAHs) by USEPA Method 8270C, Total Petroleum Hydrocarbons (TPH-DRO/GRO) by USEPA 8015B, Polychlorinated Biphenyls (PCBs) by USEPA Method 8082A/608, Toxicity Characteristic Leaching Procedure (TCLP) Metals (Resource Conservation and Recovery Act [RCRA] 8) by USEPA Method 1311/6010B, and RCRA Characteristics, including ignitability, reactivity and corrosivity, by USEPA Methods 9012B/9034, 1030/1010A, and 9045C, respectively, as well as Paint Filter Test by USEPA Method 9095B, for waste classification purposes; and,
- The preparation of this report, which includes tables summarizing the laboratory analytical results, and figures depicting boring locations, significant Corridor features and, if applicable, contamination occurrence and distribution.

2.0 CORRIDOR INFORMATION

2.1 Corridor Location, Description and Use

The 2.53-mile long Corridor is located in the Brownsville, East New York, and Cypress Hills sections of Brooklyn, New York. Currently, the Corridor is developed with paved roadway and existing infrastructure systems, and exhibits evidence of utilities, such as manholes, pavement scars, utility mark-outs, and valve covers throughout the roadways and sidewalk areas. This indicates the presence of buried utilities, including gas, sewer, water, electric, and communication.

Property usage along the Corridor consists of residential apartments, commercial properties, manufacturing/industrial properties, institutional properties, and mixed-use street-level commercial buildings with apartments above. The southwestern side of the Corridor is mostly residential with various commercial properties, including convenience stores, restaurants, and auto repair shops, such as: Boot's Auto Repair located at 1319 E. New York Avenue, and Willy's Auto Radiator and Roberto Auto Repair located at 1587-1599 E New York Avenue.

The southwestern side of the Corridor also contains the New York City Housing Authority (NYCHA) Howard Houses located at 1548 E. New York Avenue and the Marcus Garvey Houses housing complex located at 10 Amboy Street. Institutional properties are situated along the south side of East New York Avenue, including the New York City Police Department (NYPD) 73rd Precinct located at 1470 E. New York Avenue, Crossroads Juvenile Center at 17 Bristol Street, and Brownsville AME Zion Church and Glorious Praise Baptist Church located at 1593 and 1820 E. New York Avenue, respectively.

The northeastern side of the Corridor is mostly commercial and industrial properties with some residential buildings. Both underground and aboveground train tracks transect this area, including New York City Subway's Brooklyn-Manhattan Transit Corporation (BMT) Canarsie Line (L Train), J Nassau Street Local/Express Line (J Train), Z Nassau Street Express Line (Z Train), and Long Island Rail Road's Atlantic Branch.

The access ramp to the Jackie Robinson Parkway is located at the intersection of Jamaica Avenue, Pennsylvania Avenue, and Bushwick Avenue. A BP filling station is located on the Corridor at 32 Jamaica Avenue. The New York City Transit Authority headquarters, including the bus depot and train yard, is located at 25 Jamaica Avenue. An area map of the Corridor is presented as Figure 2.

2.2 Description of Surrounding Properties

Land usage around the Corridor is similar to that within the Corridor. To the southwest of the Corridor, the surrounding properties are mostly residential in nature, with various commercial operations, while there are primarily commercial and industrial properties with some residential uses surrounding the northeastern side. Four (4) filling stations are located hydraulically upgradient of the Corridor at 1412 and 1463 Eastern Parkway, 32 Highland Avenue (also identified as 1731 Bushwick Avenue), and 43-47 Pennsylvania Avenue. Dry cleaners and laundromats were observed in hydraulically up-gradient locations relative to the Corridor at 1453 and 1507 Pitkin Avenue, and 2103 Bergen Street.

2.3 Corridor and Regional Topographic Setting

The United States Geologic Survey (USGS) 7.5-minute Topographic Quadrangle Map for Brooklyn, NY (1995) and the USGS National Map (<http://viewer.nationalmap.gov/viewer/>) were reviewed to determine topography at the Corridor. The Corridor exhibits a topographic elevation change of approximately 15 feet. The elevation of the Corridor varies from approximately 55 feet above mean sea level (msl) at the southwestern extent of the Corridor to approximately 66 feet above msl at the intersection of East New York Avenue and Pacific Street. Northeast of Pacific Street, the Corridor section along East New York Avenue rises to an elevation of 70 feet above msl, and the section along Atlantic Avenue drops to 55 feet above msl. Under natural conditions, surface runoff would be expected to follow the overall topography of the area, which slopes towards the southeast of the Corridor and ultimately towards Fresh Creek and Hendrix Creek before flowing into Jamaica Bay. However, storm water runoff along the Corridor is managed by storm drains.

2.4 Corridor and Regional Geology

The *NYC Reconnaissance Soil Survey* (2005) indicates the Corridor is underlain by the Pavement & Buildings, Flatbush-Riverhead complex. This complex is classified as nearly level to gently sloping, highly urbanized areas with 50 to 80 percent of the surface covered by impervious pavement and buildings. Slopes range between 0 and 8%. Soils are a mixture of fill and gneissic outwash.

The *Ground-Water Resources of Kings and Queens Counties, Long Island, New York* (1999) and the *Quaternary Geologic Map of the Hudson River 4° x 6° Quadrangle, United States and Canada* (1992) indicates the surficial soils are underlain by Upper Pleistocene deposits consisting of outwash sand, gravel and silt to a depth of approximately 100 ftbg. The Upper Pleistocene deposits

are, in turn, underlain by approximately 50 feet of the Gardiners Clay (100 to 150 ftbg), which consists of greenish gray clay and silt and some interbedded sand. Underlying the Gardiners Clay is approximately 50 feet of the Jameco Gravel (150 to 200 ftbg), which consists of fine sand to gravel with some lenses of clay and silt. Underlying the Jameco Gravel is approximately 175 feet of the Raritan Formation, which is composed of two members. The first Raritan Formation Member is 100 feet of the Raritan Clay Member (200 to 300 ftbg), consisting of clay beds with inclusions of silty clay and clayey silts; and the second Raritan Formation Member is 75 feet of the Lloyd Sand (300 to 375 ftbg). The Lloyd Sand is the final unconsolidated unit before bedrock, and consists of fine to coarse quartz sand. These deposits are, in turn, underlain by crystalline metamorphic bedrock, expected to be encountered at approximately 375 ftbg.

Record of Borings (ROBs) from the geotechnical investigation conducted by CDM Smith in June of 2015 was provided by DDC. The ROBs indicate the entire Corridor is underlain by at least 6 feet of fill consisting of sand, gravel, silt, wood, cobbles, boulders, brick, concrete, plastic, rope, and debris. Underlying the fill is sand and/or gravel with varying amounts of silt, to a depth of at least 40 ftbg.

During the advancement of soil borings for this Phase II investigation, anthropogenic fill was observed in 28 soil borings (SB03-SB05, SB09-SB20, SB22-SB29, and SB31-SB35) to depths ranging up to 20 ftbg. Where anthropogenic fill was not noted, a combination of mostly moderate brown and dark yellowish brown to pale and light brown, and pale green to light brown, consisting of sandy cobbles to clay, with mostly silty sand was observed.

2.5 Corridor and Regional Hydrogeology

Based on surface topography and the location of Jamaica Bay, under natural conditions, groundwater flow direction would be to the southeast towards Fresh Creek and Hendrix Creek and ultimately into Jamaica Bay, located approximately 2 miles southeast of the Corridor. All references to groundwater flow direction/hydraulic gradient in this report are based upon this assumption. Based on the observation wells in the aforementioned ROBs, groundwater was encountered in the southwestern portion of the Corridor at a depth of approximately 35 ftbg at the intersection of East New York Avenue and Sterling Place (B-17(OW)). The ROBs indicate that groundwater is deeper than 35 ftbg in the northeastern portion of the Corridor, as evidenced by the dry observation wells along Jamaica Avenue and Atlantic Avenue. Groundwater can also be influenced by seasonal fluctuations in precipitation, local variations in geology, underground anthropogenic structures, and/or local dewatering operations.

According to the U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory, no wetlands are located along the Corridor; however, the Ridgewood Reservoir is located approximately 0.75 miles northeast of the northeastern extent of the Corridor, a freshwater pond (classification code of PUBHh). Adjacent to and surrounding the Ridgewood Reservoir is a freshwater emergent wetland (classification code PEM1Fh) and approximately 200 feet to the east of the Ridgewood Reservoir are two (2) small forested shrub areas (classification codes PSS1C and PFO1C).

According to the environmental database report (Appendix C of the Phase I CAR) and Federal Emergency Management Agency (FEMA) Floor Insurance Rate Map (FIRM) Panels 3604970216F and 3604970217F (FEMA, 2007) the Corridor is not located within the 500-year or 100-year flood zones.

3.0 CORRIDOR EVALUATION

Proposed construction activities within the Corridor include soil excavation, which requires that soils be characterized to identify material handling requirements (i.e., use of protective equipment) and waste disposal requirements. Louis Berger advanced 35 soil borings during the field investigation conducted on May 8 through 24, 2017. The field investigation was performed at designated areas in the vicinity of the planned excavation area. All drilling and hand-clearing activities were performed by ADT under the oversight of Louis Berger. A summary of the field observations and details of the soil borings are provided in Table 1.

3.1 Soil Quality Investigation

Soil borings SB01, SB02, SB05, SB09, SB10, SB12, SB16, SB19, SB20, SB25, and SB32 were advanced utilizing evasive methods (i.e., a hand auger and/or hand tools) to terminal depths ranging from 3 to 6 ftbg. Soil borings SB03, SB04, SB06-SB08, SB11, SB13-SB15, SB17, SB18, SB21-SB24, SB26-SB31, and SB33-SB35 were advanced utilizing both a hand auger and a Geoprobe® direct push drill rig to terminal depths ranging from 6.5 to 20 ftbg. Refusal was encountered in 10 of the 12 soil boring locations at depths ranging from 3 to 12 ftbg. Refusals were likely encountered due to large boulders, which were observed during clearing activities. To ensure the clearance of sensitive subsurface utilities and features, the soil boring locations were pre-cleared to a depth of 6 ftbg via evasive methods (i.e., a hand auger, Vactron, and/or air knife), except where refusal was encountered at less than 6 ftbg. Soil boring locations are depicted on Figure 2. The designations and sampling intervals for the samples that were submitted to the laboratory are included in Table 1. Maps depicting each boring location are included in Appendix A. Boring logs are provided in Appendix B. The location of each boring is described below:

- **SB01** – Located in a tree pit along the eastern curb line of Tapscott Street, 35 feet and 9 inches northeast of the western curb line of Tapscott Street, and 50 feet and 2 inches southeast of the southeastern curb line of East New York Avenue.
- **SB02** – Located in the sidewalk along the southeastern curb line of East New York Avenue, 57 feet and 4 inches southeast of the northwestern curb line of East New York Avenue, and 47 feet and 10 inches southwest of the western curb line of Howard Avenue.
- **SB03** – Located in the sidewalk along the northern curb line of East New York Avenue, 51 feet north of the southern curb line of Pitkin Avenue, and 50 feet and 8 inch east of the eastern curb line of Howard Avenue.

- **SB04** – Located in the sidewalk along the southern curb line of Pitkin Avenue, 89 feet and 6 inches southeast of the northwestern curb line of East New York Avenue, and 40 feet and 9 inches west of the western curb line of Grafton Street.
- **SB05** – Located in the sidewalk along the northwestern curb line of East New York Avenue, 45 feet and 2 inches northwest of the southeastern curb line of East New York Avenue, and 18 feet and 4 inches southwest of the southwestern curb line of Lincoln Place.
- **SB06** – Located in a tree pit along the western curb line of Saratoga Avenue, 47 feet and 10 inches southwest of the eastern curb line of Saratoga Avenue, and 60 feet and 2 inches southeast of the southeastern curb line of East New York Avenue.
- **SB07** – Located in a tree pit along the northern curb line of St. John’s Place, 54 feet and 5 inches northeast of the northern curb line of the traffic island, and 51 feet and 5 inches east of the eastern curb line of Saratoga Avenue.
- **SB08** – Located in a tree pit along the northwestern curb line of East New York Avenue, 42 feet northwest of the southeastern curb line of East New York Avenue, and 225 feet and 2 inches southwest of the southwestern curb line of Sterling Place.
- **SB09** – Located in the sidewalk along the southern curb line of Sterling Place, 35 feet and 11 inches southwest of the northern curb line of Sterling Place, and 33 feet and 2 inches northwest of the northwestern curb line of East New York Avenue.
- **SB10** – Located in the sidewalk along the southwestern curb line of East New York Avenue, 50 feet northeast of the western curb line of Amboy Street, and 15 feet and 8 inches southeast of the southwestern curb line of East New York Avenue.
- **SB11** – Located in a tree pit along the eastern curb line of Thomas Boyland Street, 47 feet and 5 inches northeast of the western curb line of Thomas Boyland Street, and 87 feet and 10 inches southeast of the southwestern curb line of East New York Avenue.
- **SB12** – Located in a tree pit along the western curb line of Bristol Street, 37 feet and 10 inches southwest of the eastern curb line of Bristol Street, and 49 feet and 6 inches southeast of the southwestern curb line of East New York Avenue.

- **SB13** – Located in the sidewalk along the northern curb line of Park Place, 58 feet and 5 inches north of the southeastern curb line of East New York Avenue, and 300 feet and 4 inches southeast of the eastern curb line of Thomas Boyland Street.
- **SB14** – Located in a tree pit along the southeastern curb line of East New York Avenue, 37 feet and 7 inches southeast of the northwestern curb line of East New York Avenue, and 49 feet and 10 inches southwest of the western curb line of Rockaway Avenue.
- **SB15** – Located in the sidewalk along the southern curb line of Prospect Place, 47 feet and 2 inches south of the northern curb line of Prospect Place, and 58 feet and 3 inches northwest of the southeastern curb line of East New York Avenue.
- **SB16** – Located in the sidewalk along the southeastern curb line of East New York Avenue, 42 feet and 2 inches southeast of the northwestern curb line of East New York Avenue, and 96 feet and 9 inches northeast of the western curb line of Rockaway Avenue.
- **SB17** – Located in the sidewalk along the southeastern curb line of East New York Avenue, 59 feet and 10 inches southeast of the northwestern curb line of East New York Avenue, and 258 feet and 10 inches southwest of the western corner of the intersection of St. Marks Avenue and East New York Avenue.
- **SB18** – Located in the sidewalk along the northern curb line of St. Marks Avenue, 98 feet and 10 inches north of the southeastern curb line of East New York Avenue, and 67 feet and 9 inches west of the northwestern curb line of East New York Avenue.
- **SB19** – Located in the sidewalk along the western curb line of Mother Gaston Boulevard, 42 feet and 10 inches west of the eastern curb line of Mother Gaston Boulevard, and 47 feet north of the northwestern curb line of East New York Avenue.
- **SB20** – Located in a tree pit along the western curb line of Mother Gaston Boulevard, 55 feet and 5 inches southwest of the eastern curb line of Mother Gaston Boulevard, and 39 feet and 7 inches southeast of the southeastern curb line of East New York Avenue.
- **SB21** – Located in the sidewalk on the northern curb line of Bergen Street, 45 feet and 7 inches north of the southern curb line of Bergen Street, and 91 feet and 8 inches east of the eastern curb line of Mother Gaston Boulevard.

- **SB22** – Located in a tree pit along the western curb line of Christopher Avenue, 35 feet southwest of the eastern curb line of Christopher Avenue, and 51 feet and 10 inches southeast of the southeastern curb line of East New York Avenue.
- **SB23** – Located the sidewalk along the southeastern curb line of East New York Avenue, 45 feet and 8 inches southeast of the northwestern curb line of East New York Avenue, and 61 feet and 2 inches northeast of the eastern curb line of Sackman Street.
- **SB24** – Located in a tree pit along the eastern curb line of Sackman Street, 32 feet and 9 inches northeast of the western curb line of Sackman Street, and 37 feet southeast of the southeastern curb line of East New York Avenue.
- **SB25** – Located in the sidewalk along the western curb line of Sackman Street, 31 feet and 6 inches west of the western curb line of the traffic island, and 65 feet and 2 inches south of the northern curb line of Dean Street.
- **SB26** – Located in a tree pit along the eastern curb line of Powell Street, 35 feet and 5 inches northeast of the western curb line of Powell Street, and 100 feet and 7 inches southeast of the southeastern curb line of East New York Avenue.
- **SB27** – Located in a tree pit along the western curb line of Junius Street, 33 feet and 2 inches southwest of the eastern curb line of Junius Street, and 65 feet and 5 inches southeast of the southeastern curb line of East New York Avenue.
- **SB28** – Located in a tree pit along the western curb line of Vermont Street, 32 feet west of the eastern curb line of Vermont Street, and 45 feet and 4 inches north of the northwestern curb line of Jamaica Avenue.
- **SB29** – Located in a tree pit along the eastern curb line of Marginal Street East, 27 feet and 5 inches east of the western curb line of Marginal Street East, and 40 feet and 2 inches north of the northwestern curb line of Jamaica Avenue.
- **SB30** – Located in a tree pit along the eastern curb line of New Jersey Avenue, 32 feet east of the western curb line of New Jersey Avenue, and 51 feet and 4 inches south of the southeastern curb line of Jamaica Avenue.

- **SB31** – Located in a tree pit along the eastern curb line of Pennsylvania Avenue, 67 feet and 5 inches east of the western curb line of Pennsylvania Avenue, and 46 feet and 2 inches south of the southeastern curb line of Jamaica Avenue.
- **SB32** – Located in the grass along the northeastern curb line of Bushwick Avenue, 62 feet and 10 inches northeast of the southwestern curb line of Bushwick Avenue, and 20 feet and 9 inches northwest of the western curb line of exit ramp from the Jackie Robinson Parkway.
- **SB33** – Located in the sidewalk along the northern curb line of Jamaica Avenue, 135 feet and 4 inches northwest of the southeastern curb line of Jamaica Avenue, and 36 feet and 8 inches west of the intersection of Jamaica Avenue and Bushwick Avenue.
- **SB34** – Located in the sidewalk along the southeastern curb line of Jamaica Avenue, 122 feet southeast of the northwestern curb line of Jamaica Avenue, and 34 feet northeast of the eastern curb line of Sheffield Avenue.
- **SB35** – Located in the sidewalk along the southeastern curb line of Jamaica Avenue, 110 feet southeast of the northwestern curb line of Jamaica Avenue, and 61 feet and 4 inches southwest of the eastern curb line of Sheffield Avenue.

Soil from each boring was classified and examined for visual evidence (i.e., staining, discoloration) and any olfactory indications (i.e., odors) of contamination. In addition, a PID was used to screen the soil for VOC vapors.

In order to identify representative conditions relative to the presence of PAHs, TCLP metals, PCBs, total petroleum hydrocarbons, RCRA characteristics, and conditions relative to waste disposal in each boring, composite soil samples were collected at each boring location. Based on the DDC protocol regarding soil sample collection for waste classification analysis, composite soil samples for SB01 through SB35 were collected from the ground surface to the terminal depth of the boring. Composite soil samples were collected by mixing the soil from the column in a decontaminated stainless steel bowl.

In order to identify representative conditions relative to the presence of VOCs, grab samples were collected from either the most impacted interval, as identified via visual and olfactory observation, the 6-inch interval above the water table (when encountered), or the 6-inch interval above the bottom of the boring (where recovery allowed).

Soil classification information, including stratigraphy, is documented on the boring logs provided in Appendix B. All boring equipment was cleaned by rinsing with deionized water, scrubbed with Alconox®, and then rinsed with deionized water a second time between each sample location to prevent any cross-contamination. Following the completion of each boring, the boreholes were backfilled with removed material and then sealed with ready mixed concrete or cold patch asphalt, where appropriate.

3.2 Laboratory Analyses

Soil samples were submitted to HC-V of Fairfield, New Jersey, which is a NYSDOH ELAP-certified analytical laboratory (No. 11408). Field-derived Quality Assurance/Quality Control samples were not collected for this project. Laboratory analytical reports are included in Appendix C.

The grab soil samples SB01 through SB35 were analyzed for TCL VOCs using USEPA Method 8260C. The composite soil samples SB01 through SB35 were analyzed for PAHs by USEPA Method 8270C, TPH-DRO/GRO by USEPA 8015B, PCBs by USEPA Method 8082A/608, TCLP Metals (RCRA 8) by USEPA Method 1311/6010B, and RCRA Characteristics, including ignitability, reactivity and corrosivity, by USEPA Methods 9012B/9034, 1030/1010A, and 9045C, respectively, as well as Paint Filter Test by USEPA Method 9095B, for waste classification purposes.

3.3 Data Evaluation

In order to evaluate subsurface soil quality for waste characterization purposes, laboratory analytical results of grab and composite soil samples were compared with regulatory standards identified in: New York State Department of Environmental Conservation (NYSDEC) Subpart 375-6: Remedial Program Unrestricted, Restricted-Residential, and Commercial Use (Track 1 and Track 2) Soil Cleanup Objectives (SCOs) and/or Toxicity Characteristic Regulatory Levels for Hazardous Waste published in RCRA and 6 New York Codes, Rules and Regulations (NYCRR) Part 371.

4.0 FINDINGS

This section discusses the analytical data and findings for activities discussed in Section 3.0. Boring logs can be found in Appendix B. A complete analytical data report is included in Appendix C.

4.1 Field Screening

Field screening consisted of identifying visual and olfactory indicators of potential impact, as well as screening soil for VOC vapors with a PID. No visual and olfactory contamination was indicated in any of the 35 borings. A summary of the environmental boring data is presented in Table 1.

4.2 Laboratory Analytical Results

4.2.1 Target Compound List (TCL) Volatile Organic Compounds (VOCs) in Soil

One (1) VOC, methylene chloride, was detected above the laboratory's reporting limits in the two (2) soil samples collected from SB12 and SB20; however, the detected concentrations were below regulatory standards. A summary of the VOC results is provided as Table 2.

4.2.2 Polycyclic Aromatic Hydrocarbons (PAHs) in Soil

Several PAHs were detected above the laboratory's reporting limits in 18 soil samples (SB01-SB02, SB04, SB08-SB10, SB12, SB19-SB20, SB22-SB24, SB26-SB29, SB32, and SB34); however, only soil samples from SB10 and SB29 exhibited concentrations above regulatory standards.

The following exceedances of regulatory standards were found during the Phase II SCI:

Soil Sample SB10

- Benzo(a)pyrene (1.7 parts per million [ppm]) was detected above the Unrestricted Use (Track 1), Restricted Residential Use (Track 2), and Commercial Use (Track 2) SCOs.
- Benzo[a]anthracene (2.0 ppm), benzo[b]fluoranthene (2.3 ppm); dibenzo[a,h]anthracene (0.33 ppm), and indeno[1,2,3-cd]pyrene (0.94 ppm) were detected above the Unrestricted Use (Track 1) and Restricted Residential Use (Track 2) SCOs;
- Chrysene (1.9 ppm) was detected above the Unrestricted Use (Track 1) SCO.

Soil Sample SB29

- Benzo(a)pyrene (1.2 ppm) was detected above the Unrestricted Use (Track 1), Restricted Residential Use (Track 2), and Commercial Use (Track 2) SCOs.
- Benzo[a]anthracene (1.5 ppm), benzo[b]fluoranthene (1.5 ppm), and indeno[1,2,3-cd]pyrene (0.64 ppm) were detected above the Unrestricted Use (Track 1) and Restricted Residential Use (Track 2) SCOs;
- Chrysene (1.5 ppm) was detected above the Unrestricted Use (Track 1) SCO.

A summary of PAH analytical results is provided in Table 3.

4.2.3 Polychlorinated Biphenyls (PCBs) in Soil

Laboratory results indicate a PCB detection in soil sample SB10 (0.092 ppm); however, it was not above the regulatory standards. A summary of the PCB results is provided as Table 4.

4.2.4 Waste Classification of Soil

TCLP Metals

Waste characterization laboratory results indicate that TCLP barium was detected in 21 soil samples (SB01-SB06, SB08-SB12, SB18-SB21, SB23, SB25, SB28, SB29, SB32, and SB33) at concentrations ranging from 0.28 mg/L (SB03 and SB08) to 0.74 mg/L (SB01), and TCLP lead was detected in five (5) soil samples (SB02, SB09, SB19, SB20, and SB33) at concentrations ranging from 0.066 mg/L (SB19) to 1.4 mg/L (SB02). These concentrations were observed to be below RCRA Hazardous Waste Levels. Results of the TCLP metals analysis indicate that soil samples collected from the Corridor do not exhibit evidence of the Hazardous Waste characteristics for Toxicity. A summary of the waste characterization parameters is provided as Table 5.

Total Petroleum Hydrocarbons (TPH)

TPH-DRO was detected in nine (9) soil samples (SB01, SB02, SB10, SB12, SB18, SB21, SB23, SB29, and SB32) with a maximum concentration of 270 ppm at SB10. TPH-GRO concentrations were not detected in any of the soil samples. No regulatory standards exist for TPH. A summary of the waste characterization parameters is provided as Table 5.

RCRA Parameters (Reactivity, Corrosivity, Ignitability)

- The analytical laboratory results of the soil samples show that none of the RCRA parameters (reactivity, ignitability, or corrosivity) were detected or exceeded. The pH of the samples was found to be within the RCRA limits of 2 and 12.5. The flash point was greater than 140 degrees

Fahrenheit in the soil beneath the Corridor; therefore, the RCRA characteristics for ignitability were negative. Reactive cyanide and reactive sulfide were not detected in any of the soil samples. However, positive detections for the paint filter test were found in the two (2) soil samples from SB19 and SB28, which is indicative of the presence of free liquids in the soil. However, field observations indicated that the soils from both samples were moist. Therefore, it is believed that these samples were compromised from ice melt during transport to the lab and that these results are not representative of actual soil conditions.

Therefore, results of these analyses indicate that the soil samples collected from the Corridor do not exhibit evidence of hazardous waste characteristics. A summary of the waste characterization parameters is provided as Table 5.

5.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the evaluation of the field screening data and the laboratory analytical results, and a comparison to applicable regulatory standards, the following findings, conclusions, and recommendations are presented:

Findings

- No visual or olfactory evidence of contamination was observed and no elevated PID readings were detected at any soil boring location;
- Fill material, of mostly moderate brown to dark yellowish brown to pale brown, and pale green to olive gray, consisting of sandy cobbles to clay, and mostly with silty sand, was found in all 35 soil boring locations at depths ranging from 0 to 20 ftbg. Anthropogenic fill material was observed in 28 of the 35 borings (SB03-SB05, SB09-SB20, SB22-SB29, and SB31-SB35). The anthropogenic fill material consisted of brick, asphalt, ash, slag, glass, plastic, and concrete. Anthropogenic fill was observed at depths ranging from ground surface to 20 ftbg;
- Groundwater was not encountered at any of the boring locations. Bedrock was not encountered at any of the boring locations;
- One (1) VOC (methylene chloride) was detected above the laboratory's reporting limits in soil samples collected from SB12 and SB20; however, it was not above the regulatory standards;
- Several PAHs were detected above the laboratory's reporting limits in 18 soil samples (SB01-SB02, SB04, SB08-SB10, SB12, SB19-SB20, SB22-SB24, SB26-SB29, SB32, and SB34); however, only two (2) soil samples (SB10 and SB29) exhibited concentrations above regulatory standards. Laboratory results indicate that benzo(a)pyrene was detected above the Unrestricted Use (Track 1), Restricted Residential Use (Track 2), and Commercial Use (Track 2) SCOs at 1.7 ppm in SB10 and 1.2 ppm in SB29. Benzo[a]anthracene (2.0 ppm in SB10 and 1.5 ppm in SB29), benzo[b]fluoranthene (2.3 ppm in SB10 and 1.5 ppm SB29), dibenzo[a,h]anthracene (0.33 ppm in SB10), and indeno[1,2,3-cd]pyrene (0.94 ppm in SB10 and 0.64 ppm in SB29) were detected above the Unrestricted Use (Track 1) and Residential Use (Track 2) SCOs. Chrysene (1.9 ppm in SB10 and 1.5 ppm in SB29) was detected above the Unrestricted Use (Track 1) SCO.
- Laboratory results indicate a PCB detection above the laboratory's reporting limits in the soil sample collected from SB10; however it was not above the regulatory standards;

- Waste characterization laboratory results indicate that TCLP barium was detected in 21 soil samples (SB01-SB06, SB08-SB12, SB18-SB21, SB23, SB25, SB28-SB29, SB32, and SB33), and TCLP lead was detected in five (5) soil samples (SB02, SB09, SB19-SB20, and SB33). All detected concentrations for TCLP barium and TCLP lead were below RCRA Hazardous Waste Levels;
- TPH-GRO was not detected in any of the waste characterization soil samples, while TPH-DRO concentrations were detected above the laboratory's reporting limits in nine (9) waste characterization soil samples (SB01, SB02, SB10, SB12, SB18, SB21, SB23, SB29, and SB32); however, there are no regulatory standards for TPH; and
- The analytical laboratory results of the soil samples show that none of the RCRA parameters (reactivity, ignitability, or corrosivity) were detected or exceeded. Therefore, results of these analyses indicate that the soil samples collected from the Corridor do not exhibit evidence of hazardous waste characteristics. However, positive detections for the paint filter test were found in two (2) soil samples (SB19 and SB28); which is indicative of the presence of free liquids in those samples. However, field observations of the soils for both samples show a moisture content of moist. Therefore, it is believed that these samples were compromised from ice melt during transport to the lab and that these results are not representative of actual soil conditions.

Conclusions

- Fill material, consisting mostly of moderate brown to dark yellowish brown to pale brown, and pale green to olive gray, sandy cobbles to clay, and mostly with silty sand, was found in all 35 soil boring locations at depths ranging from 0 to 20 ftbg. Anthropogenic fill material was observed in 28 of the 35 borings (SB03-SB05, SB09-SB20, SB22-SB29, and SB31-SB35). The anthropogenic fill material consisted of brick, asphalt, ash, slag, glass, plastic, and concrete. Anthropogenic fill was observed at depths ranging from ground surface to 20 ftbg;
- Groundwater was not encountered at any of the boring locations. Bedrock was not encountered at any of the boring locations;
- One (1) VOC (methylene chloride) was detected above the laboratory's reporting limits in soil samples collected from SB12 and SB20; however, all concentrations were below the regulatory standards;

- Several PAHs were detected above the laboratory's reporting limits in 18 soil samples; however, only two (2) soil samples (SB10 and SB29) exhibited concentrations above regulatory standards. Laboratory results indicate that benzo(a)pyrene was detected above the Unrestricted Use (Track 1), Restricted Residential Use (Track 2), and Commercial Use (Track 2) SCOs in SB10 and in SB29. Benzo[a]anthracene, benzo[b]fluoranthene, and indeno[1,2,3-cd]pyrene were detected above the Unrestricted Use (Track 1) and Residential Use (Track 2) SCOs in both SB10 and SB29, while dibenzo[a,h]anthracene was detected above those two SCOs in SB10 only. Chrysene was detected above the Unrestricted Use (Track 1) SCO in SB10 and SB29. Lithology indicates the presence of historic fill material in all soil borings; therefore, the PAH exceedances may be attributed to contaminants related to historic fill material;
- Total PCBs were detected above the laboratory's reporting limits in the soil sample collected from SB10; however, it was below the regulatory standards;
- Waste characterization laboratory results indicate that TCLP barium was detected in 21 soil samples and TCLP lead was detected in five (5) soil samples. All detected concentrations for TCLP barium and TCLP lead were below RCRA Hazardous Waste Levels;
- No TPH-GRO concentrations were detected above the laboratory's reporting limits in any of the waste characterization soil samples. TPH-DRO was detected in nine (9) soil samples with a maximum concentration of 270 ppm in soil sample SB10; however, there are no regulatory standards for TPH. Lithology shows the presence of fill material in all of the soil borings; therefore, the TPH-DRO detection may be attributed to historic fill material. It is also possible that the TPH concentration observed during the Phase II SCI is the result of petroleum releases within or adjacent to the Corridor;
- Laboratory results indicate that the soil samples collected beneath the Corridor do not exhibit evidence of hazardous waste characteristics. However, positive detections for the paint filter test were found in two (2) soil samples, SB19 and SB28, which is indicative of the presence of free liquids. However, field observations of the soils for both samples show a moisture content of moist. Therefore, it is believed that these samples were compromised from ice melt during transport to the lab and that these results are not representative of actual soil conditions.

Recommendations

- The Contract documents should identify provisions for managing, handling, transporting and disposing of contaminated non-hazardous soil. The Contractor should be required to submit a

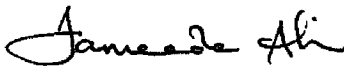
Material Handling Plan to identify the specific protocol and procedures that will be employed to manage the waste in accordance with applicable regulations;

- Dust control procedures are recommended and should be implemented during excavation activities to minimize the creation and dispersion of fugitive airborne dust. The Contractor should implement dust control measures to minimize potential airborne contaminants (i.e., PAHs) released into the ambient environment as a direct result of construction activities;
- Groundwater was not encountered during the Phase II SCI activities. However, if dewatering is necessary, the contractor will be required to obtain a New York City Department of Environmental Protection (NYCDEP) sewer discharge permit and perform sampling and laboratory analysis prior to discharge into the combined sewers;
- In addition, should discharge into a surface water body be required during dewatering, it may be performed under the appropriate NYSDEC State Pollutant Discharge Elimination System (SPDES) permit. Additional sampling and laboratory analysis may be required to satisfy NYSDEC requirements prior to discharge into the surface water body; and,
- Before beginning any excavation activity, the contractor should submit a site-specific health and safety plan (HASP) that will meet the requirements set forth by the Occupational, Safety and Health Administration (OSHA), the NYSDOH and any other applicable regulations. The HASP should identify the possible locations and risks associated with the potential contaminants that may be encountered, and the administrative and engineering controls that will be utilized to mitigate concerns.

6.0 STATEMENT OF LIMITATIONS

The data presented and the opinions expressed in this report are qualified as stated in the attachment to this section of the report.

Report Prepared By:



Fameeda Ali, CHMM, ENV SP
Project Manager

Report Reviewed By:



Michael J. McCloskey, PG
Principal Associate

STATEMENT OF LIMITATIONS

The data presented and the opinions expressed in this report are qualified as follows:

The sole purpose of the investigation and of this report is to assess the physical characteristics of the Site with respect to the presence or absence in the environment of oil or hazardous materials and substances as defined in the applicable state and federal environmental laws and regulations and to gather information regarding current and past environmental conditions at the Site.

Louis Berger derived the data in this report primarily from visual inspections, examination of records in the public domain, interviews with individuals with information about the Site, and a limited number of subsurface explorations made on the dates indicated. The passage of time, manifestation of latent conditions or occurrence of future events may require further exploration at the Site, analysis of the data, and reevaluation of the findings, observations, and conclusions expressed in the report.

In preparing this report, Louis Berger has relied upon and presumed accurate certain information (or the absence thereof) about the Site and adjacent properties provided by governmental officials and agencies, the Client, and others identified herein. Except as otherwise stated in the report, Louis Berger has not attempted to verify the accuracy or completeness of any such information.

The data reported and the findings, observations, and conclusions expressed in the report are limited by the Scope of Services, including the extent of subsurface exploration and other tests. The Scope of Services was defined by the requests of the Client, the time and budgetary constraints imposed by the Client, and the availability of access to the Site.

Because of the limitations stated above, the findings, observations, and conclusions expressed by Louis Berger in this report are not, and should not be considered, an opinion concerning the compliance of any past or present owner or operator of the site with any federal, state or local law or regulation. No warranty or guarantee, whether express or implied, is made with respect to the data reported or findings, observations, and conclusions expressed in this report. Further, such data, findings, observations, and conclusions are based solely upon site conditions in existence at the time of investigation.

This report has been prepared on behalf of and for the exclusive use of the Client, and is subject to and issued in connection with the Agreement and the provisions thereof.

TABLES

- TABLE 1 – SUMMARY OF ENVIRONMENTAL BORING DATA
- TABLE 2 – SUMMARY OF TCL VOCs DETECTED IN SOIL
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Table 1. Summary of Environmental Boring Data
Phase II Subsurface Corridor Investigation for Trunk Water Main Replacement in East New York Avenue
Brooklyn, New York

Boring No.	Sample ID	High PID (ppm)	Sample Interval (ftbg)	Total VOCs (mg/kg)	Total PAHs (mg/kg)	TCLP Metals Exceed (Yes/No) ¹	Depth to Water (ftbg)	Total Depth (ftbg)	Other Comments
SB01	SB01	<1	5.5 - 6.0 0.5 - 6.0	ND -	- 6.633	NO	NE	6.0	No visual or olfactory signs of contamination observed. Fill material was observed.
SB02	SB02	<1	5.5 - 6.0 0.5 - 6.0	ND -	- 6.242	NO	NE	6.0	No visual or olfactory signs of contamination observed. Fill material was observed.
SB03	SB03	<1	13.25 - 13.75 0.5 - 13.75	ND -	- ND	NO	NE	15.0	No visual or olfactory signs of contamination observed. Fill material was observed.
SB04	SB04	<1	12.5 - 13.0 0.5 - 13.0	ND -	- ND	NO	NE	13.0	No visual or olfactory signs of contamination observed. Fill material was observed.
SB05	SB05	<1	5.5 - 6.0 0.5 - 6.0	ND -	- ND	NO	NE	6.0	No visual or olfactory signs of contamination observed. Fill material was observed.
SB06	SB06	<1	13.0 - 13.5 0.5 - 13.5	ND -	- ND	NO	NE	15.0	No visual or olfactory signs of contamination observed. Fill material was observed.
SB07	SB07	<1	13.0 - 13.5 0.5 - 13.5	ND -	- ND	NO	NE	15.0	No visual or olfactory signs of contamination observed. Fill material was observed.
SB08	SB08	<1	7.5 - 8.0 0.5 - 8.0	ND -	- 0.433	NO	NE	10.0	No visual or olfactory signs of contamination observed. Fill material was observed.
SB09	SB09	<1	5.5 - 6.0 0.5 - 6.0	ND -	- 0.261	NO	NE	6.0	No visual or olfactory signs of contamination observed. Fill material was observed.
SB10	SB10	<1	2.5 - 3.0 0.5 - 3.0	ND -	- 18.78	NO	NE	3.0	No visual or olfactory signs of contamination observed. Fill material was observed.
SB11	SB11	<1	17.0 - 17.5 0.5 - 17.5	ND -	- ND	NO	NE	20.0	No visual or olfactory signs of contamination observed. Fill material was observed.
SB12	SB12	<1	5.5 - 6.0 0.5 - 6.0	0.021 -	- 3.171	NO	NE	6.0	No visual or olfactory signs of contamination observed. Fill material was observed.
SB13	SB13	<1	13.0 - 13.5 0.5 - 13.5	ND -	- ND	NO	NE	15.0	No visual or olfactory signs of contamination observed. Fill material was observed.
SB14	SB14	<1	9.0 - 9.5 0.5 - 9.5	ND -	- ND	NO	NE	10.0	No visual or olfactory signs of contamination observed. Fill material was observed.

Notes:

- ¹ - TCLP metal(s) exceeds Resource Conservation and Recovery Act (RCRA) Hazardous Waste Levels.
- All soil samples were analyzed for Target Compound List (TCL) Volatile Organic Compounds, Polycyclic Aromatic Hydrocarbons (PAHs), Polychlorinated Biphenyls (PCBs), Toxicity Characteristic Leaching Procedure (TCLP) for Metals (RCRA 8), Total Petroleum Hydrocarbons, and RCRA Characteristics.
- PID = Photoionization detector
- ND = Not Detected
- NE = Not Encountered
- ftbg = feet below ground surface

DDC Project Number: BED776

Work Order Letter No. 12450-LBA-4-11627

Table 1. Summary of Environmental Boring Data Continued
Phase II Subsurface Corridor Investigation for Trunk Water Main Replacement in East New York Avenue
Brooklyn, New York

Boring No.	Sample ID	High PID (ppm)	Sample Interval (ftbg)	Total VOCs (mg/kg)	Total PAHs (mg/kg)	TCLP Metals Exceed (Yes/No) ¹	Depth to Water (ftbg)	Total Depth (ftbg)	Other Comments
SB15	SB15	<1	12.5 - 13.0	ND	ND	NO	NE	15.0	No visual or olfactory signs of contamination observed. Fill material was observed.
SB16	SB16	<1	5.5 - 6.0	ND	ND	NO	NE	6.0	No visual or olfactory signs of contamination observed. Fill material was observed.
SB17	SB17	<1	9.5 - 10.0	ND	ND	NO	NE	10.0	No visual or olfactory signs of contamination observed. Fill material was observed.
SB18	SB18	<1	10.5 - 11.0	ND	ND	NO	NE	12.0	No visual or olfactory signs of contamination observed. Fill material was observed.
SB19	SB19	<1	5.5 - 6.0	ND	1.182	NO	NE	6.0	No visual or olfactory signs of contamination observed. Fill material was observed.
SB20	SB20	<1	4.0 - 4.5	0.028	2.548	NO	NE	4.5	No visual or olfactory signs of contamination observed. Fill material was observed.
SB21	SB21	<1	7.5 - 8.0	ND	ND	NO	NE	8.5	No visual or olfactory signs of contamination observed. Fill material was observed.
SB22	SB22	<1	8.25 - 8.75	ND	0.085	NO	NE	10.0	No visual or olfactory signs of contamination observed. Fill material was observed.
SB23	SB23	<1	11.5 - 12.0	ND	0.386	NO	NE	13.0	No visual or olfactory signs of contamination observed. Fill material was observed.
SB24	SB24	<1	7.5 - 8.0	ND	0.232	NO	NE	8.0	No visual or olfactory signs of contamination observed. Fill material was observed.
SB25	SB25	<1	4.5 - 5.0	ND	ND	NO	NE	5.0	No visual or olfactory signs of contamination observed. Fill material was observed.
SB26	SB26	<1	8.25 - 8.75	ND	0.933	NO	NE	9.5	No visual or olfactory signs of contamination observed. Fill material was observed.
SB27	SB27	<1	13.5 - 14.0	ND	0.042	NO	NE	15.0	No visual or olfactory signs of contamination observed. Fill material was observed.
SB28	SB28	<1	6.0 - 6.5	ND	0.88	NO	NE	6.5	No visual or olfactory signs of contamination observed. Fill material was observed.

Notes:

- TCLP metal(s) exceeds Resource Conservation and Recovery Act (RCRA) Hazardous Waste Levels. All soil samples were analyzed for Target Compound List (TCL) Volatile Organic Compounds, Polycyclic Aromatic Hydrocarbons (PAHs), Polychlorinated Biphenyls (PCBs), Toxicity Characteristic Leaching Procedure (TCLP) for Metals (RCRA 8), Total Petroleum Hydrocarbons, and RCRA Characteristics.
- PID = Photoionization detector
 ND = Not Detected
 NE = Not Encountered
 ftbg = feet below ground surface

DDC Project Number: BED776

Work Order Letter No. 12450-LBA-4-11627

Table 1. Summary of Environmental Boring Data Continued
Phase II Subsurface Corridor Investigation for Trunk Water Main Replacement in East New York Avenue
Brooklyn, New York

Boring No.	Sample ID	High PID (ppm)	Sample Interval (ftbg)	Total VOCs (mg/kg)	Total PAHs (mg/kg)	TCLP Metals Exceed (Yes/No) ¹	Depth to Water (ftbg)	Total Depth (ftbg)	Other Comments
SB29	SB29	<1	6.0 - 6.5 0.5 - 6.5	ND -	- 20.08	NO	NE	6.5	No visual or olfactory signs of contamination observed. Fill material was observed.
SB30	SB30	<1	8.5 - 9.0 0.5 - 9.0	ND -	ND	NO	NE	10.0	No visual or olfactory signs of contamination observed. Fill material was observed.
SB31	SB31	<1	9.0 - 9.5 0.5 - 9.5	ND -	ND	NO	NE	10.0	No visual or olfactory signs of contamination observed. Fill material was observed.
SB32	SB32	<1	3.25 - 3.75 0.5 - 3.75	ND -	- 2.73	NO	NE	3.75	No visual or olfactory signs of contamination observed. Fill material was observed.
SB33	SB33	<1	9.0 - 9.5 0.5 - 9.5	ND -	ND	NO	NE	10.0	No visual or olfactory signs of contamination observed. Fill material was observed.
SB34	SB34	<1	6.5 - 7.0 0.5 - 7.0	ND -	- 8.696	NO	NE	10.0	No visual or olfactory signs of contamination observed. Fill material was observed.
SB35	SB35	<1	9.5 - 10.0 0.5 - 10.0	ND -	- ND	NO	NE	10.0	No visual or olfactory signs of contamination observed. Fill material was observed.

Notes:

- ¹ - TCLP metal(s) exceeds Resource Conservation and Recovery Act (RCRA) Hazardous Waste Levels.
- All soil samples were analyzed for Target Compound List (TCL) Volatile Organic Compounds, Polycyclic Aromatic Hydrocarbons (PAHs), Polychlorinated Biphenyls (PCBs), Toxicity Characteristic Leaching Procedure (TCLP) for Metals (RCRA 8), Total Petroleum Hydrocarbons, and RCRA Characteristics.
- PID = Photoionization detector
- ND = Not Detected
- NE = Not Encountered
- ftbg = feet below ground surface

DDC Project Number: BED776

Work Order Letter No. 12450-LBA-4-11627

Table 2. Summary of Target Compound List (TCL) Volatile Organic Compounds (VOCs) Detected in Soil
Phase II Subsurface Corridor Investigation for Trunk Water Main Replacement in East New York Avenue
Brooklyn, New York

TCL VOCs	Unrestricted Use (Track 1) Soil Cleanup Objectives (SCOs)	Commercial Use (Track 2) Soil Cleanup Objectives (SCOs)	Restricted-Residential Use (Track 2) Soil Cleanup Objectives (SCOs)	Sample ID, Date Collected, and Depth														
				SB01	SB02	SB03	SB04	SB05	SB06	SB07	SB08	SB09	SB10	SB11	SB12			
Methylene chloride	0.05	NA	500	ND	ND	ND	13.25 - 13.75	12.5 - 13.0	5.5 - 6.0	13.0 - 13.5	13.0 - 13.5	7.5 - 8.0	5.5 - 6.0	2.5 - 3.0	17.0 - 17.5	ND	ND	0.021

TCL VOCs	Unrestricted Use (Track 1) Soil Cleanup Objectives (SCOs)	Commercial Use (Track 2) Soil Cleanup Objectives (SCOs)	Restricted-Residential Use (Track 2) Soil Cleanup Objectives (SCOs)	Sample ID, Date Collected, and Depth														
				SB13	SB14	SB15	SB16	SB17	SB18	SB19	SB20	SB21	SB22	SB23	SB24			
Methylene chloride	0.05	NA	500	ND	ND	ND	12.5 - 13.0	5.5 - 6.0	9.5 - 10.0	10.5 - 11.0	5.5 - 6.0	4.0 - 4.5	7.5 - 8.0	ND	8.25 - 8.75	11.5 - 12.0	ND	ND

TCL VOCs	Unrestricted Use (Track 1) Soil Cleanup Objectives (SCOs)	Commercial Use (Track 2) Soil Cleanup Objectives (SCOs)	Restricted-Residential Use (Track 2) Soil Cleanup Objectives (SCOs)	Sample ID, Date Collected, and Depth														
				SB25	SB26	SB27	SB28	SB29	SB30	SB31	SB32	SB33	SB34	SB35				
Methylene chloride	0.05	NA	500	ND	ND	ND	13.5 - 14.0	6.0 - 6.5	6.0 - 6.5	8.5 - 9.0	9.0 - 9.5	3.25 - 3.75	9.0 - 9.5	6.5 - 7.0	9.5 - 10.0	ND	ND	ND

Notes:
All concentrations are in parts per million or milligrams per kilogram (ppm or mg/kg)
ND = Compound not detected above method detection limit (see attached lab report for MDLs)
SCOs = Soil Cleanup Objectives as per the NYSDEC Regulations 6 NYCRR Subpart 375-6 Remedial Program Soil Cleanup Objectives (December 14, 2006)

Trunk Water Main Replacement in East New York Avenue between Tapscott Street and Vermont Street, Brooklyn, New York

Table 3. Summary of Polycyclic Aromatic Hydrocarbons (PAHs) Detected in Soil
Phase II Subsurface Corridor Investigation for Trunk Water Main Replacement in East New York Avenue
Brooklyn, New York

PAHs	Sample ID, Date Collected, and Depth													
	SB01 05/11/2017 0.5 - 6.0	SB02 05/10/2017 0.5 - 6.0	SB03 05/19/2017 0.5 - 13.75	SB04 05/19/2017 0.5 - 13.0	SB05 05/11/2017 0.5 - 6.0	SB06 05/23/2017 0.5 - 13.5	SB07 05/22/2017 0.5 - 13.5	SB08 05/22/2017 0.5 - 8.0	SB09 05/12/2017 0.5 - 6.0	SB10 05/12/2017 0.5 - 3.0	SB11 05/22/2017 0.5 - 17.5	SB12 05/12/2017 0.5 - 6.0		
2-Methylnaphthalene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS		
Acenaphthene	20	0.042	0.079	ND	ND	ND	ND	ND	ND	ND	ND	ND		
Acenaphthylene	100	0.12	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.056		
Anthracene	100	0.16	0.21	ND	ND	ND	ND	ND	ND	0.31	ND	0.046		
Benzofluoranthene	1	5.6	0.51	ND	ND	ND	0.047	0.04	ND	2.0	ND	0.31		
Benzofluoranthene	1	0.60	0.47	ND	ND	ND	0.047	0.042	ND	2.3	ND	0.35		
Benzofluoranthene	1	0.80	0.6	ND	ND	ND	0.063	0.055	ND	2.3	ND	0.44		
Benzofluoranthene	100	0.35	0.3	ND	ND	ND	0.039	ND	1.0	ND	ND	0.25		
Benzofluoranthene	0.8	0.25	0.19	ND	ND	ND	ND	ND	ND	0.73	ND	0.12		
Chrysene	1	0.66	0.51	ND	ND	ND	0.054	ND	ND	1.9	ND	0.31		
Dibenzofluoranthene	0.33	0.11	0.079	ND	ND	ND	0.011	ND	ND	0.33	ND	0.079		
Fluoranthene	100	1.00	1.1	ND	0.040	ND	0.086	0.061	ND	3.1	ND	0.38		
Fluorene	30	0.05	0.054	ND	ND	ND	ND	ND	ND	ND	ND	ND		
Indeno(1,2,3-cd)pyrene	0.5	0.32	0.27	ND	ND	ND	ND	ND	ND	0.94	ND	0.21		
Naphthalene	12	0.011	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
Phenanthrene	100	0.49	0.87	ND	ND	ND	ND	ND	ND	1.2	ND	0.15		
Pyrene	100	1.00	1.0	ND	ND	ND	0.086	0.063	ND	3.1	ND	0.47		

Notes:

All concentrations are in parts per million or milligrams per kilogram (ppm or mg/kg)
 ND = Compound not detected above method detection limit (see attached lab report for MDLs)
 NS = No Standard

SCOs = Soil Cleanup Objectives as per the NYSDEC Regulations 6 NYCRR Subpart 375-6 Remedial Program Soil Cleanup Objectives (December 14, 2006)
 B = Analyte is found in the associated blank, as well as in the sample

BOLD = Concentration exceeds Residential Use (Track 2) Soil Cleanup Objectives

Underline = Concentration exceeds Unrestricted Use (Track 1) Soil Cleanup Objectives

DDC Project Number: BED776

Work Order Letter No. 12450-LBA-4-11627

Table 3. Summary of Polycyclic Aromatic Hydrocarbons (PAHs) Detected in Soil Continued
Phase II Subsurface Corridor Investigation for Trunk Water Main Replacement in East New York Avenue
Brooklyn, New York

PAHs	Unrestricted Use (Track 1) Soil Cleanup Objectives (SCOs)		Restricted-Residential Use (Track 2) Soil Cleanup Objectives (SCOs)		Commercial Use (Track 2) Soil Cleanup Objectives (SCOs)		Sample ID, Date Collected, and Depth											
	NS	20	100	100	500	500	SB13	SB14	SB15	SB16	SB17	SB18	SB19	SB20	SB21	SB22	SB23	SB24
2-Methylnaphthalene	NS	20	100	100	500	500	0.5 - 13.5	0.5 - 9.5	0.5 - 13.0	0.5 - 6.0	0.5 - 10.0	0.5 - 11.0	0.5 - 6.0	0.5 - 4.5	0.5 - 8.0	0.5 - 8.75	0.5 - 12.0	7.5 - 8.0
Acenaphthene	20	100	100	100	500	500	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	100	100	100	100	500	500	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Anthracene	100	100	100	100	500	500	ND	ND	ND	ND	ND	ND	ND	0.055	ND	ND	ND	ND
Benzofluoranthene	1	1	1	1	5.6	5.6	ND	ND	ND	ND	ND	ND	0.12	0.23	ND	ND	0.049	ND
Benzofluoranthene	1	1	1	1	5.6	5.6	ND	ND	ND	ND	ND	ND	0.15	0.32	ND	ND	0.051	ND
Benzofluoranthene	100	100	100	100	500	500	ND	ND	ND	ND	ND	ND	0.079	0.16	ND	ND	ND	0.089
Benzofluoranthene	0.8	0.8	3.9	3.9	56	56	ND	ND	ND	ND	ND	ND	0.054	0.087	ND	ND	ND	ND
Chrysene	1	1	3.9	3.9	56	56	ND	ND	ND	ND	ND	ND	0.13	0.24	ND	ND	0.063	ND
Dibenzofluoranthene	0.33	0.33	100	100	500	500	ND	ND	ND	ND	ND	ND	ND	0.046	ND	ND	ND	0.063
Fluoranthene	100	100	100	100	500	500	ND	ND	ND	ND	ND	ND	0.18	0.42	ND	0.043	ND	ND
Fluorene	30	100	100	100	500	500	ND	ND	ND	ND	ND	ND	0.14	0.14	ND	ND	ND	0.07
Indeno[1,2,3-cd]pyrene	0.5	0.5	0.5	0.5	5.6	5.6	ND	ND	ND	ND	ND	ND	0.064	0.14	ND	ND	ND	ND
Naphthalene	12	100	100	100	500	500	ND	ND	ND	ND	ND	ND	0.085	0.24	ND	ND	0.095	ND
Phenanthrene	100	100	100	100	500	500	ND	ND	ND	ND	ND	ND	0.085	0.24	ND	ND	0.087	ND
Pyrene	100	100	100	100	500	500	ND	ND	ND	ND	ND	ND	0.2	0.39	ND	0.042	0.087	ND

Notes:

- All concentrations are in parts per million or milligrams per kilogram (ppm or mg/kg)
- ND = Compound not detected above method detection limit (see attached lab report for MDLs)
- SCOs = Soil Cleanup Objectives as per the NYSDEC Regulations 6 NYCRR Subpart 375-6 Remedial Program Soil Cleanup Objectives (December 14, 2006)
- BOLD = Concentration exceeds Residential Use (Track 2) Soil Cleanup Objectives**
- Underline = Concentration exceeds Unrestricted Use (Track 1) Soil Cleanup Objectives

DDC Project Number: BED776

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Table 3. Summary of Polycyclic Aromatic Hydrocarbons (PAHs) Detected in Soil Continued
Phase II Subsurface Corridor Investigation for Trunk Water Main Replacement in East New York Avenue
Brooklyn, New York

PAHs	Sample ID, Date Collected, and Depth															
	SB25	SB26	SB27	SB28	SB29	SB30	SB31	SB32	SB33	SB34	SB35					
	05/17/2017 0.5 - 5.0	5/24/2017 0.5 - 8.75	5/24/2017 0.5 - 14.0	05/23/2017 0.5 - 6.5	05/23/2017 0.5 - 6.5	05/23/2017 0.5 - 9.0	05/23/2017 0.5 - 9.5	05/17/2017 3.25 - 3.75	05/23/2017 0.5 - 9.5	05/23/2017 0.5 - 7.0	05/23/2017 9.5 - 10.0					
Unrestricted Use (Track 1) Soil Cleanup Objectives (SCOs)	Restricted- Residential Use (Track 2) Soil Cleanup Objectives (SCOs)	Commercial Use (Track 2) Soil Cleanup Objectives (SCOs)														
2-Methylnaphthalene	NS	NS	ND	ND	0.22	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	20	100	ND	ND	0.43	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	100	100	ND	ND	0.13	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.044
Anthracene	100	100	ND	ND	0.78	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.12
Benzo[a]anthracene	1	1	ND	ND	1.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.17
Benzo[a]pyrene	1	1	ND	ND	0.082	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.68
Benzo[b]fluoranthene	1	1	ND	ND	0.089	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.56
Benzo[b]fluoranthene	100	100	0.042	ND	1.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.75
Benzo[k]fluoranthene	0.8	3.9	ND	ND	0.41	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.32
Chrysene	1	3.9	ND	ND	1.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.3
Dibenzofluoranthene	0.33	0.33	ND	ND	0.26	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.73
Fluoranthene	100	100	ND	ND	2.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.12
Fluorene	30	100	ND	ND	0.49	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.6
Indeno[1,2,3-cd]pyrene	0.5	0.5	ND	ND	0.84	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.063
Naphthalene	12	100	ND	ND	0.39	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.32
Phenanthrene	100	100	ND	ND	0.21	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.019
Pyrene	100	100	ND	ND	0.15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.5
					3.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.4

Notes:
 All concentrations are in parts per million or milligrams per kilogram (ppm or mg/kg)
 ND = Compound not detected above method detection limit (see attached lab report for MDLs)
 SCOs = Soil Cleanup Objectives as per the NYSDEC Regulations 6 NYCRR Subpart 375-6 Remedial Program Soil Cleanup Objectives (December 14, 2006)
BOLD = Concentration exceeds Residential Use (Track 2) Soil Cleanup Objectives
Underline = Concentration exceeds Unrestricted Use (Track 1) Soil Cleanup Objectives

Table 4. Summary of Polychlorinated Biphenyls (PCBs) Detected in Soil
Phase II Subsurface Corridor Investigation for Trunk Water Main Replacement in East New York Avenue
Brooklyn, New York

PCBs*	Sample ID, Date Collected, and Depth											
	SB01	SB02	SB03	SB04	SB05	SB06	SB07	SB08	SB09	SB10	SB11	SB12
Aroclor (Total)	0.5 - 6.0	0.5 - 6.0	0.5 - 13.75	0.5 - 13.0	0.5 - 6.0	0.5 - 13.5	0.5 - 13.5	0.5 - 8.0	0.5 - 6.0	0.5 - 3.0	0.5 - 17.5	0.5 - 6.0
	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.092	ND	ND
Aroclor-1262	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.092	NS	NS

PCBs*	Sample ID, Date Collected, and Depth											
	SB13	SB14	SB15	SB16	SB17	SB18	SB19	SB20	SB21	SB22	SB23	SB24
Aroclor (Total)	0.5 - 13.5	0.5 - 9.5	0.5 - 13.0	0.5 - 6.0	0.5 - 10.0	0.5 - 11.0	0.5 - 6.0	0.5 - 4.5	0.5 - 8.0	0.5 - 8.75	0.5 - 12.0	0.5 - 8.0
	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1262	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

PCBs*	Sample ID, Date Collected, and Depth											
	SB25	SB26	SB27	SB28	SB29	SB30	SB31	SB32	SB33	SB34	SB35	
Aroclor (Total)	0.5 - 5.0	0.5 - 8.75	0.5 - 14.0	0.5 - 6.5	0.5 - 6.5	0.5 - 9.0	0.5 - 9.5	3.25 - 3.75	0.5 - 9.5	0.5 - 7.0	0.5 - 10.0	
	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Aroclor-1262	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	

Notes:
All concentrations are in parts per million or milligrams per kilogram (ppm or mg/kg)
ND = Compound not detected above method detection limit (see attached lab report for MDLs)
* Refers to the total concentration of PCBs in the sample
SCOs = Soil Cleanup Objectives as per the NYSDEC Regulations 6 NYCRR Subpart 375-6 Remedial Program Soil Cleanup Objectives (December 14, 2006)
NS = No Standard

Table 5. Summary of Waste Classification Results in Soil
Phase II Subsurface Corridor Investigation for Trunk Water Main Replacement in East New York Avenue
Brooklyn, New York

Analyte	Resource Conservation and Recovery Act (RCRA) Hazardous Waste Levels (mg/L)	Sample ID, Date Collected, and Depth													
		SB01	SB02	SB03	SB04	SB05	SB06	SB07	SB08	SB09	SB10	SB11	SB12		
RCRA (Including TCLP Metals)		05/11/2017	05/10/2017	05/19/2017	05/19/2017	06/11/2017	05/23/2017	05/22/2017	05/22/2017	05/12/2017	05/22/2017	05/22/2017	05/12/2017		
		0.5 - 6.0	0.5 - 6.0	0.5 - 13.75	0.5 - 13.0	0.5 - 6.0	0.5 - 13.5	0.5 - 13.5	0.5 - 8.0	0.5 - 6.0	0.5 - 3.0	0.5 - 17.5	0.5 - 6.0		
pH*	2 - 12.5	8	9.9	6.6	7.7	8.6	7.9	6.4	7.4	8	11	8.4	8.6		
Ignitability**	>140 °F	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG		
Paint Filter Test	NS	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG		
Reactive Cyanide	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
Reactive Sulfide	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
Arsenic	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
Barium	100	0.74	0.63	0.26	0.33	0.40	0.31	ND	0.26	0.43	0.66	0.3	0.57		
Cadmium	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
Chromium	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
Lead	5	ND	1.4	ND	ND	ND	ND	ND	ND	0.067	ND	ND	ND		
Mercury	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
Selenium	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
Silver	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
TPH		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
TPH - Diesel Range Organics	NS	180	83	ND	ND	ND	ND	ND	ND	ND	270	ND	78		
TPH - Gasoline Range Organics	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		

Notes:

All concentrations are in parts per million or milligrams per kilogram (ppm or mg/L)

TCLP = Toxicity characteristic leaching procedure

*A solid waste exhibits the characteristic of corrosivity if it has a pH less than or equal to 2 or greater than or equal to 12.5.

**A solid waste exhibits the characteristic of ignitability if it has flash point less than 60 °C (140 °F)

°F = Degrees Fahrenheit

NEG = Negative (flash point was not detected below 140 degrees Fahrenheit)

ND = Compound not detected above method detection limit (see attached lab report for md/s)

NS = No Standard

SCOs = Soil Cleanup Objectives as per the NYSDEC Regulations 6 NYCRR Subpart 375-6 Remedial Program Soil Cleanup Objectives (December 14, 2006)

DDC Project Number: BED776

Work Order Letter No. 12450-LBA-4-11627

Table 5. Summary of Waste Classification Results in Soil Continued
Phase II Subsurface Corridor Investigation for Trunk Water Main Replacement in East New York Avenue
Brooklyn, New York

Analyte	Sample ID, Date Collected, and Depth													
	SB13	SB14	SB15	SB16	SB17	SB18	SB19	SB20	SB21	SB22	SB23	SB24		
Resource Conservation and Recovery Act (RCRA) Hazardous Waste Levels (mg/L)	05/22/2017 0.5 - 13.5	05/22/2017 0.5 - 9.5	05/22/2017 0.5 - 13.0	05/16/2017 0.5 - 6.0	05/22/2017 0.5 - 10.0	05/22/2017 0.5 - 11.0	05/18/2017 0.5 - 6.0	05/15/2017 0.5 - 4.5	05/19/2017 0.5 - 8.0	5/24/2017 0.5 - 8.75	5/24/2017 0.5 - 12.0	5/24/2017 7.5 - 8.0		
RCRA (Including TCLP Metals)	7.8	8.2	8.2	8.2	9.2	8.6	9.4	8	8	8	8.6	7.9		
pH*	2 - 12.5													
Ignitability**	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG		
Paint Filter Test	NEG	NEG	NEG	NEG	NEG	NEG	POS	NEG	NEG	NEG	NEG	NEG		
Reactive Cyanide	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
Reactive Sulfide	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
Arsenic	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
Barium	100	ND	ND	ND	ND	0.28	0.44	0.70	0.28	ND	0.29	ND		
Cadmium	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
Chromium	5	ND	ND	ND	ND	ND	ND	0.10	ND	ND	ND	ND		
Lead	5	ND	ND	ND	ND	ND	0.066	ND	ND	ND	ND	ND		
Mercury	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
Selenium	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
Silver	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
TPH														
TPH - Diesel Range Organics	NS	ND	ND	ND	ND	100	ND	ND	120	ND	180	ND		
TPH - Gasoline Range Organics	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		

Notes:
All concentrations are in parts per million or milligrams per kilogram (ppm or mg/L)
TCLP = Toxicity characteristic leaching procedure
*A solid waste exhibits the characteristic of corrosivity if it has a pH less than or equal to 2 or greater than or equal to 12.5.
**A solid waste exhibits the characteristic of ignitability if it has flash point less than 60 °C (140 °F)
°F = Degrees Fahrenheit
NEG = Negative (flash point was not detected below 140 degrees Fahrenheit)
ND = Compound not detected above method detection limit (see attached lab report for md/s)
NS = No Standard
SCOs = Soil Cleanup Objectives as per the NYSDEC Regulations 6 NYCRR Subpart 375-6 Remedial Program Soil Cleanup Objectives (December 14, 2006)

Table 5. Summary of Waste Classification Results in Soil Continued
Phase II Subsurface Corridor Investigation for Trunk Water Main Replacement in East New York Avenue
Brooklyn, New York

Analyte	Resource Conservation and Recovery Act (RCRA)		Sample ID, Date Collected, and Depth															
	Hazardous Waste Levels (mg/L)		SB25	SB26	SB27	SB28	SB29	SB30	SB31	SB32	SB33	SB34	SB35	SB36	SB37	SB38	SB39	SB40
RCRA (including TCLP Metals)			05/17/2017	5/24/2017	5/23/2017	05/23/2017	05/23/2017	05/23/2017	05/17/2017	05/23/2017	05/23/2017	05/23/2017	05/23/2017	05/23/2017	05/23/2017	05/23/2017	05/23/2017	05/23/2017
pH*	2 - 12.5		8.8	7.9	7.5	8.3	8.5	5.2	8.3	8.4	7.5	9.3	6.3					
Ignitability**	>140 °F		NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG					
Paint Filter Test			NS	NEG	NEG	POS	NEG	NEG	NEG	NEG	NEG	NEG	NEG					
Reactive Cyanide			NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND					
Reactive Sulfide			NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND					
Arsenic	5		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND					
Barium	100		0.41	ND	ND	0.3	0.28	ND	ND	0.34	0.72	ND	ND					
Cadmium	1		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND					
Chromium	5		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND					
Lead	5		ND	ND	ND	ND	ND	ND	ND	ND	1.3	ND	ND					
Mercury	0.2		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND					
Selenium	1		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND					
Silver	5		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND					
TPH																		
TPH - Diesel Range Organics		NS	ND	ND	ND	ND	99	ND	ND	160	ND	ND	ND					
TPH - Gasoline Range Organics		NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND					

Notes:

All concentrations are in parts per million or milligrams per kilogram (ppm or mg/L)

TCLP = Toxicity characteristic leaching procedure

*A solid waste exhibits the characteristic of corrosivity if it has a pH less than or equal to 2 or greater than or equal to 12.5.

**A solid waste exhibits the characteristic of ignitability if it has flash point less than 60 °C (140 °F)

°F = Degrees Fahrenheit

NEG = Negative (flash point was not detected below 140 degrees Fahrenheit)

ND = Compound not detected above method detection limit (see attached lab report for md/ls)

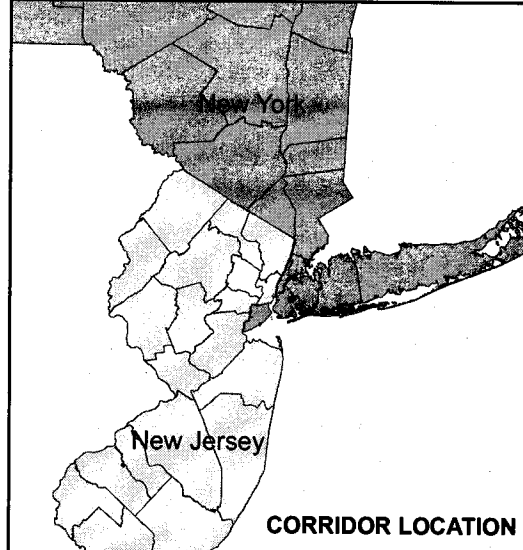
NS = No Standard

SCOs = Soil Cleanup Objectives as per the NYSDEC Regulations 6 NYCRR Subpart 375-6 Remedial Program Soil Cleanup Objectives (December 14, 2006)

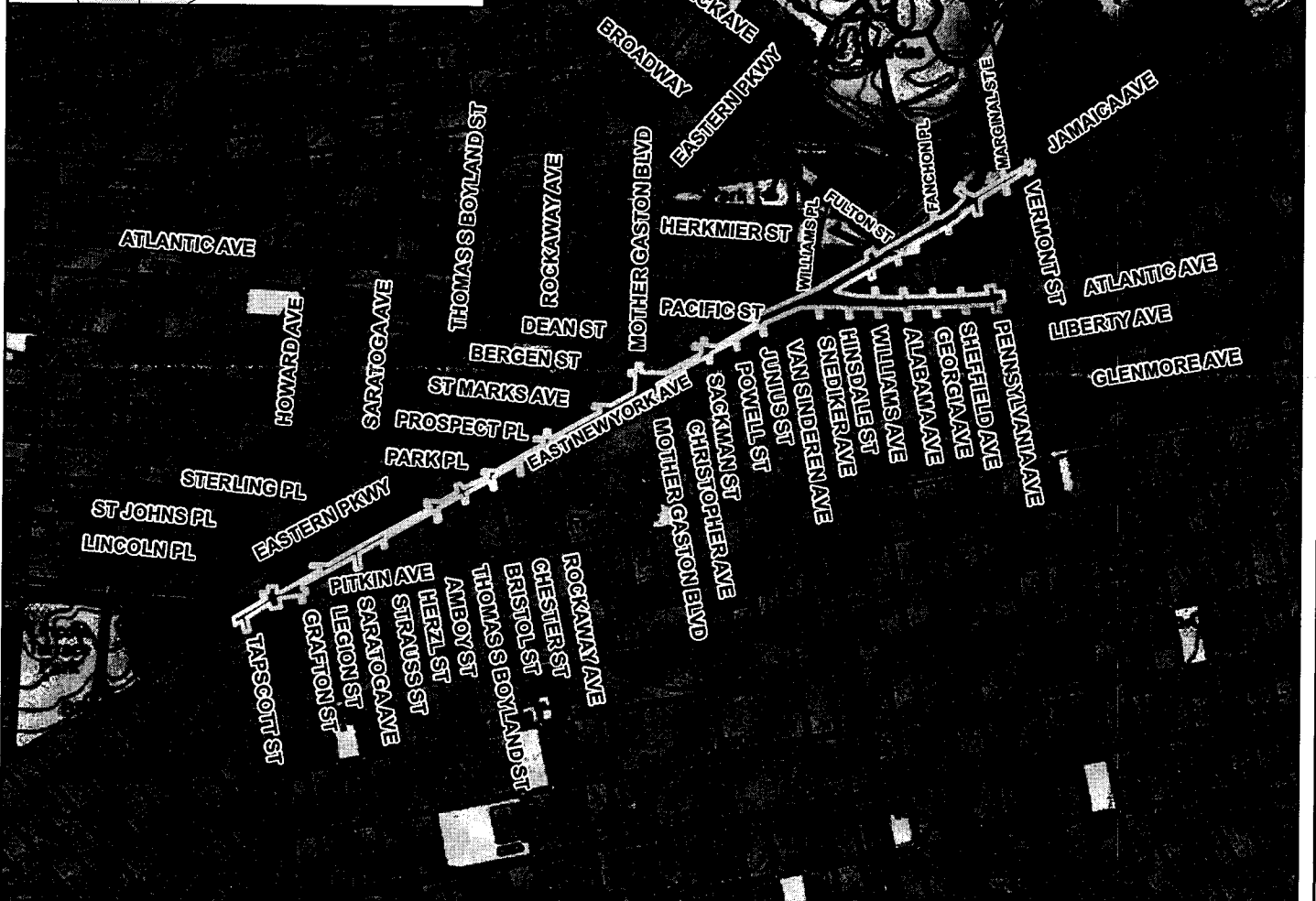
DDC Project Number: BED776

Work Order Letter No. 12450-LBA-4-17627


FIGURE 1 – TOPOGRAPHIC CORRIDOR LOCATION MAP



CORRIDOR LOCATION



Legend

 Approximate Corridor Area

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DDC CAPS ID.: BED776 WOL NO.: 12450-LBA-4-11627

TOPOGRAPHIC CORRIDOR LOCATION MAP
 PHASE II SUBSURFACE CORRIDOR INVESTIGATION
 FOR TRUNK WATER MAIN REPLACEMENT IN EAST
 NEW YORK AVENUE BETWEEN
 TAPSCOTT STREET AND VERMONT STREET
 BROOKLYN, NEW YORK

Source: USGS Quadrangle Brooklyn, New York (1995)

SCALE: 1" = 2000' DATE: 7/12/2017 FIGURE: 1

FIGURE 2 – SOIL BORING LOCATION PLAN



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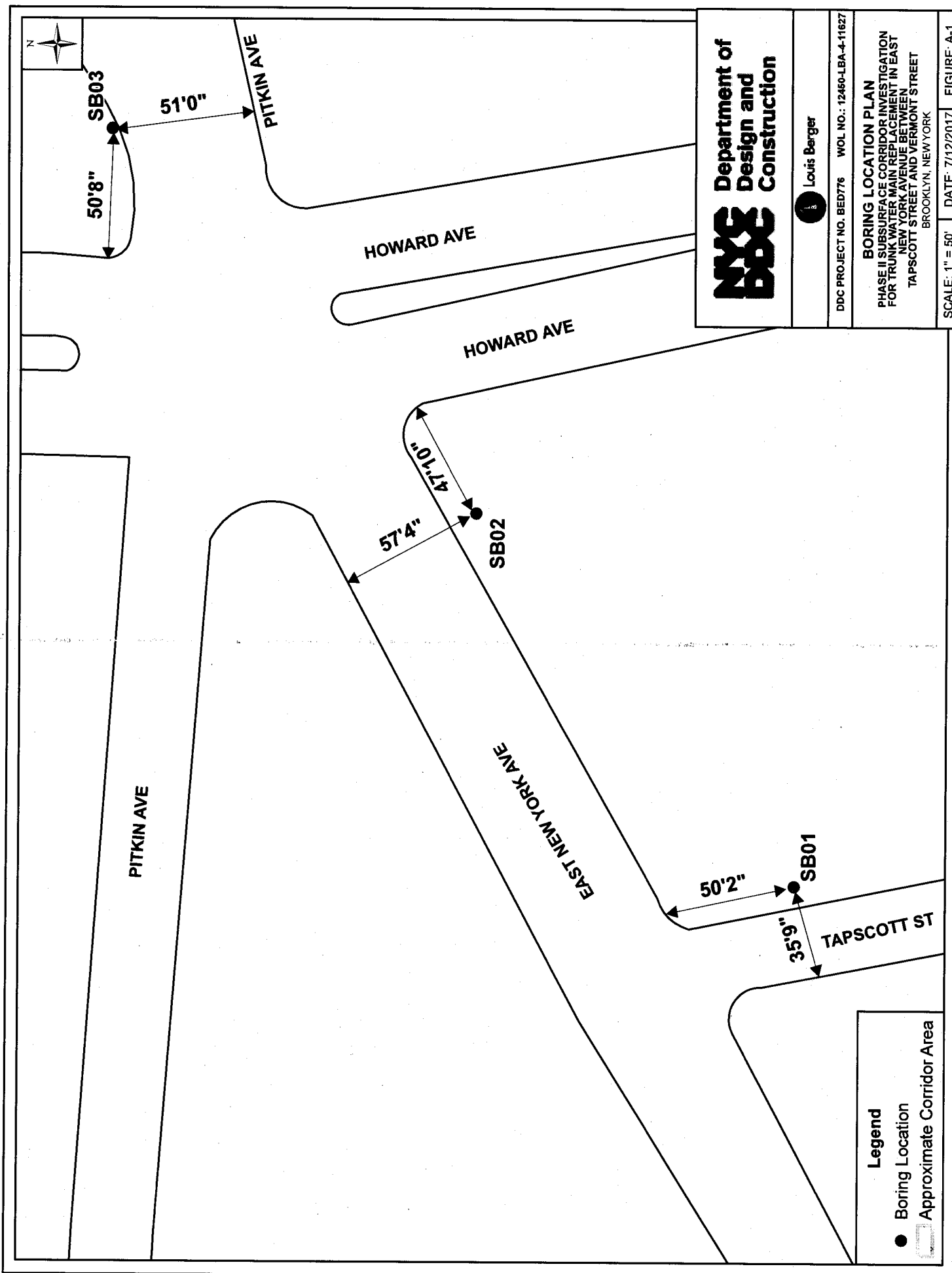
BORING LOCATION MAP
 PHASE II SUBSURFACE CORRIDOR INVESTIGATION
 FOR TRUNK WATER MAIN REPLACEMENT IN EAST
 NEW YORK AVENUE BETWEEN
 TAPSCOTT STREET AND VERMONT STREET
 BROOKLYN, NEW YORK

SCALE: 1" = 500' DATE: 7/12/2017 FIGURE 2

Legend

- Boring Location
- ▭ Approximate Corridor Area

APPENDIX A
BORING LOCATION PLAN



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BORING LOCATION PLAN
 PHASE II SUBSURFACE CORRIDOR INVESTIGATION
 FOR TRUNK WATER MAIN REPLACEMENT IN EAST
 NEW YORK AVENUE BETWEEN
 TAPSCOTT STREET AND VERMONT STREET
 BROOKLYN, NEW YORK

SCALE: 1" = 50' DATE: 7/12/2017 FIGURE: A-1

Legend

- Boring Location
- Approximate Corridor Area



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BORING LOCATION PLAN
PHASE II SUBSURFACE CORRIDOR INVESTIGATION
FOR TRUNK WATER MAIN REPLACEMENT IN EAST
NEW YORK AVENUE BETWEEN
TAPSCOTT STREET AND VERMONT STREET
BROOKLYN, NEW YORK

SCALE: 1" = 50' DATE: 7/12/2017 FIGURE: A-2

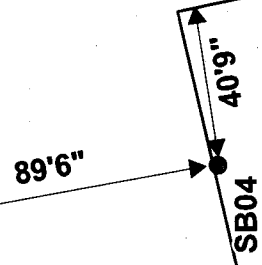
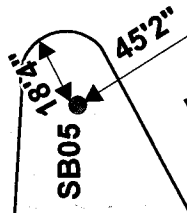
LEGION ST

PITKIN AVE

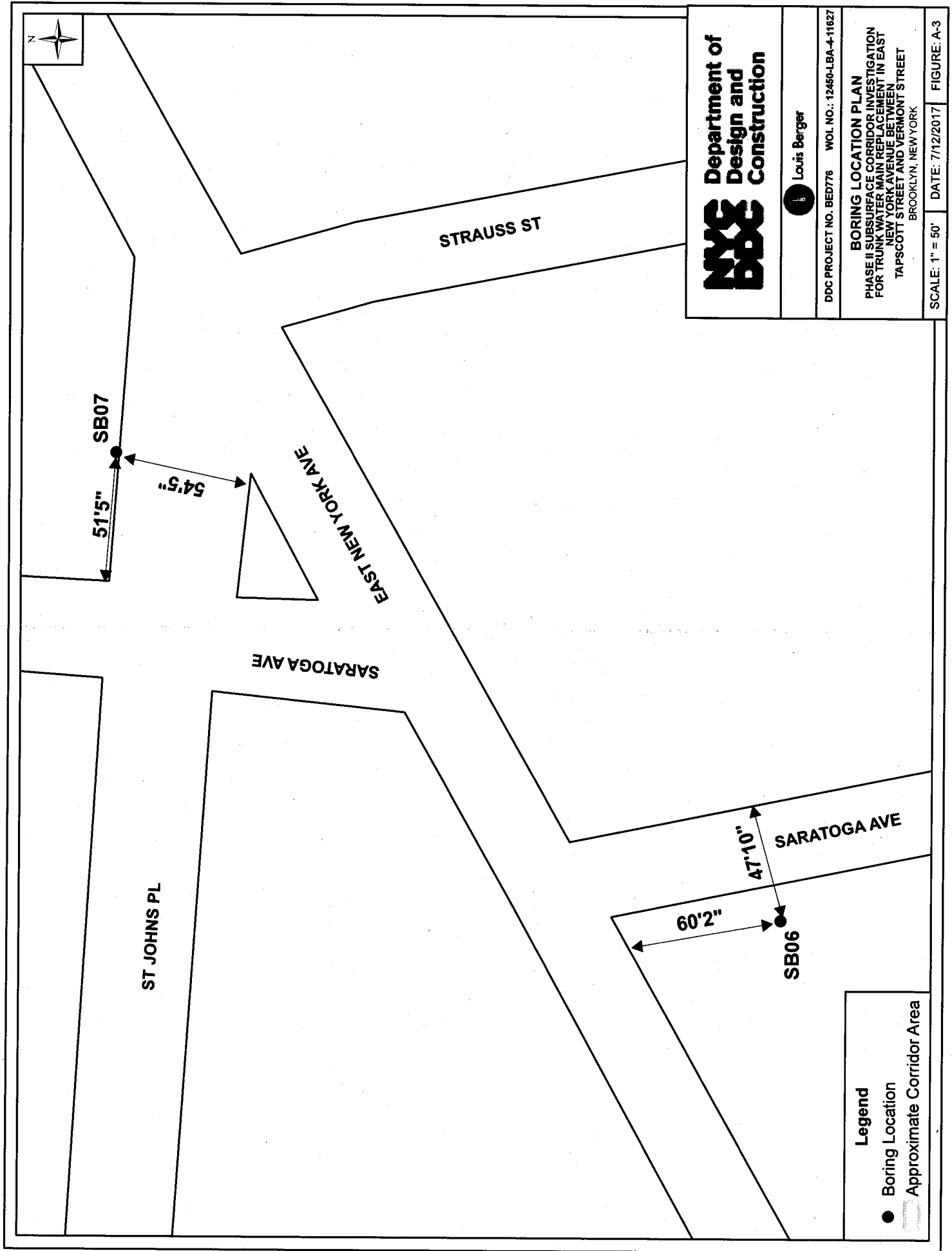
GRAFTON ST

LINCOLN PL

EAST NEW YORK AVE



Legend
● Boring Location
— Approximate Corridor Area



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BORING LOCATION PLAN
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 TAPSCOTT STREET AND VERMONT STREET
 BROOKLYN, NEW YORK

SCALE: 1" = 50' DATE: 7/12/2017 FIGURE: A-3

Legend
 ● Boring Location
 - - - Approximate Corridor Area



STERLING PL

AMBOY ST

EAST NEW YORK AVE

SB09

SB08

35'11"

33'2"


225'2"

42'0"

Legend

- Boring Location
- ▭ Approximate Corridor Area

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 FOR TRUNK WATER MAIN REPLACEMENT IN EAST
 NEW YORK AVENUE BETWEEN
 TAPSCOTT STREET AND VERMONT STREET
 BROOKLYN, NEW YORK

SCALE: 1" = 50' DATE: 7/12/2017 FIGURE: A-4

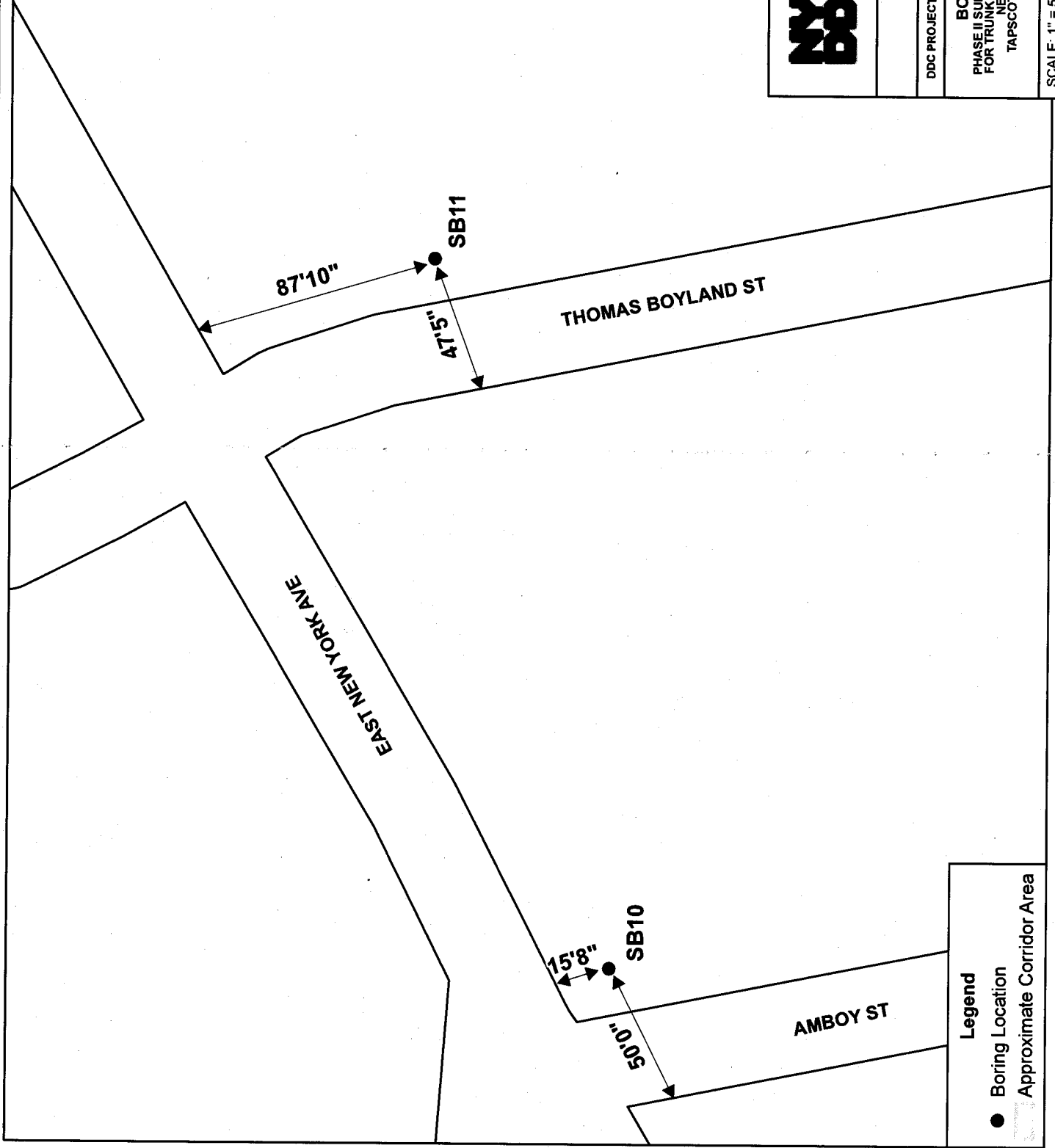
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BORING LOCATION PLAN
PHASE II SUBSURFACE CORRIDOR INVESTIGATION
FOR TRUNK WATER MAIN REPLACEMENT IN EAST
NEW YORK AVENUE BETWEEN
TAPSCOTT STREET AND VERMONT STREET
BROOKLYN, NEW YORK

SCALE: 1" = 50' DATE: 7/12/2017 FIGURE: A-5



Legend

- Boring Location
- ▭ Approximate Corridor Area



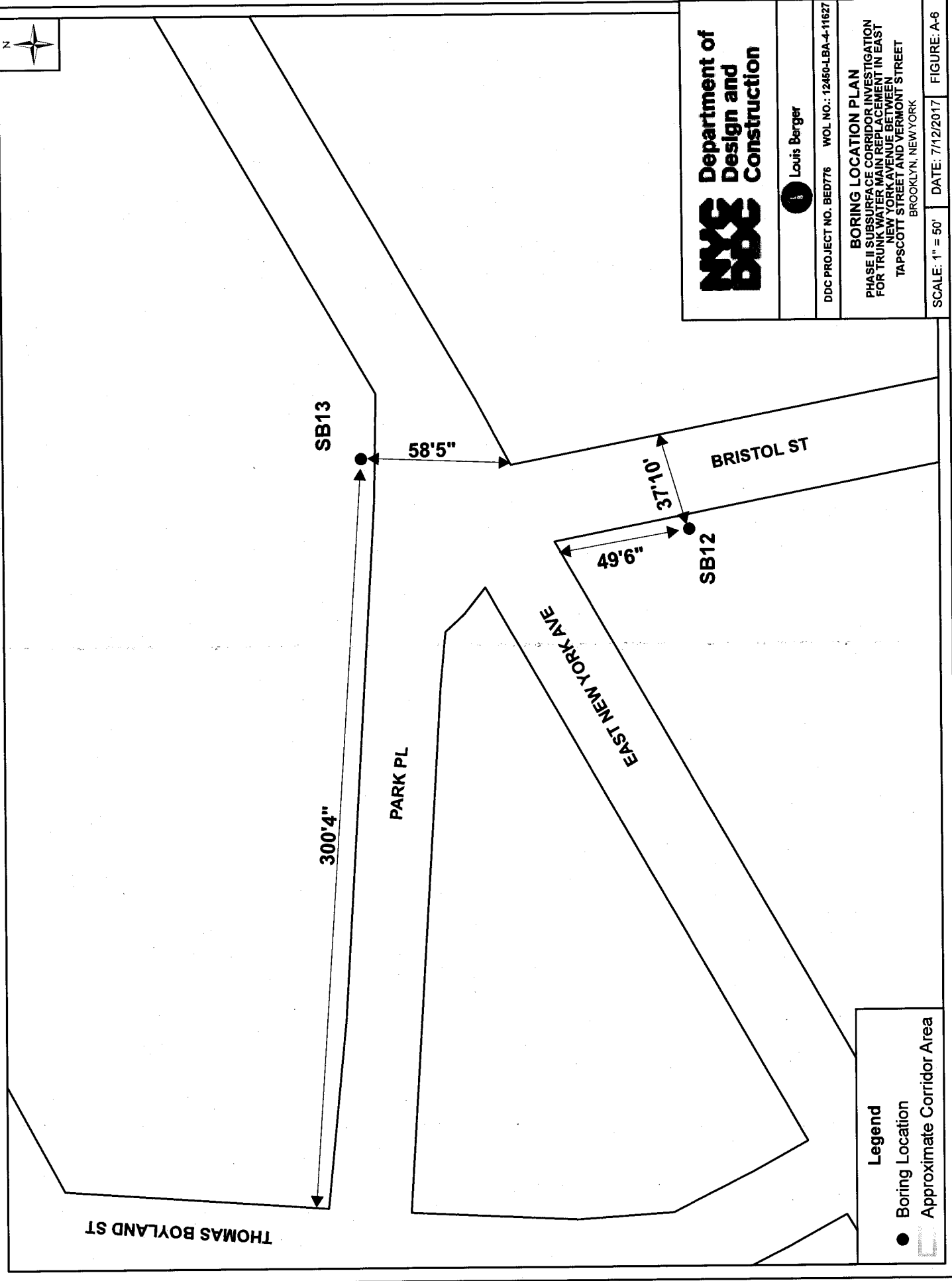
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BORING LOCATION PLAN
 PHASE II SUBSURFACE CORRIDOR INVESTIGATION
 FOR TRUNK WATER MAIN REPLACEMENT IN EAST
 NEW YORK AVENUE BETWEEN
 TAPSCOTT STREET AND VERMONT STREET
 BROOKLYN, NEW YORK

SCALE: 1" = 50' DATE: 7/12/2017 FIGURE: A-6



Legend

- Boring Location
- ▭ Approximate Corridor Area



EAST NEW YORK AVE

42'2"

SB16

6.96'

ROCKAWAY AVE

58'3"

SB15

47'2"

PROSPECT PL

49'10"

7.73'

SB14

Legend

● Boring Location

Approximate Corridor Area

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BORING LOCATION PLAN
PHASE II SUBSURFACE CORRIDOR INVESTIGATION
FOR TRUNK WATER MAIN REPLACEMENT IN EAST
NEW YORK AVENUE BETWEEN
TAPSCOTT STREET AND VERMONT STREET
BROOKLYN, NEW YORK

SCALE: 1" = 50' DATE: 7/12/2017 FIGURE: A-7



SB18

67'9"

98'10"

ST MARKS AVE

EAST NEW YORK AVE

258'10"

59'10"

SB17



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BORING LOCATION PLAN
PHASE II SUBSURFACE CORRIDOR INVESTIGATION
FOR TRUNK WATER MAIN REPLACEMENT IN EAST
NEW YORK AVENUE BETWEEN
TAPSCOTT STREET AND VERMONT STREET
BROOKLYN, NEW YORK

SCALE: 1" = 50' DATE: 7/12/2017 FIGURE: A-8

Legend

- Boring Location
- Approximate Corridor Area



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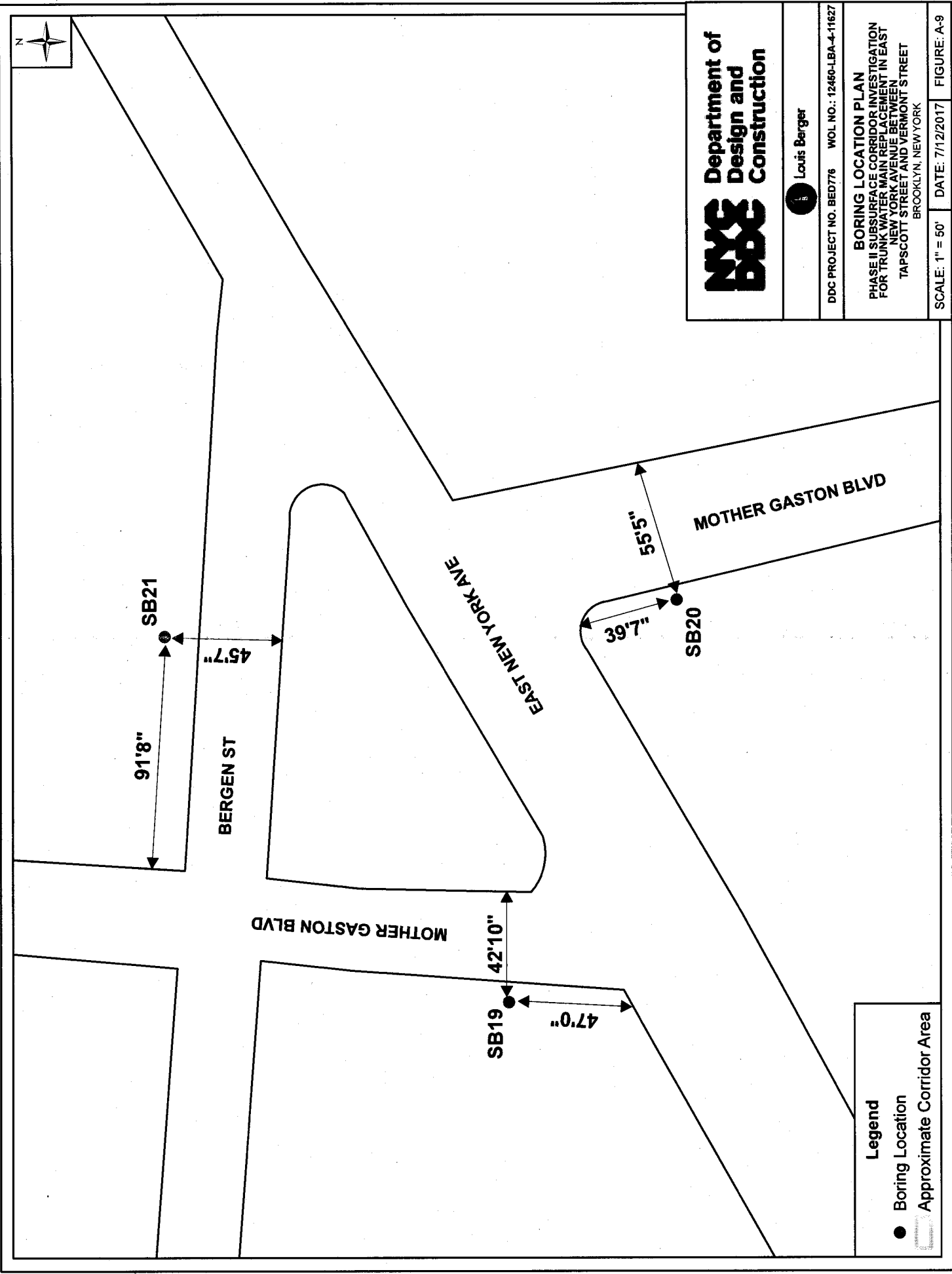
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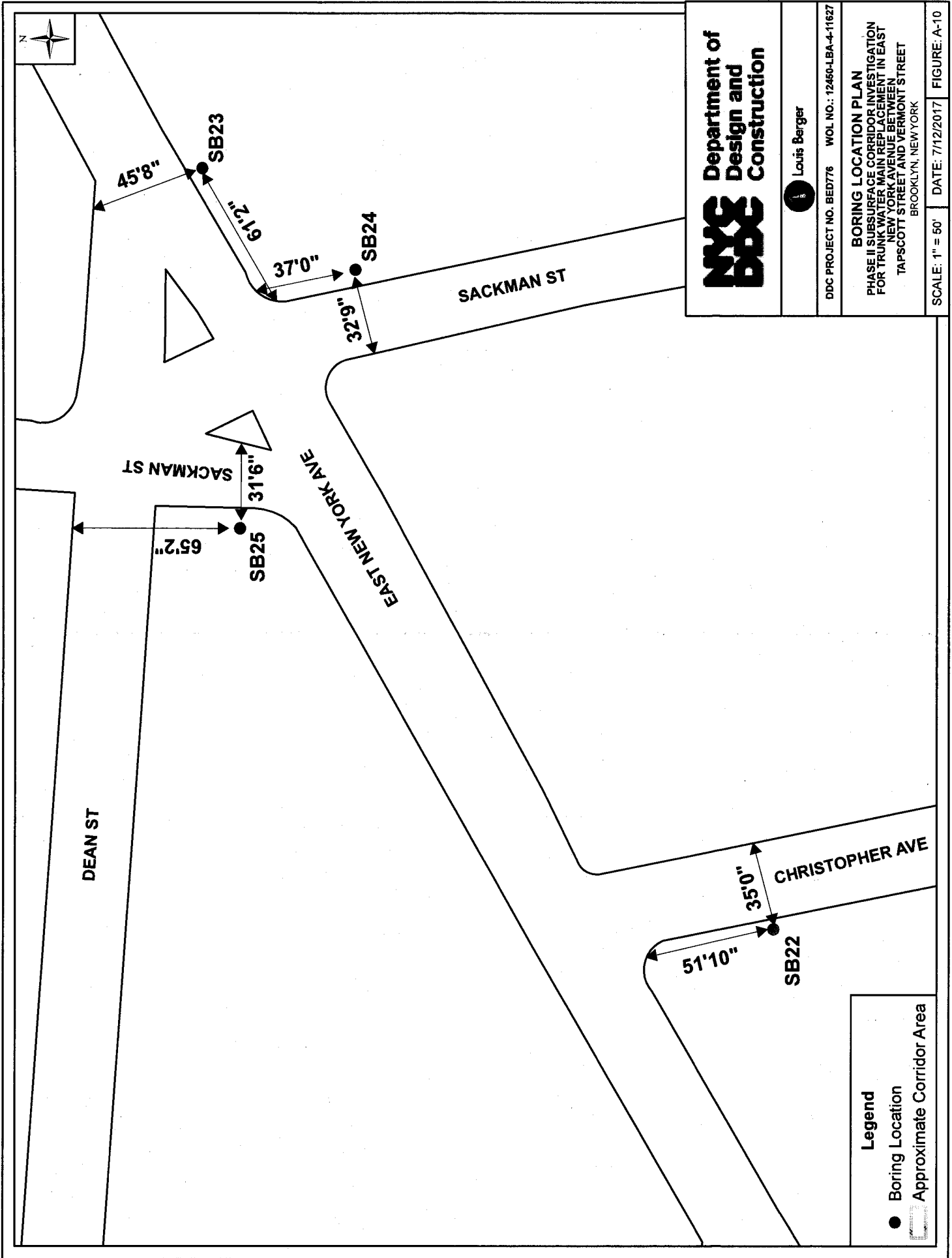
BORING LOCATION PLAN
PHASE II SUBSURFACE CORRIDOR INVESTIGATION
FOR TRUNK WATER MAIN REPLACEMENT IN EAST
NEW YORK AVENUE BETWEEN
TAPSCOTT STREET AND VERMONT STREET
BROOKLYN, NEW YORK

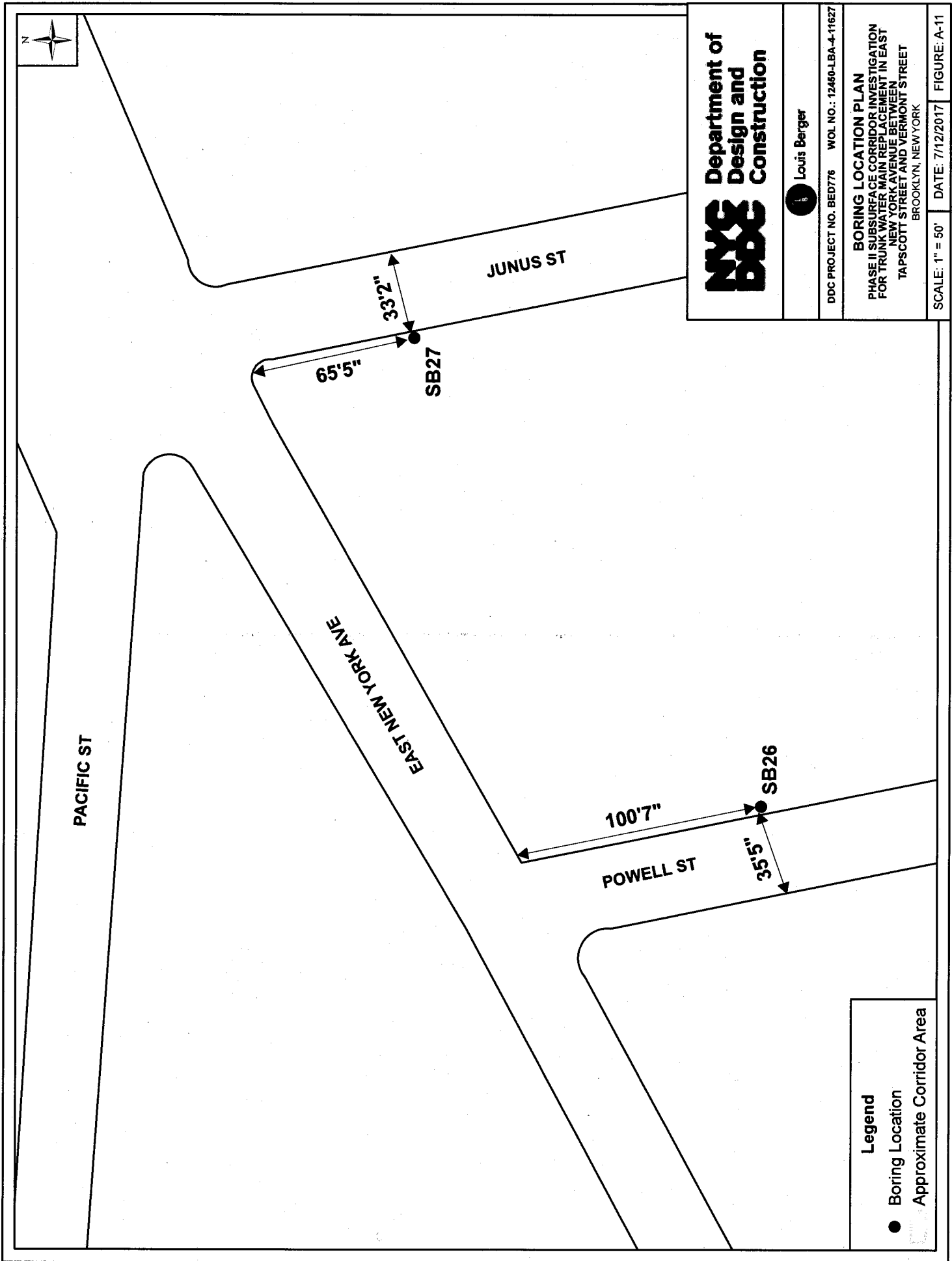
SCALE: 1" = 50' DATE: 7/12/2017 FIGURE: A-9



Legend

-  Boring Location
-  Approximate Corridor Area







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BORING LOCATION PLAN
 PHASE II SUBSURFACE CORRIDOR INVESTIGATION
 FOR TRUNK WATER MAIN REPLACEMENT IN EAST
 NEW YORK AVENUE BETWEEN
 TAPSCOTT STREET AND VERMONT STREET
 BROOKLYN, NEW YORK

SCALE: 1" = 50' DATE: 7/12/2017 FIGURE: A-12

VERMONT ST

JAMAICA AVE

NEW JERSEY AVE

MARGINAL ST EAST

32'0"
 SB28

45'4"

SB29

40'2"

27'5"

51'4"

SB30

32'0"

Legend
 ● Boring Location
 Approximate Corridor Area



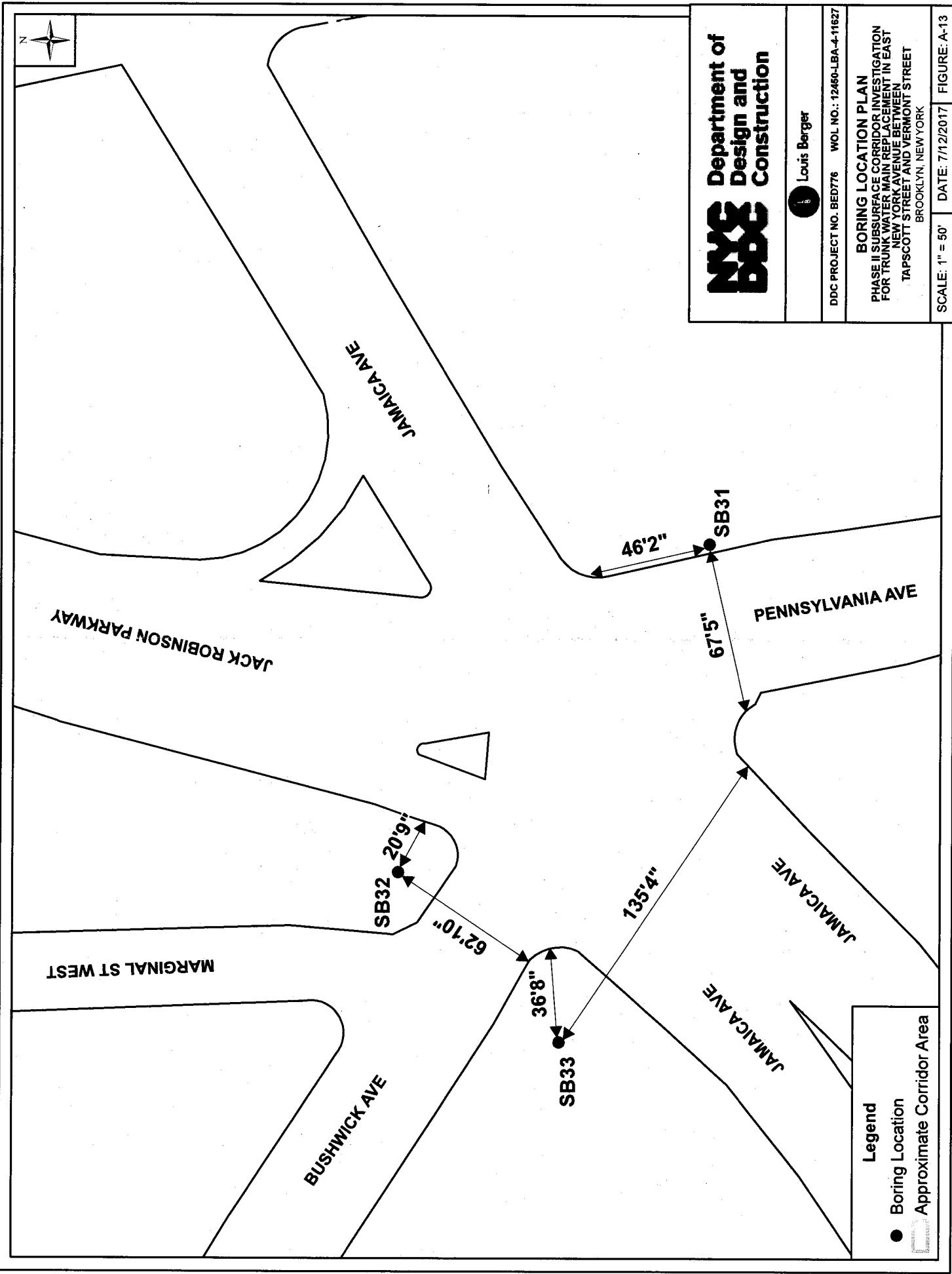
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BORING LOCATION PLAN
 PHASE II SUBSURFACE CORRIDOR INVESTIGATION
 FOR TRUNK WATER MAIN REPLACEMENT IN EAST
 NEW YORK AVENUE BETWEEN
 TAPSCOTT STREET AND VERMONT STREET
 BROOKLYN, NEW YORK

SCALE: 1" = 50' DATE: 7/12/2017 FIGURE: A-13




Legend

- Boring Location
- Approximate Corridor Area



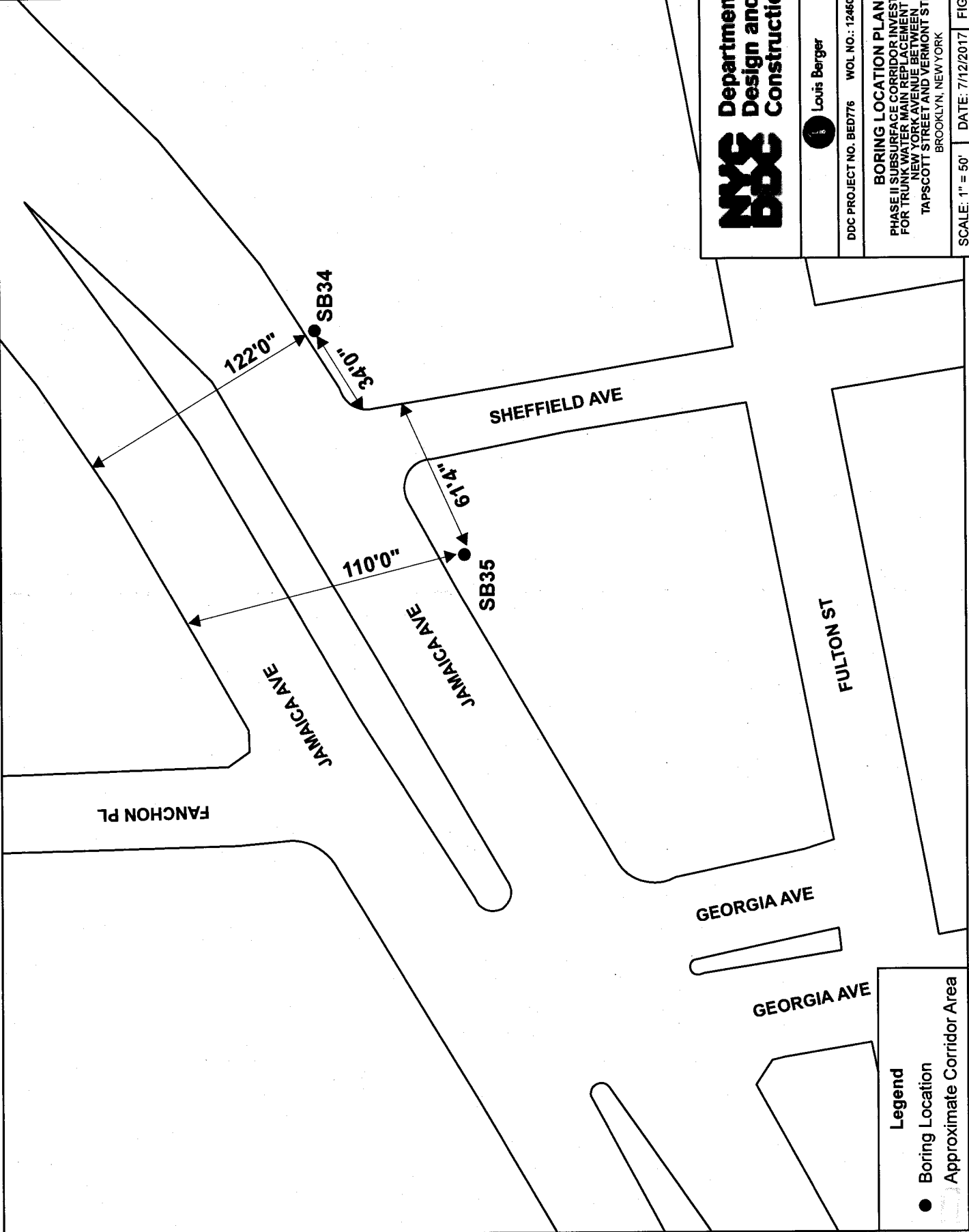
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BORING LOCATION PLAN
PHASE II SUBSURFACE CORRIDOR INVESTIGATION
FOR TRUNK WATER MAIN REPLACEMENT IN EAST
NEW YORK AVENUE BETWEEN
TAPSCOTT STREET AND VERMONT STREET
BROOKLYN, NEW YORK

SCALE: 1" = 50' DATE: 7/12/2017 FIGURE: A-14



Legend
● Boring Location
--- Approximate Corridor Area

APPENDIX B
GEOLOGIC BORING LOGS



Louis Berger

Drilling Log

Page 1 of 1

BORING NO.: SB01

LOCATION: Brooklyn, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 2011040.212.00

PROJECT: Replacement of Trunk Water Mains in East New York Avenue

FMS ID#: BED776

DRILLING CONTRACTOR: Aquifer Drilling and Testing Inc

WOL #: 12450-LBA-4-11627

DRILLING METHOD: Hand Auger

DATE STARTED: 5/11/2017

BOREHOLE DATA

WELL DATA

Diameter (in): 3.0

Well Diameter (in): N/A

DRILLER: D. Johnson

Total Depth (ft.): 6

Total Depth (ft.): N/A

LBA INSPECTOR: M. Donovan

Depth to Refusal (ft.): N/A

Screen Length (ft.): N/A

NORTHING (ft.): 182541.584

Depth to Water (ft.): N/A

Depth to Water (ft.): N/A

EASTING (ft.): 1006186.329

Depth to Rock (ft.): N/A

Slot Size (in): N/A

SURFACE ELEVATION (ft): N/A

NOTES: Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
	0		FILL			<1	Moderate yellowish brown (10YR 5/4), coarse to fine SAND, some Silt, some coarse to fine Gravel, moist.	Gravelly Silty Sand (Fill); Collected grab sample SB01 from 5.5 to 6.0 ftbg and composite sample SB01 from 0.5 to 6.0 ftbg.
	2							
	4							
	6						Total Depth of Boring 6 feet.	



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Drilling Log

Page 1 of 1

BORING NO.: SB02

LOCATION: Brooklyn, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 2011040.212.00

PROJECT: Replacement of Trunk Water Mains in East New York Avenue

FMS ID#: BED776

DRILLING CONTRACTOR: Aquifer Drilling and Testing Inc

WOL #: 12450-LBA-4-11627

DRILLING METHOD: Hand Auger

DATE STARTED: 5/10/2017

BOREHOLE DATA

WELL DATA

DATE FINISHED: 5/10/2017

Diameter (in): 3.0

Well Diameter (in): N/A

DRILLER: D. Johnson

Total Depth (ft.): 6

Total Depth (ft.): N/A

LBA INSPECTOR: M. Donovan

Depth to Refusal (ft.): N/A

Screen Length (ft.): N/A

NORTHING (ft): 182669.615

Depth to Water (ft.): N/A

Depth to Water (ft.): N/A

EASTING (ft): 1006353.772

Depth to Rock (ft.): N/A

Slot Size (in): N/A

SURFACE ELEVATION (ft): N/A

NOTES: Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
	0		FILL			<	Moderate brown (5YR 3/4), coarse to fine SAND, some Silt, little fine Gravel, moist.	Silty Sand (Fill); Collected grab sample SB02 from 5.5 to 6.0 ftbg and composite sample SB02 from 0.5 to 6.0 ftbg.
	2							
	4							
	6							
							Total Depth of Boring 6 feet.	



Louis Berger

Drilling Log

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BORING NO.: SB03

LOCATION: Brooklyn, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 2011040.212.00

PROJECT: Replacement of Trunk Water Mains in East New York Avenue

FMS ID#: BED776

DRILLING CONTRACTOR: Aquifer Drilling and Testing Inc

WOL #: 12450-LBA-4-11627

DRILLING METHOD: Direct Push

DATE STARTED: 5/10/2017

BOREHOLE DATA

WELL DATA

DATE FINISHED: 5/19/2017

Diameter (in): 2.25

Well Diameter (in): N/A

DRILLER: C. Iodice

Total Depth (ft.): 15

Total Depth (ft.): N/A

LBA INSPECTOR: M. Donovan

Depth to Refusal (ft): N/A

Screen Length (ft): N/A

NORTHING (ft): 182824.957

Depth to Water (ft.): N/A

Depth to Water (ft.): N/A

EASTING (ft): 1006504.542

Depth to Rock (ft.): N/A

Slot Size (in): N/A

SURFACE ELEVATION (ft): N/A

NOTES: Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart.

Soil boring was pre-cleared to 6 ftbg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
			FILL			<1	Dark yellowish brown (10YR 4/2), coarse to fine SAND, some Silt, moist.	Silty Sand (Fill)
	2		FILL			<1	Dark yellowish orange (10YR 6/6), coarse to fine SAND, some Silt, moist.	



Louis Berger

Drilling Log

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BORING NO.: SB03

LOCATION: Brooklyn, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 2011040.212.00

PROJECT: Replacement of Trunk Water Mains in East New York Avenue

FMS ID#: BED776

DRILLING CONTRACTOR: Aquifer Drilling and Testing Inc

WOL #: 12450-LBA-4-11627

DRILLING METHOD: Direct Push

DATE STARTED: 5/10/2017

BOREHOLE DATA

WELL DATA

DATE FINISHED: 5/19/2017

Diameter (in): 2.25

Well Diameter (in): N/A

DRILLER: C. Iodice

Total Depth (ft.): 15

Total Depth (ft.): N/A

LBA INSPECTOR: M. Donovan

Depth to Refusal (ft.): N/A

Screen Length (ft.): N/A

NORTHING (ft): 182824.957

Depth to Water (ft.): N/A

Depth to Water (ft.): N/A

EASTING (ft): 1006504.542

Depth to Rock (ft.): N/A

Slot Size (in): N/A

SURFACE ELEVATION (ft): N/A

NOTES: Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart.
Soil boring was pre-cleared to 6 ftbg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
	8		FILL			<1	Dark yellowish brown (10YR 4/2), coarse to fine SAND, some Clayey Silt, trace coarse to fine Gravel, moist.	Clayey Silty Sand (Fill)
	10		FILL			<1	Moderate yellowish brown (10YR 5/4), Clayey SILT, some medium to fine Sand, (10% fill material: brick), moist.	Sandy Clayey Silt (Fill)



Louis Berger

Drilling Log

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BORING NO.: SB03

LOCATION: Brooklyn, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 2011040.212.00

PROJECT: Replacement of Trunk Water Mains in East New York Avenue

FMS ID#: BED776

DRILLING CONTRACTOR: Aquifer Drilling and Testing Inc

WOL #: 12450-LBA-4-11627

DRILLING METHOD: Direct Push

DATE STARTED: 5/10/2017

BOREHOLE DATA

WELL DATA

DATE FINISHED: 5/19/2017

Diameter (in): 2.25

Well Diameter (in): N/A

DRILLER: C. Iodice

Total Depth (ft.): 15

Total Depth (ft.): N/A

LBA INSPECTOR: M. Donovan

Depth to Refusal (ft.): N/A

Screen Length (ft.): N/A

NORTHING (ft): 182824.957

Depth to Water (ft.): N/A

Depth to Water (ft.): N/A

EASTING (ft): 1006504.542

Depth to Rock (ft.): N/A

Slot Size (in): N/A

SURFACE ELEVATION (ft): N/A

NOTES: Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart.

Soil boring was pre-cleared to 6 ftbg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
	14		FILL			<1	Moderate yellowish brown (10YR 5/4), Clayey SILT, some medium to fine Sand, (10% fill material: brick), moist.	Sandy Clayey Silt (Fill); Collected grab sample SB03 from 13.25 to 13.75 ftbg and composite sample SB03 from 0.5 to 13.75 ftbg.
	16						Total Depth of Boring 15 feet.	



Louis Berger

Drilling Log

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BORING NO.: SB04

LOCATION: Brooklyn, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 2011040.212.00

PROJECT: Replacement of Trunk Water Mains in East New York Avenue

FMS ID#: BED776

DRILLING CONTRACTOR: Aquifer Drilling and Testing Inc

WOL #: 12450-LBA-4-11627

DRILLING METHOD: Direct Push

DATE STARTED: 5/10/2017

BOREHOLE DATA

WELL DATA

DATE FINISHED: 5/19/2017

Diameter (in): 2.25

Well Diameter (in): N/A

DRILLER: C. Iodice

Total Depth (ft.): 15

Total Depth (ft.): N/A

LBA INSPECTOR: M. Donovan

Depth to Refusal (ft.): N/A

Screen Length (ft.): N/A

NORTHING (ft): 182780.244

Depth to Water (ft.): N/A

Depth to Water (ft.): N/A

EASTING (ft): 1006613.607

Depth to Rock (ft.): N/A

Slot Size (in): N/A

SURFACE ELEVATION (ft): N/A

NOTES: Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart.

Soil boring was pre-cleared to 6 ftbg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
	0		FILL			<1	Moderate yellowish brown (10YR 5/4), coarse to fine GRAVEL, some Clayey Silt, some Sand, (2% fill material: brick, slag), moist.	Clayey Silty Sandy Gravel (Fill)
	2							
	4							
	6							



Louis Berger

Drilling Log

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BORING NO.: SB04

LOCATION: Brooklyn, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 2011040.212.00

PROJECT: Replacement of Trunk Water Mains in East New York Avenue

FMS ID#: BED776

DRILLING CONTRACTOR: Aquifer Drilling and Testing Inc

WOL #: 12450-LBA-4-11627

DRILLING METHOD: Direct Push

DATE STARTED: 5/10/2017

BOREHOLE DATA

WELL DATA

DATE FINISHED: 5/19/2017

Diameter (in): 2.25

Well Diameter (in): N/A

DRILLER: C. Iodice

Total Depth (ft.): 15

Total Depth (ft.): N/A

LBA INSPECTOR: M. Donovan

Depth to Refusal (ft): N/A

Screen Length (ft): N/A

NORTHING (ft): 182780.244

Depth to Water (ft.): N/A

Depth to Water (ft.): N/A

EASTING (ft): 1006613.607

Depth to Rock (ft.): N/A

Slot Size (in): N/A

SURFACE ELEVATION (ft): N/A

NOTES: Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart.
Soil boring was pre-cleared to 6 ftbg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
	8		ML			<1	Moderate yellowish brown (10YR 5/4), Clayey SILT, trace coarse to fine Sand, moist.	Clayey Silt
	10		ML			<1	Moderate yellowish brown (10YR 5/4), Clayey SILT, trace coarse to fine Sand, moist.	



Louis Berger

Drilling Log

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BORING NO.: SB04

LOCATION: Brooklyn, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 2011040.212.00

PROJECT: Replacement of Trunk Water Mains in East New York Avenue

FMS ID#: BED776

DRILLING CONTRACTOR: Aquifer Drilling and Testing Inc

WOL #: 12450-LBA-4-11627

DRILLING METHOD: Direct Push

DATE STARTED: 5/10/2017

BOREHOLE DATA

WELL DATA

DATE FINISHED: 5/19/2017

Diameter (in): 2.25

Well Diameter (in): N/A

DRILLER: C. Iodice

Total Depth (ft.): 15

Total Depth (ft.): N/A

LBA INSPECTOR: M. Donovan

Depth to Refusal (ft): N/A

Screen Length (ft): N/A

NORTHING (ft): 182780.244

Depth to Water (ft.): N/A

Depth to Water (ft.): N/A

EASTING (ft): 1006613.607

Depth to Rock (ft.): N/A

Slot Size (in): N/A

SURFACE ELEVATION (ft): N/A

NOTES: Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart.

Soil boring was pre-cleared to 6 ftbg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
	14		ML			<1	Moderate yellowish brown (10YR 5/4), Clayey SILT, trace coarse to fine Sand, moist.	Collected grab sample SB04 from 12.5 to 13.0 ftbg and composite sample SB04 from 0.5 to 13.0 ftbg.
	16						Total Depth of Boring 15 feet.	



Louis Berger

Drilling Log

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BORING NO.: SB05

LOCATION: Brooklyn, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 2011040.212.00

PROJECT: Replacement of Trunk Water Mains in East New York Avenue

FMS ID#: BED776

DRILLING CONTRACTOR: Aquifer Drilling and Testing Inc

WOL #: 12450-LBA-4-11627

DRILLING METHOD: Hand Auger

DATE STARTED: 5/11/2017

BOREHOLE DATA

WELL DATA

DATE FINISHED: 5/11/2017

Diameter (in): 3.0

Well Diameter (in): N/A

DRILLER: D. Johnson

Total Depth (ft.): 6

Total Depth (ft.): N/A

LBA INSPECTOR: M. Donovan

Depth to Refusal (ft): N/A

Screen Length (ft): N/A

NORTHING (ft): 183016.525

Depth to Water (ft.): N/A

Depth to Water (ft.): N/A

EASTING (ft): 1006825.608

Depth to Rock (ft.): N/A

Slot Size (in): N/A

SURFACE ELEVATION (ft): N/A

NOTES: Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
	0		FILL			<1	Moderate yellowish brown (10YR 5/4), coarse to fine SAND, some Silt, some fine Gravel, (5% fill material: ash), moist.	Gravelly Silty Sand (Fill); Collected grab sample SB05 from 5.5 to 6.0 ftbg and composite sample SB05 from 0.5 to 6.0 ftbg.
	6						Total Depth of Boring 6 feet.	



Louis Berger

Drilling Log

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BORING NO.: SB06

LOCATION: Brooklyn, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 2011040.212.00

PROJECT: Replacement of Trunk Water Mains in East New York Avenue

FMS ID#: BED776

DRILLING CONTRACTOR: Aquifer Drilling and Testing Inc

WOL #: 12450-LBA-4-11627

DRILLING METHOD: Direct Push

DATE STARTED: 5/11/2017

BOREHOLE DATA

WELL DATA

DATE FINISHED: 5/23/2017

Diameter (in): 2.25

Well Diameter (in): N/A

DRILLER: C. Iodice

Total Depth (ft.): 15

Total Depth (ft.): N/A

LBA INSPECTOR: M. Donovan

Depth to Refusal (ft.): N/A

Screen Length (ft.): N/A

NORTHING (ft): 183071.097

Depth to Water (ft.): N/A

Depth to Water (ft.): N/A

EASTING (ft): 1007132.372

Depth to Rock (ft.): N/A

Slot Size (in): N/A

SURFACE ELEVATION (ft): N/A

NOTES: Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart.
Soil boring was pre-cleared to 6 ftbg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
	0		FILL			<1	Moderate brown (5YR 4/4), SILT, some coarse to fine Sand, some coarse to fine Gravel, trace Boulders, moist.	Sandy Gravelly Silt (Fill)



Louis Berger

Drilling Log

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BORING NO.: SB06

LOCATION: Brooklyn, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 2011040.212.00

PROJECT: Replacement of Trunk Water Mains in East New York Avenue

FMS ID#: BED776

DRILLING CONTRACTOR: Aquifer Drilling and Testing Inc

WOL #: 12450-LBA-4-11627

DRILLING METHOD: Direct Push

DATE STARTED: 5/11/2017

BOREHOLE DATA

WELL DATA

DATE FINISHED: 5/23/2017

Diameter (in): 2.25

Well Diameter (in): N/A

DRILLER: C. Iodice

Total Depth (ft.): 15

Total Depth (ft.): N/A

LBA INSPECTOR: M. Donovan

Depth to Refusal (ft): N/A

Screen Length (ft): N/A

NORTHING (ft): 183071.097

Depth to Water (ft.): N/A

Depth to Water (ft.): N/A

EASTING (ft): 1007132.372

Depth to Rock (ft.): N/A

Slot Size (in): N/A

SURFACE ELEVATION (ft): N/A

NOTES: Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart.
Soil boring was pre-cleared to 6 ftbg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
	8		ML			<1	Dark yellowish brown (10YR 4/2), Clayey SILT, some coarse to fine Sand, trace coarse to fine Gravel, moist.	Sandy Clayey Silt
	10		SM			<1	Light brown (5YR 5/6), medium to fine SAND, some Clayey Silt, trace coarse to fine Gravel, moist.	Clayey Silty Sand



Louis Berger

Drilling Log

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BORING NO.: SB06

LOCATION: Brooklyn, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 2011040.212.00

PROJECT: Replacement of Trunk Water Mains in East New York Avenue

FMS ID#: BED776

DRILLING CONTRACTOR: Aquifer Drilling and Testing Inc

WOL #: 12450-LBA-4-11627

DRILLING METHOD: Direct Push

DATE STARTED: 5/11/2017

BOREHOLE DATA

WELL DATA

DATE FINISHED: 5/23/2017

Diameter (in): 2.25

Well Diameter (in): N/A

DRILLER: C. Iodice

Total Depth (ft.): 15

Total Depth (ft.): N/A

LBA INSPECTOR: M. Donovan

Depth to Refusal (ft.): N/A

Screen Length (ft.): N/A

NORTHING (ft): 183071.097

Depth to Water (ft.): N/A

Depth to Water (ft.): N/A

EASTING (ft): 1007132.372

Depth to Rock (ft.): N/A

Slot Size (in): N/A

SURFACE ELEVATION (ft): N/A

NOTES: Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart.

Soil boring was pre-cleared to 6 ftbg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
	14		SM			<1	Light brown (5YR 5/6), medium to fine SAND, some Clayey Silt, trace coarse to fine Gravel, moist.	Collected grab sample SB06 from 13.0 to 13.5 ftbg and composite sample SB06 from 0.5 to 13.5 ftbg.
	16						Total Depth of Boring 15 feet.	



Louis Berger

Drilling Log

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BORING NO.: SB07

LOCATION: Brooklyn, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 2011040.212.00

PROJECT: Replacement of Trunk Water Mains in East New York Avenue

FMS ID#: BED776

DRILLING CONTRACTOR: Aquifer Drilling and Testing Inc

WOL #: 12450-LBA-4-11627

DRILLING METHOD: Direct Push

DATE STARTED: 5/11/2017

BOREHOLE DATA

WELL DATA

DATE FINISHED: 5/22/2017

Diameter (in): 2.25

Well Diameter (in): N/A

DRILLER: C. Iodice

Total Depth (ft.): 15

Total Depth (ft.): N/A

LBA INSPECTOR: M. Donovan

Depth to Refusal (ft.): N/A

Screen Length (ft.): N/A

NORTHING (ft): 183349.259

Depth to Water (ft.): N/A

Depth to Water (ft.): N/A

EASTING (ft): 1007322.411

Depth to Rock (ft.): N/A

Slot Size (in): N/A

SURFACE ELEVATION (ft): N/A

NOTES: Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart.

Soil boring was pre-cleared to 6 ftbg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
	0		FILL			<1	Moderate yellowish brown (10YR 5/4), SILT, some medium to fine Sand, moist.	Sandy Silt (Fill)
	2		FILL			<1	Dusky yellow green (5GY 5/2), CLAY, moist.	Clay (Fill)
	4		FILL			<1	Pale brown (5YR 5/2), coarse to fine SAND, trace Silt, moist.	Sand (Fill)



Louis Berger

Drilling Log

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BORING NO.: SB07

LOCATION: Brooklyn, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 2011040.212.00

PROJECT: Replacement of Trunk Water Mains in East New York Avenue

FMS ID#: BED776

DRILLING CONTRACTOR: Aquifer Drilling and Testing Inc

WOL #: 12450-LBA-4-11627

DRILLING METHOD: Direct Push

DATE STARTED: 5/11/2017

BOREHOLE DATA

WELL DATA

Diameter (in): 2.25

Well Diameter (in): N/A

DATE FINISHED: 5/22/2017

Total Depth (ft.): 15

Total Depth (ft.): N/A

DRILLER: C. Iodice

Depth to Refusal (ft.): N/A

Screen Length (ft.): N/A

LBA INSPECTOR: M. Donovan

Depth to Water (ft.): N/A

Depth to Water (ft.): N/A

NORTHING (ft): 183349.259

Depth to Rock (ft.): N/A

Slot Size (in): N/A

EASTING (ft): 1007322.411

SURFACE ELEVATION (ft): N/A

NOTES: Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart.
Soil boring was pre-cleared to 6 ftbg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
	8		ML			<1	Medium dark gray (N4), Clayey SILT, some medium to fine Sand, moist.	Sandy Clayey Silt
	10		SM			<1	Pale green (5G 7/2), coarse to fine SAND, some Silt, moist.	Silty Sand



Louis Berger

Drilling Log

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BORING NO.: SB07

LOCATION: Brooklyn, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 2011040.212.00

PROJECT: Replacement of Trunk Water Mains in East New York Avenue

FMS ID#: BED776

DRILLING CONTRACTOR: Aquifer Drilling and Testing Inc

WOL #: 12450-LBA-4-11627

DRILLING METHOD: Direct Push

DATE STARTED: 5/11/2017

BOREHOLE DATA

WELL DATA

Diameter (in): 2.25

Well Diameter (in): N/A

DRILLER: C. Iodice

Total Depth (ft.): 15

Total Depth (ft.): N/A

LBA INSPECTOR: M. Donovan

Depth to Refusal (ft.): N/A

Screen Length (ft.): N/A

NORTHING (ft): 183349.259

Depth to Water (ft.): N/A

Depth to Water (ft.): N/A

EASTING (ft): 1007322.411

Depth to Rock (ft.): N/A

Slot Size (in): N/A

SURFACE ELEVATION (ft): N/A

NOTES: Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart.

Soil boring was pre-cleared to 6 ftbg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
	14		SM			<1	Light brown (5YR 5/6), coarse to fine SAND, trace Silt, moist.	Sand; Collected grab sample SB07 from 13.0 to 13.5 ftbg and composite sample SB07 from 0.5 to 13.5 ftbg.
	16						Total Depth of Boring 15 feet.	



Louis Berger

Drilling Log

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BORING NO.: SB08

LOCATION: Brooklyn, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 2011040.212.00

PROJECT: Replacement of Trunk Water Mains in East New York Avenue

FMS ID#: BED776

DRILLING CONTRACTOR: Aquifer Drilling and Testing Inc

WOL #: 12450-LBA-4-11627

DRILLING METHOD: Direct Push

DATE STARTED: 5/11/2017

BOREHOLE DATA

WELL DATA

DATE FINISHED: 5/22/2017

Diameter (in): 2.25

Well Diameter (in): N/A

DRILLER: C. Iodice

Total Depth (ft.): 10

Total Depth (ft.): N/A

LBA INSPECTOR: M. Donovan

Depth to Refusal (ft.): N/A

Screen Length (ft.): N/A

NORTHING (ft): 183465.768

Depth to Water (ft.): N/A

Depth to Water (ft.): N/A

EASTING (ft): 1007623.284

Depth to Rock (ft.): N/A

Slot Size (in): N/A

SURFACE ELEVATION (ft): N/A

NOTES: Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart.

Soil boring was pre-cleared to 6 ftbg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
			FILL			<1	Dark yellowish orange (10YR 6/6), SILT, some medium to fine Sand, trace Cobble, moist.	Sandy Silt (Fill)
	2		FILL			<1	Light olive gray (5Y 5/2), coarse to fine SAND, some Silt, trace Cobble, moist.	Silty Sand (Fill)
	4		FILL			<1	Light olive gray (5Y 5/2), coarse to fine SAND, some Clayey Silt, moist.	Clayey Silty Sand (Fill)



Louis Berger

Drilling Log

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BORING NO.: SB08

LOCATION: Brooklyn, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 2011040.212.00

PROJECT: Replacement of Trunk Water Mains in East New York Avenue

FMS ID#: BED776

DRILLING CONTRACTOR: Aquifer Drilling and Testing Inc

WOL #: 12450-LBA-4-11627

DRILLING METHOD: Direct Push

DATE STARTED: 5/11/2017

BOREHOLE DATA

WELL DATA

DATE FINISHED: 5/22/2017

Diameter (in): 2.25

Well Diameter (in): N/A

DRILLER: C. Iodice

Total Depth (ft.): 10

Total Depth (ft.): N/A

LBA INSPECTOR: M. Donovan

Depth to Refusal (ft.): N/A

Screen Length (ft.): N/A

NORTHING (ft): 183465.768

Depth to Water (ft.): N/A

Depth to Water (ft.): N/A

EASTING (ft): 1007623.284

Depth to Rock (ft.): N/A

Slot Size (in): N/A

SURFACE ELEVATION (ft): N/A

NOTES: Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart.

Soil boring was pre-cleared to 6 ftbg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
	8		SM			<1	Light olive gray (5Y 5/2), coarse to fine SAND, some Silt, moist.	Silty Sand; Collected grab sample SB08 from 7.5 to 8.0 ftbg and composite sample SB08 from 0.5 to 8.0 ftbg.
	10						Total Depth of Boring 10 feet.	
	12							



Louis Berger

Drilling Log

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BORING NO.: SB09

LOCATION: Brooklyn, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 2011040.212.00

PROJECT: Replacement of Trunk Water Mains in East New York Avenue

FMS ID#: BED776

DRILLING CONTRACTOR: Aquifer Drilling and Testing Inc

WOL #: 12450-LBA-4-11627

DRILLING METHOD: Hand Auger

DATE STARTED: 5/12/2017

BOREHOLE DATA

WELL DATA

Diameter (in): 3.0

Well Diameter (in): N/A

DATE FINISHED: 5/12/2017

Total Depth (ft.): 6

Total Depth (ft.): N/A

DRILLER: D. Johnson

Depth to Refusal (ft.): N/A

Screen Length (ft.): N/A

LBA INSPECTOR: M. Donovan

Depth to Water (ft.): N/A

Depth to Water (ft.): N/A

NORTHING (ft): 183579.607

Depth to Rock (ft.): N/A

Slot Size (in): N/A

EASTING (ft): 1007798.494

SURFACE ELEVATION (ft): N/A

NOTES: Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
	0		FILL			<1	Dark yellowish orange (10YR 6/6), Clayey SILT, little medium to fine Sand, (6% fill material: slag, brick), moist.	Clayey Silt (Fill)
	2		FILL			<1	Grayish brown (5YR 3/2), Clayey SILT, some medium to fine Sand, moist.	Sandy Clayey Silt (Fill); Collected grab sample SB09 from 5.5 to 6.0 ftbg and composite sample SB09 from 0.5 to 6.0 ftbg.
	6						Total Depth of Boring 6 feet.	



Louis Berger

Drilling Log

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BORING NO.: SB10

LOCATION: Brooklyn, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 2011040.212.00

PROJECT: Replacement of Trunk Water Mains in East New York Avenue

FMS ID#: BED776

DRILLING CONTRACTOR: Aquifer Drilling and Testing Inc

WOL #: 12450-LBA-4-11627

DRILLING METHOD: Hand Auger

DATE STARTED: 5/12/2017

BOREHOLE DATA

WELL DATA

Diameter (in): 3.0

Well Diameter (in): N/A

DRILLER: D. Johnson

Total Depth (ft.): 3

Total Depth (ft.): N/A

LBA INSPECTOR: M. Donovan

Depth to Refusal (ft.): 3.0

Screen Length (ft.): N/A

NORTHING (ft): 183567.687

Depth to Water (ft.): N/A

Depth to Water (ft.): N/A

EASTING (ft): 1007904.473

Depth to Rock (ft.): N/A

Slot Size (in): N/A

SURFACE ELEVATION (ft): N/A

NOTES: Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
	2		FILL			<1	Moderate brown (5YR 3/4), coarse to fine SAND, trace Silt, (70% fill material: brick), moist.	Sand (Fill); Collected grab sample SB10 from 2.5 to 3.0 ftbg and composite sample SB10 from 0.5 to 3.0 ftbg.
	4						Total Depth of Boring 3 feet.	
	6							



Louis Berger

Drilling Log

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BORING NO.: SB11

LOCATION: Brooklyn, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 2011040.212.00

PROJECT: Replacement of Trunk Water Mains in East New York Avenue

FMS ID#: BED776

DRILLING CONTRACTOR: Aquifer Drilling and Testing Inc

WOL #: 12450-LBA-4-11627

DRILLING METHOD: Direct Push

DATE STARTED: 5/12/2017

BOREHOLE DATA

WELL DATA

DATE FINISHED: 5/22/2017

Diameter (in): 2.25

Well Diameter (in): N/A

DRILLER: C. Iodice

Total Depth (ft.): 20

Total Depth (ft.): N/A

LBA INSPECTOR: M. Donovan

Depth to Refusal (ft.): N/A

Screen Length (ft.): N/A

NORTHING (ft): 183639.706

Depth to Water (ft.): N/A

Depth to Water (ft.): N/A

EASTING (ft): 1008155.453

Depth to Rock (ft.): N/A

Slot Size (in): N/A

SURFACE ELEVATION (ft): N/A

NOTES: Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart.

Soil boring was pre-cleared to 6 ftbg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
	0		FILL			<1	Moderate brown (5YR 4/4), coarse to fine SAND, some Silt, (1% fill material: plastic), moist.	Silty Sand (Fill)
	2							
	4							
	6							



Louis Berger

Drilling Log

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BORING NO.: SB11

LOCATION: Brooklyn, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 2011040.212.00

PROJECT: Replacement of Trunk Water Mains in East New York Avenue

FMS ID#: BED776

DRILLING CONTRACTOR: Aquifer Drilling and Testing Inc

WOL #: 12450-LBA-4-11627

DRILLING METHOD: Direct Push

DATE STARTED: 5/12/2017

BOREHOLE DATA

WELL DATA

DATE FINISHED: 5/22/2017

Diameter (in): 2.25

Well Diameter (in): N/A

DRILLER: C. Iodice

Total Depth (ft.): 20

Total Depth (ft.): N/A

LBA INSPECTOR: M. Donovan

Depth to Refusal (ft.): N/A

Screen Length (ft.): N/A

NORTHING (ft): 183639.706

Depth to Water (ft.): N/A

Depth to Water (ft.): N/A

EASTING (ft): 1008155.453

Depth to Rock (ft.): N/A

Slot Size (in): N/A

SURFACE ELEVATION (ft): N/A

NOTES: Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart.

Soil boring was pre-cleared to 6 ftbg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
	8		FILL			<1	Light brown (5YR 5/6), coarse to fine SAND, some Silt, (5% fill material: brick), moist.	
	10		FILL			<1	Moderate brown (5YR 4/4), coarse to fine SAND, some coarse to fine Gravel, (5% fill material: brick), moist.	Gravelly Sand (Fill)



Louis Berger

Drilling Log

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BORING NO.: SB11

LOCATION: Brooklyn, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 2011040.212.00

PROJECT: Replacement of Trunk Water Mains in East New York Avenue

FMS ID#: BED776

DRILLING CONTRACTOR: Aquifer Drilling and Testing Inc

WOL #: 12450-LBA-4-11627

DRILLING METHOD: Direct Push

DATE STARTED: 5/12/2017

BOREHOLE DATA

WELL DATA

DATE FINISHED: 5/22/2017

Diameter (in): 2.25

Well Diameter (in): N/A

DRILLER: C. Iodice

Total Depth (ft.): 20

Total Depth (ft.): N/A

LBA INSPECTOR: M. Donovan

Depth to Refusal (ft): N/A

Screen Length (ft): N/A

NORTHING (ft): 183639.706

Depth to Water (ft.): N/A

Depth to Water (ft.): N/A

EASTING (ft): 1008155.453

Depth to Rock (ft.): N/A

Slot Size (in): N/A

SURFACE ELEVATION (ft): N/A

NOTES: Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart.

Soil boring was pre-cleared to 6 ftbg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
			FILL			<1	Moderate brown (5YR 4/4), coarse to fine SAND, some coarse to fine Gravel, (5% fill material: brick), moist.	Gravelly Sand (Fill)
	14		FILL			<1	Moderate brown (5YR 4/4), coarse to fine SAND, some coarse to fine Gravel, (3% fill material: brick), moist.	
	16		FILL			<1		



Louis Berger

Drilling Log

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BORING NO.: SB11

LOCATION: Brooklyn, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 2011040.212.00

PROJECT: Replacement of Trunk Water Mains in East New York Avenue

FMS ID#: BED776

DRILLING CONTRACTOR: Aquifer Drilling and Testing Inc

WOL #: 12450-LBA-4-11627

DRILLING METHOD: Direct Push

DATE STARTED: 5/12/2017

BOREHOLE DATA

WELL DATA

DATE FINISHED: 5/22/2017

Diameter (in): 2.25

Well Diameter (in): N/A

DRILLER: C. Iodice

Total Depth (ft.): 20

Total Depth (ft.): N/A

LBA INSPECTOR: M. Donovan

Depth to Refusal (ft): N/A

Screen Length (ft): N/A

NORTHING (ft): 183639.706

Depth to Water (ft.): N/A

Depth to Water (ft.): N/A

EASTING (ft): 1008155.453

Depth to Rock (ft.): N/A

Slot Size (in): N/A

SURFACE ELEVATION (ft): N/A

NOTES: Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart.

Soil boring was pre-cleared to 6 ftbg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
			FILL			<1	Moderate brown (5YR 4/4), coarse to fine SAND, some coarse to fine Gravel, (3% fill material: brick), moist.	Collected grab sample SB11 from 17.0 to 17.5 ftbg and composite sample SB11 from 0.5 to 17.5 ftbg.
	20						Total Depth of Boring 20 feet.	
	22							
	24							



Louis Berger

Drilling Log

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BORING NO.: SB12

LOCATION: Brooklyn, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 2011040.212.00

PROJECT: Replacement of Trunk Water Mains in East New York Avenue

FMS ID#: BED776

DRILLING CONTRACTOR: Aquifer Drilling and Testing Inc

WOL #: 12450-LBA-4-11627

DRILLING METHOD: Hand Auger

DATE STARTED: 5/12/2017

BOREHOLE DATA

WELL DATA

Diameter (in): 3.0

Well Diameter (in): N/A

DATE FINISHED: 5/12/2017

Total Depth (ft.): 6

Total Depth (ft.): N/A

DRILLER: D. Johnson

Depth to Refusal (ft.): N/A

Screen Length (ft.): N/A

LBA INSPECTOR: M. Donovan

Depth to Water (ft.): N/A

Depth to Water (ft.): N/A

NORTHING (ft): 183780.899

Depth to Rock (ft.): N/A

Slot Size (in): N/A

EASTING (ft): 1008356.430

SURFACE ELEVATION (ft): N/A

NOTES: Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
	0		FILL			<1	Light brown (5YR 5/6), coarse to fine SAND, some Silt, some coarse to fine Gravel, (10% fill material: brick, concrete), moist.	Silty Gravelly Sand (Fill)
	2							
	4		FILL			<1	Grayish brown (5YR 3/2), Silty CLAY, (5% fill material: slag), moist.	Silty Clay (Fill); Collected grab sample SB12 from 5.5 to 6.0 ftbg and composite sample SB12 from 0.5 to 6.0 ftbg.
	6						Total Depth of Boring 6 feet.	



Louis Berger

Drilling Log

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BORING NO.: SB13

LOCATION: Brooklyn, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 2011040.212.00

PROJECT: Replacement of Trunk Water Mains in East New York Avenue

FMS ID#: BED776

DRILLING CONTRACTOR: Aquifer Drilling and Testing Inc

WOL #: 12450-LBA-4-11627

DRILLING METHOD: Direct Push

DATE STARTED: 5/15/2017

BOREHOLE DATA

WELL DATA

DATE FINISHED: 5/22/2017

Diameter (in): 2.25

Well Diameter (in): N/A

DRILLER: C. Iodice

Total Depth (ft.): 15

Total Depth (ft.): N/A

LBA INSPECTOR: M. Donovan

Depth to Refusal (ft.): N/A

Screen Length (ft.): N/A

NORTHING (ft.): 183917.546

Depth to Water (ft.): N/A

Depth to Water (ft.): N/A







EASTING (ft.): 1008379.873

Depth to Rock (ft.): N/A

Slot Size (in): N/A

SURFACE ELEVATION (ft): N/A

NOTES: Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart.
Soil boring was pre-cleared to 6 ftbg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
			FILL			<1	Dark gray (N3), FILL MATERIAL (asphalt), moist.	Fill Material
	2		FILL			<1	Light brown (5YR 5/6), SILT, some medium to fine Sand, moist.	Sandy Silt (Fill)



Louis Berger

Drilling Log

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BORING NO.: SB13

LOCATION: Brooklyn, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 2011040.212.00

PROJECT: Replacement of Trunk Water Mains in East New York Avenue

FMS ID#: BED776

DRILLING CONTRACTOR: Aquifer Drilling and Testing Inc

WOL #: 12450-LBA-4-11627

DRILLING METHOD: Direct Push

DATE STARTED: 5/15/2017

BOREHOLE DATA

WELL DATA

DATE FINISHED: 5/22/2017

Diameter (in): 2.25

Well Diameter (in): N/A

DRILLER: C. Iodice

Total Depth (ft.): 15

Total Depth (ft.): N/A

LBA INSPECTOR: M. Donovan

Depth to Refusal (ft.): N/A

Screen Length (ft.): N/A

NORTHING (ft): 183917.546

Depth to Water (ft.): N/A

Depth to Water (ft.): N/A

EASTING (ft): 1008379.873

Depth to Rock (ft.): N/A

Slot Size (in): N/A

SURFACE ELEVATION (ft): N/A

NOTES: Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart.
Soil boring was pre-cleared to 6 ftbg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
			FILL			<1	Pale yellowish brown (10YR 6/2), SILT, some medium to fine Sand, moist.	
	8		FILL			<1	Dark yellowish orange (10YR 6/6), coarse to fine SAND, some Clayey Silt, moist.	Clayey Silty Sand (Fill)
	10		FILL			<1	Dark yellowish orange (10YR 6/6), coarse to fine SAND, some Silt, moist.	Silty Sand (Fill)
	12		FILL			<1	Pale yellowish brown (10YR 6/2), Clayey SILT, some medium to fine Sand, moist.	Sandy Clayey Silt (Fill)



Louis Berger

Drilling Log

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BORING NO.: SB13

LOCATION: Brooklyn, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 2011040.212.00

PROJECT: Replacement of Trunk Water Mains in East New York Avenue

FMS ID#: BED776

DRILLING CONTRACTOR: Aquifer Drilling and Testing Inc

WOL #: 12450-LBA-4-11627

DRILLING METHOD: Direct Push

DATE STARTED: 5/15/2017

BOREHOLE DATA

WELL DATA

DATE FINISHED: 5/22/2017

Diameter (in): 2.25

Well Diameter (in): N/A

DRILLER: C. Iodice

Total Depth (ft.): 15

Total Depth (ft.): N/A

LBA INSPECTOR: M. Donovan

Depth to Refusal (ft.): N/A

Screen Length (ft.): N/A

NORTHING (ft): 183917.546

Depth to Water (ft.): N/A

Depth to Water (ft.): N/A

EASTING (ft): 1008379.873

Depth to Rock (ft.): N/A

Slot Size (in): N/A

SURFACE ELEVATION (ft): N/A

NOTES: Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart.

Soil boring was pre-cleared to 6 ftbg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
			FILL			<1	Pale yellowish brown (10YR 6/2), Clayey SILT, some medium to fine Sand, moist.	Sandy Clayey Silt (Fill)
			FILL			<1	Dark yellowish orange (10YR 6/6), coarse to fine SAND, some Clayey Silt, (5% fill material: brick), moist.	
	14							Clayey Silty Sand (Fill); Collected grab sample SB13 from 13.0 to 13.5 ftbg and composite sample SB13 from 0.5 to 13.5 ftbg.
							Total Depth of Boring 15 feet.	
	16							



Louis Berger

Drilling Log

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BORING NO.: SB14

LOCATION: Brooklyn, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 2011040.212.00

PROJECT: Replacement of Trunk Water Mains in East New York Avenue

FMS ID#: BED776

DRILLING CONTRACTOR: Aquifer Drilling and Testing Inc

WOL #: 12450-LBA-4-11627

DRILLING METHOD: Direct Push

DATE STARTED: 5/12/2017

BOREHOLE DATA

WELL DATA

DATE FINISHED: 5/22/2017

Diameter (in): 2.25

Well Diameter (in): N/A

DRILLER: C. Iodice

Total Depth (ft.): 10

Total Depth (ft.): N/A

LBA INSPECTOR: M. Donovan

Depth to Refusal (ft.): N/A

Screen Length (ft.): N/A

NORTHING (ft): 184083.354

Depth to Water (ft.): N/A

Depth to Water (ft.): N/A

EASTING (ft): 1008782.490

Depth to Rock (ft.): N/A

Slot Size (in): N/A

SURFACE ELEVATION (ft): N/A

NOTES: Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart.
Soil boring was pre-cleared to 6 ftbg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
	0		FILL			<1	Light brown (5YR 5/6), medium to fine SAND, some Clayey Silt, moist.	Clayey Silty Sand (Fill)
	2		FILL			<1	Pale yellowish brown (10YR 6/2), coarse to fine SAND, some Clayey Silt, moist.	
	4							
	6							



Louis Berger

Drilling Log

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BORING NO.: SB14

LOCATION: Brooklyn, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 2011040.212.00

PROJECT: Replacement of Trunk Water Mains in East New York Avenue

FMS ID#: BED776

DRILLING CONTRACTOR: Aquifer Drilling and Testing Inc

WOL #: 12450-LBA-4-11627

DRILLING METHOD: Direct Push

DATE STARTED: 5/12/2017

BOREHOLE DATA

WELL DATA

Diameter (in): 2.25

Well Diameter (in): N/A

DATE FINISHED: 5/22/2017

Total Depth (ft.): 10

Total Depth (ft.): N/A

DRILLER: C. Iodice

Depth to Refusal (ft.): N/A

Screen Length (ft.): N/A

LBA INSPECTOR: M. Donovan

Depth to Water (ft.): N/A

Depth to Water (ft.): N/A

NORTHING (ft): 184083.354

Depth to Rock (ft.): N/A

Slot Size (in): N/A

EASTING (ft): 1008782.490

SURFACE ELEVATION (ft): N/A

NOTES: Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart.
Soil boring was pre-cleared to 6 ftbg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
	0		FILL			<1	Pale yellowish brown (10YR 6/2), Clayey SILT, some medium to fine Sand, (1% fill material: glass), moist.	Sandy Clayey Silt (Fill)
	8		FILL			<1	Pale yellowish brown (10YR 6/2), coarse to fine SAND, some Silt, (3% fill material: brick), moist.	Silty Sand (Fill); Collected grab sample SB14 from 9.0 to 9.5 ftbg and composite sample SB14 from 0.5 to 9.5 ftbg.
	10						Total Depth of Boring 10 feet.	



Louis Berger

Drilling Log

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BORING NO.: SB15

LOCATION: Brooklyn, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 2011040.212.00

PROJECT: Replacement of Trunk Water Mains in East New York Avenue

FMS ID#: BED776

DRILLING CONTRACTOR: Aquifer Drilling and Testing Inc

WOL #: 12450-LBA-4-11627

DRILLING METHOD: Direct Push

DATE STARTED: 5/17/2015

BOREHOLE DATA

WELL DATA

DATE FINISHED: 5/22/2017

Diameter (in): 2.25

Well Diameter (in): N/A

DRILLER: C. Iodice

Total Depth (ft.): 15

Total Depth (ft.): N/A

LBA INSPECTOR: M. Donovan

Depth to Refusal (ft.): N/A

Screen Length (ft.): N/A

NORTHING (ft): 184164.987

Depth to Water (ft.): N/A

Depth to Water (ft.): N/A

EASTING (ft): 1008805.432

Depth to Rock (ft.): N/A

Slot Size (in): N/A

SURFACE ELEVATION (ft): N/A

NOTES: Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart.
Soil boring was pre-cleared to 6 ftbg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
			FILL			<1	Dark gray (N3), coarse to fine SAND, (50% fill material: ash), moist.	Sand (Fill)
	2		FILL			<1	Light brown (5YR 5/6), coarse to fine SAND, little Silt, moist.	Sand (Fill); Collected grab sample SB15 from 12.5 to 13.0 ftbg and composite sample SB15 from 0.5 to 13.0 ftbg.



Louis Berger

Drilling Log

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BORING NO.: SB15

LOCATION: Brooklyn, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 2011040.212.00

PROJECT: Replacement of Trunk Water Mains in East New York Avenue

FMS ID#: BED776

DRILLING CONTRACTOR: Aquifer Drilling and Testing Inc

WOL #: 12450-LBA-4-11627

DRILLING METHOD: Direct Push

DATE STARTED: 5/17/2015

BOREHOLE DATA

WELL DATA

DATE FINISHED: 5/22/2017

Diameter (in): 2.25

Well Diameter (in): N/A

DRILLER: C. Iodice

Total Depth (ft.): 15

Total Depth (ft.): N/A

LBA INSPECTOR: M. Donovan

Depth to Refusal (ft.): N/A

Screen Length (ft.): N/A

NORTHING (ft): 184164.987

Depth to Water (ft.): N/A

Depth to Water (ft.): N/A

EASTING (ft): 1008805.432

Depth to Rock (ft.): N/A

Slot Size (in): N/A

SURFACE ELEVATION (ft): N/A

NOTES: Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart.
Soil boring was pre-cleared to 6 ftbg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
			FILL			<1	Light brown (5YR 5/6), medium to fine SAND, some Silt, moist.	Silty Sand (Fill)
	8		FILL			<1	Light brown (5YR 5/6), coarse to fine SAND, some Silt, moist.	
	10		FILL			<1	Pale brown (5YR 5/2), coarse to fine SAND, some Silt, trace coarse to fine Gravel, (5% fill material: brick), moist.	



Louis Berger

Drilling Log

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BORING NO.: SB15

LOCATION: Brooklyn, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 2011040.212.00

PROJECT: Replacement of Trunk Water Mains in East New York Avenue

FMS ID#: BED776

DRILLING CONTRACTOR: Aquifer Drilling and Testing Inc

WOL #: 12450-LBA-4-11627

DRILLING METHOD: Direct Push

DATE STARTED: 5/17/2015

BOREHOLE DATA

WELL DATA

Diameter (in): 2.25

Well Diameter (in): N/A

DATE FINISHED: 5/22/2017

Total Depth (ft.): 15

Total Depth (ft.): N/A

DRILLER: C. Iodice

Depth to Refusal (ft.): N/A

Screen Length (ft.): N/A

LBA INSPECTOR: M. Donovan

Depth to Water (ft.): N/A

Depth to Water (ft.): N/A

NORTHING (ft): 184164.987

Depth to Rock (ft.): N/A

Slot Size (in): N/A

EASTING (ft): 1008805.432

SURFACE ELEVATION (ft): N/A

NOTES: Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart.
Soil boring was pre-cleared to 6 ftbg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
	14		FILL			<1	Pale brown (5YR 5/2), coarse to fine SAND, some Silt, trace coarse to fine Gravel, (5% fill material: brick), moist.	Collected grab sample SB15 from 12.5 to 13.0 ftbg and composite sample SB15 from 0.5 to 13.0 ftbg.
	16						Total Depth of Boring 15 feet.	



Louis Berger

Drilling Log

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BORING NO.: SB16

LOCATION: Brooklyn, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 2011040.212.00

PROJECT: Replacement of Trunk Water Mains in East New York Avenue

FMS ID#: BED776

DRILLING CONTRACTOR: Aquifer Drilling and Testing Inc

WOL #: 12450-LBA-4-11627

DRILLING METHOD: Hand Auger

DATE STARTED: 5/16/2017

BOREHOLE DATA

WELL DATA

DATE FINISHED: 5/16/2017

Diameter (in): 3.0

Well Diameter (in): N/A

DRILLER: C. Iodice

Total Depth (ft.): 6

Total Depth (ft.): N/A

LBA INSPECTOR: M. Donovan

Depth to Refusal (ft.): N/A

Screen Length (ft.): N/A

NORTHING (ft): 184172.784

Depth to Water (ft.): N/A

Depth to Water (ft.): N/A

EASTING (ft): 1008949.116

Depth to Rock (ft.): N/A

Slot Size (in): N/A

SURFACE ELEVATION (ft): N/A

NOTES: Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
			FILL			△	Light brown (5YR 5/6), coarse to fine SAND, some Silt, (5% fill material: brick, asphalt), moist.	Silty Sand (Fill); Collected grab sample SB16 from 5.5 to 6.0 ftbg and composite sample SB16 from 0.5 to 6.0 ftbg.
	6						Total Depth of Boring 6 feet.	



Louis Berger

Drilling Log

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BORING NO.: SB17

LOCATION: Brooklyn, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 2011040.212.00

PROJECT: Replacement of Trunk Water Mains in East New York Avenue

FMS ID#: BED776

DRILLING CONTRACTOR: Aquifer Drilling and Testing Inc

WOL #: 12450-LBA-4-11627

DRILLING METHOD: Direct Push

DATE STARTED: 5/17/2015

BOREHOLE DATA

WELL DATA

DATE FINISHED: 5/22/2017

Diameter (in): 2.25

Well Diameter (in): N/A

DRILLER: C. Iodice

Total Depth (ft.): 10

Total Depth (ft.): N/A

LBA INSPECTOR: M. Donovan

Depth to Refusal (ft.): N/A

Screen Length (ft.): N/A

NORTHING (ft): 184268.440

Depth to Water (ft.): N/A

Depth to Water (ft.): N/A

EASTING (ft): 1009147.079

Depth to Rock (ft.): N/A

Slot Size (in): N/A

SURFACE ELEVATION (ft): N/A

NOTES: Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart.
Soil boring was pre-cleared to 6 ftbg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
			FILL			<1	Dark gray (N3), 100% FILL MATERIAL (ash, asphalt), moist.	Fill Material
	2		FILL			<1	Moderate yellowish brown (10YR 5/4), medium to fine SAND, some Clayey Silt, moist.	Clayey Silty Sand (Fill)
	4							



Louis Berger

Drilling Log

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BORING NO.: SB17

LOCATION: Brooklyn, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 2011040.212.00

PROJECT: Replacement of Trunk Water Mains in East New York Avenue

FMS ID#: BED776

DRILLING CONTRACTOR: Aquifer Drilling and Testing Inc

WOL #: 12450-LBA-4-11627

DRILLING METHOD: Direct Push

DATE STARTED: 5/17/2015

BOREHOLE DATA

WELL DATA

DATE FINISHED: 5/22/2017

Diameter (in): 2.25

Well Diameter (in): N/A

DRILLER: C. Iodice

Total Depth (ft.): 10

Total Depth (ft.): N/A

LBA INSPECTOR: M. Donovan

Depth to Refusal (ft): N/A

Screen Length (ft): N/A

NORTHING (ft): 184268.440

Depth to Water (ft.): N/A

Depth to Water (ft.): N/A

EASTING (ft): 1009147.079

Depth to Rock (ft.): N/A

Slot Size (in): N/A

SURFACE ELEVATION (ft): N/A

NOTES: Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart.
Soil boring was pre-cleared to 6 ftbg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
	8		FILL			<1	Moderate yellowish brown (10YR 5/4), coarse to fine SAND, some Clayey Silt, little coarse Gravel, (5% fill material: brick), moist.	Collected grab sample SB17 from 9.5 to 10.0 ftbg and composite sample SB17 from 0.5 to 10.0 ftbg.
	10						Total Depth of Boring 10 feet.	



Louis Berger

Drilling Log

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BORING NO.: SB18

LOCATION: Brooklyn, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 2011040.212.00

PROJECT: Replacement of Trunk Water Mains in East New York Avenue

FMS ID#: BED776

DRILLING CONTRACTOR: Aquifer Drilling and Testing Inc

WOL #: 12450-LBA-4-11627

DRILLING METHOD: Direct Push

DATE STARTED: 5/15/2017

BOREHOLE DATA

WELL DATA

DATE FINISHED: 5/22/2017

Diameter (in): 2.25

Well Diameter (in): N/A

DRILLER: C. Iodice

Total Depth (ft.): 12

Total Depth (ft.): N/A

LBA INSPECTOR: M. Donovan

Depth to Refusal (ft.): 12.0

Screen Length (ft.): N/A

NORTHING (ft): 184499.270

Depth to Water (ft.): N/A

Depth to Water (ft.): N/A

EASTING (ft): 1009351.281

Depth to Rock (ft.): N/A

Slot Size (in): N/A

SURFACE ELEVATION (ft): N/A

NOTES: Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart.
Soil boring was pre-cleared to 6 ftbg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
	0 2 4 6		FILL			△	Moderate yellowish brown (10YR 5/4), coarse to fine SAND, some Clayey Silt, (10% fill material: asphalt, ash), moist.	Clayey Silty Sand (Fill)



Louis Berger

Drilling Log

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BORING NO.: SB18

LOCATION: Brooklyn, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 2011040.212.00

PROJECT: Replacement of Trunk Water Mains in East New York Avenue

FMS ID#: BED776

DRILLING CONTRACTOR: Aquifer Drilling and Testing Inc

WOL #: 12450-LBA-4-11627

DRILLING METHOD: Direct Push

DATE STARTED: 5/15/2017

BOREHOLE DATA

WELL DATA

Diameter (in): 2.25

Well Diameter (in): N/A

DRILLER: C. Iodice

Total Depth (ft.): 12

Total Depth (ft.): N/A

LBA INSPECTOR: M. Donovan

Depth to Refusal (ft.): 12.0

Screen Length (ft.): N/A

NORTHING (ft): 184499.270

Depth to Water (ft.): N/A

Depth to Water (ft.): N/A

EASTING (ft): 1009351.281

Depth to Rock (ft.): N/A

Slot Size (in): N/A

SURFACE ELEVATION (ft): N/A

NOTES: Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart.

Soil boring was pre-cleared to 6 ftbg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
	8		SM			<1	Light brown (5YR 5/6), coarse to fine SAND, some Clayey Silt, trace coarse to fine Gravel, moist.	Clayey Silty Sand
	10		SP			<1	Pale yellowish brown (10YR 6/2), coarse to fine SAND, some coarse to fine Gravel, moist.	Gravelly Sand; Collected grab sample SB18 from 10.5 to 11.0 ftbg and composite sample SB18 from 0.5 to 11.0 ftbg.

Total Depth of Boring 12 feet.



Louis Berger

Drilling Log

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BORING NO.: SB19

LOCATION: Brooklyn, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 2011040.212.00

PROJECT: Replacement of Trunk Water Mains in East New York Avenue

FMS ID#: BED776

DRILLING CONTRACTOR: Aquifer Drilling and Testing Inc

WOL #: 12450-LBA-4-11627

DRILLING METHOD: Hand Auger

DATE STARTED: 5/18/2017

BOREHOLE DATA

WELL DATA

DATE FINISHED: 5/18/2017

Diameter (in): 3.0

Well Diameter (in): N/A

DRILLER: R. Sing

Total Depth (ft.): 6

Total Depth (ft.): N/A

LBA INSPECTOR: M. Donovan

Depth to Refusal (ft.): N/A

Screen Length (ft.): N/A

NORTHING (ft): 184663.874

Depth to Water (ft.): N/A

Depth to Water (ft.): N/A

EASTING (ft): 1009632.386

Depth to Rock (ft.): N/A

Slot Size (in): N/A

SURFACE ELEVATION (ft): N/A

NOTES: Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
	0		FILL			<1	Dark gray (N3), 100% Fill Material (asphalt), moist.	Fill Material
	1		FILL			<1	Dark yellowish brown (10YR 4/2), coarse to fine SAND, some Silt, moist.	Silty Sand (Fill)
	2		FILL			<1	Dark gray (N3), Silty CLAY, moist.	Silty Clay (Fill); Collected grab sample SB19 from 5.5 to 6.0 ftbg and composite sample SB19 from 0.5 to 6.0 ftbg.
	3							
	4							
	5							
	6						Total Depth of Boring 6 feet.	



Louis Berger

Drilling Log

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BORING NO.: SB20

LOCATION: Brooklyn, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 2011040.212.00

PROJECT: Replacement of Trunk Water Mains in East New York Avenue

FMS ID#: BED776

DRILLING CONTRACTOR: Aquifer Drilling and Testing Inc

WOL #: 12450-LBA-4-11627

DRILLING METHOD: Hand Auger

DATE STARTED: 5/15/2017

BOREHOLE DATA

WELL DATA

DATE FINISHED: 5/15/2017

Diameter (in): 3.0

Well Diameter (in): N/A

DRILLER: D. Johnson

Total Depth (ft.): 4.5

Total Depth (ft.): N/A

LBA INSPECTOR: M. Donovan

Depth to Refusal (ft.): 4.5

Screen Length (ft.): N/A

NORTHING (ft): 184602.108

Depth to Water (ft.): N/A

Depth to Water (ft.): N/A

EASTING (ft): 1009793.892

Depth to Rock (ft.): N/A

Slot Size (in): N/A

SURFACE ELEVATION (ft): N/A

NOTES: Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
	0		FILL			<1	Grayish black (N2), coarse to fine SAND, some Silt & Clay, (5% fill material: brick), moist.	Clayey Silty Sand (Fill)
	0.5		FILL			<1	Moderate yellowish brown (10YR 5/4), coarse to fine SAND, some Clayey Silt, moist.	Collected grab sample SB20 from 4.0 to 4.5 ftbg and composite sample SB20 from 0.5 to 4.5 ftbg.
	4.5						Total Depth of Boring 4.5 feet.	
	6							



Louis Berger

Drilling Log

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BORING NO.: SB21

LOCATION: Brooklyn, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 2011040.212.00

PROJECT: Replacement of Trunk Water Mains in East New York Avenue

FMS ID#: BED776

DRILLING CONTRACTOR: Aquifer Drilling and Testing Inc

WOL #: 12450-LBA-4-11627

DRILLING METHOD: Direct Push

DATE STARTED: 5/17/2017

BOREHOLE DATA

WELL DATA

DATE FINISHED: 5/19/2017

Diameter (in): 2.25

Well Diameter (in): N/A

DRILLER: C. Iodice

Total Depth (ft.): 8.5

Total Depth (ft.): N/A

LBA INSPECTOR: M. Donovan

Depth to Refusal (ft.): 8.5

Screen Length (ft.): N/A

NORTHING (ft): 184804.659

Depth to Water (ft.): N/A

Depth to Water (ft.): N/A


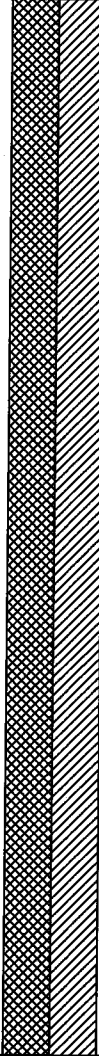

EASTING (ft): 1009779.255

Depth to Rock (ft.): N/A

Slot Size (in): N/A

SURFACE ELEVATION (ft): N/A

NOTES: Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart.
Soil boring was pre-cleared to 6 ftbg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
	0		FILL			<1	Light brown (5YR 6/4), coarse to fine SAND, some Clayey Silt, little coarse to fine Gravel, moist.	Clayey Silty Sand (Fill)



Louis Berger

Drilling Log

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BORING NO.: SB21

LOCATION: Brooklyn, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 2011040.212.00

PROJECT: Replacement of Trunk Water Mains in East New York Avenue

FMS ID#: BED776

DRILLING CONTRACTOR: Aquifer Drilling and Testing Inc

WOL #: 12450-LBA-4-11627

DRILLING METHOD: Direct Push

DATE STARTED: 5/17/2017

BOREHOLE DATA

WELL DATA

DATE FINISHED: 5/19/2017

Diameter (in): 2.25

Well Diameter (in): N/A

DRILLER: C. Iodice

Total Depth (ft.): 8.5

Total Depth (ft.): N/A

LBA INSPECTOR: M. Donovan

Depth to Refusal (ft.): 8.5

Screen Length (ft.): N/A

NORTHING (ft): 184804.659

Depth to Water (ft.): N/A

Depth to Water (ft.): N/A

EASTING (ft): 1009779.255

Depth to Rock (ft.): N/A

Slot Size (in): N/A

SURFACE ELEVATION (ft): N/A

NOTES: Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart.

Soil boring was pre-cleared to 6 ftbg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
	8		ML			<1	Light brown (5YR 5/6), Clayey SILT, little coarse to fine Sand, moist.	Clayey Silt; Collected grab sample SB21 from 7.5 to 8.0 ftbg and composite sample SB21 from 0.5 to 8.0 ftbg.
							Total Depth of Boring 8.5 feet.	



Louis Berger

Drilling Log

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BORING NO.: SB22

LOCATION: Brooklyn, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 2011040.212.00

PROJECT: Replacement of Trunk Water Mains in East New York Avenue

FMS ID#: BED776

DRILLING CONTRACTOR: Aquifer Drilling and Testing Inc

WOL #: 12450-LBA-4-11627

DRILLING METHOD: Direct Push

DATE STARTED: 5/16/2017

BOREHOLE DATA

WELL DATA

DATE FINISHED: 5/24/2017

Diameter (in): 2.25

Well Diameter (in): N/A

DRILLER: C. Iodice

Total Depth (ft.): 10

Total Depth (ft.): N/A

LBA INSPECTOR: M. Donovan

Depth to Refusal (ft.): N/A

Screen Length (ft.): N/A

NORTHING (ft): 184761.958

Depth to Water (ft.): N/A

Depth to Water (ft.): N/A

EASTING (ft): 1010053.916

Depth to Rock (ft.): N/A

Slot Size (in): N/A

SURFACE ELEVATION (ft): N/A

NOTES: Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart.
Soil boring was pre-cleared to 6 ftbg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
			FILL			<1	Light brown (5YR 5/6), coarse to fine SAND, some Clayey Silt, moist.	Clayey Silty Sand (Fill)
			FILL			<1	Grayish brown (5YR 3/2), coarse to fine SAND, some Silt, trace Cobble, moist.	Silty Sand (Fill)



Louis Berger

Drilling Log

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BORING NO.: SB22

LOCATION: Brooklyn, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 2011040.212.00

PROJECT: Replacement of Trunk Water Mains in East New York Avenue

FMS ID#: BED776

DRILLING CONTRACTOR: Aquifer Drilling and Testing Inc

WOL #: 12450-LBA-4-11627

DRILLING METHOD: Direct Push

DATE STARTED: 5/16/2017

BOREHOLE DATA

WELL DATA

Diameter (in): 2.25

Well Diameter (in): N/A

DRILLER: C. Iodice

Total Depth (ft.): 10

Total Depth (ft.): N/A

LBA INSPECTOR: M. Donovan

Depth to Refusal (ft): N/A

Screen Length (ft): N/A

NORTHING (ft): 184761.958

Depth to Water (ft.): N/A

Depth to Water (ft.): N/A

EASTING (ft): 1010053.916

Depth to Rock (ft.): N/A

Slot Size (in): N/A

SURFACE ELEVATION (ft): N/A

NOTES: Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart.

Soil boring was pre-cleared to 6 ftbg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
	8		FILL			<1	Moderate yellowish brown (10YR 5/4), coarse to fine SAND, little Silt, some coarse to fine Gravel, (5% fill material: brick), moist.	Gravelly Sand (Fill); Collected grab sample SB22 from 8.25 to 8.75 ftbg and composite sample SB22 from 0.5 to 8.75 ftbg.
	10						Total Depth of Boring 10 feet.	



Louis Berger

Drilling Log

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BORING NO.: SB23

LOCATION: Brooklyn, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 2011040.212.00

PROJECT: Replacement of Trunk Water Mains in East New York Avenue

FMS ID#: BED776

DRILLING CONTRACTOR: Aquifer Drilling and Testing Inc

WOL #: 12450-LBA-4-11627

DRILLING METHOD: Direct Push

DATE STARTED: 5/17/2017

BOREHOLE DATA

WELL DATA

DATE FINISHED: 5/24/2017

Diameter (in): 2.25

Well Diameter (in): N/A

DRILLER: C. Iodice

Total Depth (ft.): 13

Total Depth (ft.): N/A

LBA INSPECTOR: M. Donovan

Depth to Refusal (ft.): N/A

Screen Length (ft.): N/A

NORTHING (ft): 184980.878

Depth to Water (ft.): N/A

Depth to Water (ft.): N/A

EASTING (ft): 1010356.313

Depth to Rock (ft.): N/A

Slot Size (in): N/A

SURFACE ELEVATION (ft): N/A

NOTES: Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart.
Soil boring was pre-cleared to 6 ftbg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
	0		FILL			<1	Moderate brown (5YR 4/4), coarse to fine SAND, little Clayey Silt, and Cobbles, moist.	Cobbly Sand (Fill)



Louis Berger

Drilling Log

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BORING NO.: SB23

LOCATION: Brooklyn, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 2011040.212.00

PROJECT: Replacement of Trunk Water Mains in East New York Avenue

FMS ID#: BED776

DRILLING CONTRACTOR: Aquifer Drilling and Testing Inc

WOL #: 12450-LBA-4-11627

DRILLING METHOD: Direct Push

DATE STARTED: 5/17/2017

BOREHOLE DATA

WELL DATA

DATE FINISHED: 5/24/2017

Diameter (in): 2.25

Well Diameter (in): N/A

DRILLER: C. Iodice

Total Depth (ft.): 13

Total Depth (ft.): N/A

LBA INSPECTOR: M. Donovan

Depth to Refusal (ft.): N/A

Screen Length (ft.): N/A

NORTHING (ft): 184980.878

Depth to Water (ft.): N/A

Depth to Water (ft.): N/A

EASTING (ft): 1010356.313

Depth to Rock (ft.): N/A

Slot Size (in): N/A

SURFACE ELEVATION (ft): N/A

NOTES: Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart.

Soil boring was pre-cleared to 6 ftbg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
	8		FILL			<1	Moderate yellowish brown (10YR 5/4), Clayey SILT, some coarse to fine Sand, (5% fill material: brick), moist.	Sandy Clayey Silt (Fill)
	10		FILL			<1	Moderate yellowish brown (10YR 5/4), coarse to fine SAND, some Silt, some coarse to fine Gravel, (5% fill material: brick), moist.	Silty Gravelly Sand (Fill); Collected grab sample SB23 from 11.5 to 12.0 ftbg and composite sample SB23 from 0.5 to 12.0 ftbg.



Louis Berger

Drilling Log

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BORING NO.: SB23

LOCATION: Brooklyn, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 2011040.212.00

PROJECT: Replacement of Trunk Water Mains in East New York Avenue

FMS ID#: BED776

DRILLING CONTRACTOR: Aquifer Drilling and Testing Inc

WOL #: 12450-LBA-4-11627

DRILLING METHOD: Direct Push

DATE STARTED: 5/17/2017

BOREHOLE DATA

WELL DATA

DATE FINISHED: 5/24/2017

Diameter (in): 2.25

Well Diameter (in): N/A

DRILLER: C. Iodice

Total Depth (ft.): 13

Total Depth (ft.): N/A

LBA INSPECTOR: M. Donovan

Depth to Refusal (ft.): N/A

Screen Length (ft.): N/A

NORTHING (ft): 184980.878

Depth to Water (ft.): N/A

Depth to Water (ft.): N/A

EASTING (ft): 1010356.313

Depth to Rock (ft.): N/A

Slot Size (in): N/A

SURFACE ELEVATION (ft): N/A

NOTES: Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart.
Soil boring was pre-cleared to 6 ftbg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
		FILL				△	Moderate yellowish brown (10YR 5/4), coarse to fine SAND, some Silt, some coarse to fine Gravel, (5% fill material: brick), moist.	
	14						Total Depth of Boring 13 feet.	
	16							



Louis Berger

Drilling Log

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BORING NO.: SB24

LOCATION: Brooklyn, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 2011040.212.00

PROJECT: Replacement of Trunk Water Mains in East New York Avenue

FMS ID#: BED776

DRILLING CONTRACTOR: Aquifer Drilling and Testing Inc

WOL #: 12450-LBA-4-11627

DRILLING METHOD: Direct Push

DATE STARTED: 5/16/2017

BOREHOLE DATA

WELL DATA

DATE FINISHED: 5/24/2017

Diameter (in): 2.25

Well Diameter (in): N/A

DRILLER: C. Iodice

Total Depth (ft.): 8

Total Depth (ft.): N/A

LBA INSPECTOR: M. Donovan

Depth to Refusal (ft.): 8.0

Screen Length (ft.): N/A

NORTHING (ft): 184923.645

Depth to Water (ft.): N/A

Depth to Water (ft.): N/A

EASTING (ft): 1010324.753

Depth to Rock (ft.): N/A

Slot Size (in): N/A

SURFACE ELEVATION (ft): N/A

NOTES: Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart.

Soil boring was pre-cleared to 6 ftbg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
	0		FILL			<1.0	Dark gray (N3), coarse to fine Sand, some Clayey Silt, moist.	Clayey Silty Sand (Fill)
	2		FILL			<1.0	Light brown (5YR 5/6), coarse to fine Sand, some Silt, moist.	Silty Sand (Fill)
	4							
	6							



Louis Berger

Drilling Log

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BORING NO.: SB24

LOCATION: Brooklyn, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 2011040.212.00

PROJECT: Replacement of Trunk Water Mains in East New York Avenue

FMS ID#: BED776

DRILLING CONTRACTOR: Aquifer Drilling and Testing Inc

WOL #: 12450-LBA-4-11627

DRILLING METHOD: Direct Push

DATE STARTED: 5/16/2017

BOREHOLE DATA

WELL DATA

DATE FINISHED: 5/24/2017

Diameter (in): 2.25

Well Diameter (in): N/A

DRILLER: C. Iodice

Total Depth (ft.): 8

Total Depth (ft.): N/A

LBA INSPECTOR: M. Donovan

Depth to Refusal (ft.): 8.0

Screen Length (ft.): N/A

NORTHING (ft): 184923.645

Depth to Water (ft.): N/A

Depth to Water (ft.): N/A

EASTING (ft): 1010324.753

Depth to Rock (ft.): N/A

Slot Size (in): N/A

SURFACE ELEVATION (ft): N/A

NOTES: Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart.
Soil boring was pre-cleared to 6 ftbg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
	8		FILL			<1.0	Dark yellowish orange (10YR 6/6), coarse to fine Sand, little Silt, some coarse to fine Gravel, (5% fill material: brick), moist.	Gravely Sand (Fill); Collected grab sample SB24 from 7.5 to 8.0 ftbg and composite sample SB24 from 0.5 to 8.0 ftbg.
							Total Depth of Boring 8 feet.	



Louis Berger

Drilling Log

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BORING NO.: SB25

LOCATION: Brooklyn, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 2011040.212.00

PROJECT: Replacement of Trunk Water Mains in East New York Avenue

FMS ID#: BED776

DRILLING CONTRACTOR: Aquifer Drilling and Testing Inc

WOL #: 12450-LBA-4-11627

DRILLING METHOD: Hand Auger

DATE STARTED: 5/17/2017

BOREHOLE DATA

WELL DATA

DATE FINISHED: 5/17/2017

Diameter (in): 3.0

Well Diameter (in): N/A

DRILLER: R. Sing

Total Depth (ft.): 5

Total Depth (ft.): N/A

LBA INSPECTOR: M. Donovan

Depth to Refusal (ft.): 5.0

Screen Length (ft.): N/A

NORTHING (ft): 184988.026

Depth to Water (ft.): N/A

Depth to Water (ft.): N/A

EASTING (ft): 1010226.766

Depth to Rock (ft.): N/A

Slot Size (in): N/A

SURFACE ELEVATION (ft): N/A

NOTES: Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
	0		FILL			<1	Grayish brown (5YR 3/2), Clayey SILT, some medium to fine Sand, (5% fill material: brick), moist.	Sandy Clayey Silt (Fill)
	2		FILL			<1	Light brown (5YR 5/6), Clayey SILT, some coarse to fine Sand, trace coarse to fine Gravel, (5% fill material: brick), moist.	Collected grab sample SB25 from 4.5 to 5.0 ftbg and composite sample SB25 from 0.5 to 5.0 ftbg.
	4							
	6						Total Depth of Boring 5 feet.	



Louis Berger

Drilling Log

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BORING NO.: SB26

LOCATION: Brooklyn, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 2011040.212.00

PROJECT: Replacement of Trunk Water Mains in East New York Avenue

FMS ID#: BED776

DRILLING CONTRACTOR: Aquifer Drilling and Testing Inc

WOL #: 12450-LBA-4-11627

DRILLING METHOD: Direct Push

DATE STARTED: 5/16/2017

BOREHOLE DATA

WELL DATA

DATE FINISHED: 5/24/2017

Diameter (in): 2.25

Well Diameter (in): N/A

DRILLER: C. Iodice

Total Depth (ft.): 9.5

Total Depth (ft.): N/A

LBA INSPECTOR: M. Donovan

Depth to Refusal (ft.): 9.5

Screen Length (ft.): N/A

NORTHING (ft): 185005.525

Depth to Water (ft.): N/A

Depth to Water (ft.): N/A

EASTING (ft): 1010575.700

Depth to Rock (ft.): N/A

Slot Size (in): N/A

SURFACE ELEVATION (ft): N/A

NOTES: Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart.
Soil boring was pre-cleared to 6 ftbg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
			FILL			<1	Light brown (5YR 5/6), coarse to fine SAND, some Clayey Silt, moist.	Clayey Silty Sand (Fill)
	2		FILL			<1	Light brown (5YR 5/6), Silty CLAY, moist.	Silty Clay (Fill)
	4		FILL			<1	Light brown (5YR 5/6), coarse to fine SAND, some Silt, some fine Gravel, moist.	Gravelly Silty Sand (Fill)



Louis Berger

Drilling Log

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BORING NO.: SB26

LOCATION: Brooklyn, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 2011040.212.00

PROJECT: Replacement of Trunk Water Mains in East New York Avenue

FMS ID#: BED776

DRILLING CONTRACTOR: Aquifer Drilling and Testing Inc

WOL #: 12450-LBA-4-11627

DRILLING METHOD: Direct Push

DATE STARTED: 5/16/2017

BOREHOLE DATA

WELL DATA

DATE FINISHED: 5/24/2017

Diameter (in): 2.25

Well Diameter (in): N/A

DRILLER: C. Iodice

Total Depth (ft.): 9.5

Total Depth (ft.): N/A

LBA INSPECTOR: M. Donovan

Depth to Refusal (ft.): 9.5

Screen Length (ft.): N/A

NORTHING (ft): 185005.525

Depth to Water (ft.): N/A

Depth to Water (ft.): N/A

EASTING (ft): 1010575.700

Depth to Rock (ft.): N/A

Slot Size (in): N/A

SURFACE ELEVATION (ft): N/A

NOTES: Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart.
Soil boring was pre-cleared to 6 ftbg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
	8		FILL			<1	Light brown (5YR 5/6), coarse to fine SAND, some Silt, some coarse to fine Gravel, (5% fill material: brick), moist.	Gravelly Silty Sand (Fill); Collected grab sample SB26 from 8.25 to 8.75 ftbg and composite sample SB26 from 0.5 to 8.75 ftbg.
	10						Total Depth of Boring 9.5 feet.	



Louis Berger

Drilling Log

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BORING NO.: SB27

LOCATION: Brooklyn, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 2011040.212.00

PROJECT: Replacement of Trunk Water Mains in East New York Avenue

FMS ID#: BED776

DRILLING CONTRACTOR: Aquifer Drilling and Testing Inc

WOL #: 12450-LBA-4-11627

DRILLING METHOD: Direct Push

DATE STARTED: 5/16/2017

BOREHOLE DATA

WELL DATA

Diameter (in): 2.25

Well Diameter (in): N/A

DATE FINISHED: 5/24/2017

Total Depth (ft.): 15

Total Depth (ft.): N/A

DRILLER: C. Iodice

Depth to Refusal (ft.): N/A

Screen Length (ft.): N/A

LBA INSPECTOR: M. Donovan

Depth to Water (ft.): N/A

Depth to Water (ft.): N/A

NORTHING (ft): 185162.765

Depth to Rock (ft.): N/A

Slot Size (in): N/A

EASTING (ft): 1010772.751

SURFACE ELEVATION (ft): N/A

NOTES: Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart.
Soil boring was pre-cleared to 6 ftbg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
			FILL			<1	Dusky yellowish brown (10YR 2/2), medium to fine SAND, some Clayey Silt, moist.	Clayey Silty Sand (Fill)
	2		FILL			<1	Light brown (5YR 5/6), Clayey SILT, some medium to fine Sand, little Gravel, moist.	Sandy Clayey Silt (Fill)
	4							



Louis Berger

Drilling Log

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BORING NO.: SB27

LOCATION: Brooklyn, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 2011040.212.00

PROJECT: Replacement of Trunk Water Mains in East New York Avenue

FMS ID#: BED776

DRILLING CONTRACTOR: Aquifer Drilling and Testing Inc

WOL #: 12450-LBA-4-11627

DRILLING METHOD: Direct Push

DATE STARTED: 5/16/2017

BOREHOLE DATA

WELL DATA

DATE FINISHED: 5/24/2017

Diameter (in): 2.25

Well Diameter (in): N/A

DRILLER: C. Iodice

Total Depth (ft.): 15

Total Depth (ft.): N/A

LBA INSPECTOR: M. Donovan

Depth to Refusal (ft): N/A

Screen Length (ft): N/A

NORTHING (ft): 185162.765

Depth to Water (ft.): N/A

Depth to Water (ft.): N/A

EASTING (ft): 1010772.751

Depth to Rock (ft.): N/A

Slot Size (in): N/A

SURFACE ELEVATION (ft): N/A

NOTES: Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart.

Soil boring was pre-cleared to 6 ftbg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
			FILL			<1	Light brown (5YR 5/6), coarse to fine Gravel, some Silt, some coarse to fine Sand, (5% fill material: brick), moist.	Silty Sandy Gravel (Fill)
	10		FILL			<1	Light brown (5YR 5/6), coarse to fine Gravel, some Silt, some coarse to fine Sand, (10% fill material: brick), moist.	Collected grab sample SB27 from 13.5 to 14.0 ftbg and composite sample SB27 from 0.5 to 14.0 ftbg.



Louis Berger

Drilling Log

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BORING NO.: SB27

LOCATION: Brooklyn, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 2011040.212.00

PROJECT: Replacement of Trunk Water Mains in East New York Avenue

FMS ID#: BED776

DRILLING CONTRACTOR: Aquifer Drilling and Testing Inc

WOL #: 12450-LBA-4-11627

DRILLING METHOD: Direct Push

DATE STARTED: 5/16/2017

BOREHOLE DATA

WELL DATA

DATE FINISHED: 5/24/2017

Diameter (in): 2.25

Well Diameter (in): N/A

DRILLER: C. Iodice

Total Depth (ft.): 15

Total Depth (ft.): N/A

LBA INSPECTOR: M. Donovan

Depth to Refusal (ft.): N/A

Screen Length (ft.): N/A

NORTHING (ft): 185162.765

Depth to Water (ft.): N/A

Depth to Water (ft.): N/A

EASTING (ft): 1010772.751

Depth to Rock (ft.): N/A

Slot Size (in): N/A

SURFACE ELEVATION (ft): N/A

NOTES: Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart.
Soil boring was pre-cleared to 6 ftbg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
	14		FILL			<1	Light brown (5YR 5/6), coarse to fine Gravel, some Silt, some coarse to fine Sand, (10% fill material: brick), moist.	Collected grab sample SB27 from 13.5 to 14.0 ftbg and composite sample SB27 from 0.5 to 14.0 ftbg.
	16						Total Depth of Boring 15 feet.	



Louis Berger

Drilling Log

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BORING NO.: SB28

LOCATION: Brooklyn, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 2011040.212.00

PROJECT: Replacement of Trunk Water Mains in East New York Avenue

FMS ID#: BED776

DRILLING CONTRACTOR: Aquifer Drilling and Testing Inc

WOL #: 12450-LBA-4-11627

DRILLING METHOD: Direct Push

DATE STARTED: 5/8/2017

BOREHOLE DATA

WELL DATA

DATE FINISHED: 5/23/2017

Diameter (in): 2.25

Well Diameter (in): N/A

DRILLER: C. Iodice

Total Depth (ft.): 6.5

Total Depth (ft.): N/A

LBA INSPECTOR: M. Donovan

Depth to Refusal (ft.): 6.5

Screen Length (ft.): N/A

NORTHING (ft): 186720.799

Depth to Water (ft.): N/A

Depth to Water (ft.): N/A













EASTING (ft): 1013152.253

Depth to Rock (ft.): N/A

Slot Size (in): N/A

SURFACE ELEVATION (ft): N/A

NOTES: Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart.
Soil boring was pre-cleared to 6 fbg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
	0		FILL			<1	Dark yellowish brown (10YR 4/2), coarse to fine SAND, little Silt, some coarse to fine Gravel, trace Boulders, (4% fill material: plastic, glass), moist.	Gravelly Sand (Fill)
	2							
	4							
	6							



Louis Berger

Drilling Log

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BORING NO.: SB28

LOCATION: Brooklyn, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 2011040.212.00

PROJECT: Replacement of Trunk Water Mains in East New York Avenue

FMS ID#: BED776

DRILLING CONTRACTOR: Aquifer Drilling and Testing Inc

WOL #: 12450-LBA-4-11627

DRILLING METHOD: Direct Push

DATE STARTED: 5/8/2017

BOREHOLE DATA

WELL DATA

DATE FINISHED: 5/23/2017

Diameter (in): 2.25

Well Diameter (in): N/A

DRILLER: C. Iodice

Total Depth (ft.): 6.5

Total Depth (ft.): N/A

LBA INSPECTOR: M. Donovan

Depth to Refusal (ft.): 6.5

Screen Length (ft.): N/A

NORTHING (ft): 186720.799

Depth to Water (ft.): N/A

Depth to Water (ft.): N/A

EASTING (ft): 1013152.253

Depth to Rock (ft.): N/A

Slot Size (in): N/A

SURFACE ELEVATION (ft): N/A

NOTES: Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart.
Soil boring was pre-cleared to 6 ftbg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
			GP			<1	Dark yellowish brown (10YR 4/2), coarse to fine GRAVEL, some Sand, little Silt, moist.	Sandy Gravel (Fill); Collected grab sample SB28 from 6.0 to 6.5 ftbg and composite sample SB28 from 0.5 to 6.5 ftbg.
	8 10						Total Depth of Boring 6.5 feet.	



Louis Berger

Drilling Log

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BORING NO.: SB29

LOCATION: Brooklyn, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 2011040.212.00

PROJECT: Replacement of Trunk Water Mains in East New York Avenue

FMS ID#: BED776

DRILLING CONTRACTOR: Aquifer Drilling and Testing Inc

WOL #: 12450-LBA-4-11627

DRILLING METHOD: Direct Push

DATE STARTED: 5/8/2017

BOREHOLE DATA

WELL DATA

DATE FINISHED: 5/23/2017

Diameter (in): 2.25

Well Diameter (in): N/A

DRILLER: C. Iodice

Total Depth (ft.): 6.5

Total Depth (ft.): N/A

LBA INSPECTOR: M. Donovan

Depth to Refusal (ft.): 6.5

Screen Length (ft.): N/A

NORTHING (ft): 186582.117

Depth to Water (ft.): N/A

Depth to Water (ft.): N/A

EASTING (ft): 1012951.880

Depth to Rock (ft.): N/A

Slot Size (in): N/A

SURFACE ELEVATION (ft): N/A

NOTES: Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart.

Soil boring was pre-cleared to 6 ftbg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
	0		FILL			<1	Light brown (5YR 5/6), coarse to fine SAND, little Silt, some coarse to fine Gravel, little Boulders, (2% fill material: brick, plastic), moist.	Gravelly Sand (Fill)
	2							
	4							
	6							



Louis Berger

Drilling Log

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BORING NO.: SB29

LOCATION: Brooklyn, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 2011040.212.00

PROJECT: Replacement of Trunk Water Mains in East New York Avenue

FMS ID#: BED776

DRILLING CONTRACTOR: Aquifer Drilling and Testing Inc

WOL #: 12450-LBA-4-11627

DRILLING METHOD: Direct Push

DATE STARTED: 5/8/2017

BOREHOLE DATA

WELL DATA

DATE FINISHED: 5/23/2017

Diameter (in): 2.25

Well Diameter (in): N/A

DRILLER: C. Iodice

Total Depth (ft.): 6.5

Total Depth (ft.): N/A

LBA INSPECTOR: M. Donovan

Depth to Refusal (ft.): 6.5

Screen Length (ft.): N/A

NORTHING (ft): 186582.117

Depth to Water (ft.): N/A

Depth to Water (ft.): N/A

EASTING (ft): 1012951.880

Depth to Rock (ft.): N/A

Slot Size (in): N/A

SURFACE ELEVATION (ft): N/A

NOTES: Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart.
Soil boring was pre-cleared to 6 ftbg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
			ML			<1	Light brown (5YR 5/6), Clayey SILT, some medium to fine Sand, some fine Gravel, moist.	Sandy Gravelly Clayey Silt; Collected grab sample SB29 from 6.0 to 6.5 ftbg and composite sample SB29 from 0.5 to 6.5 ftbg.
	8 10						Total Depth of Boring 6.5 feet.	



Louis Berger

Drilling Log

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BORING NO.: SB30

LOCATION: Brooklyn, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 2011040.212.00

PROJECT: Replacement of Trunk Water Mains in East New York Avenue

FMS ID#: BED776

DRILLING CONTRACTOR: Aquifer Drilling and Testing Inc

WOL #: 12450-LBA-4-11627

DRILLING METHOD: Direct Push

DATE STARTED: 5/8/2017

BOREHOLE DATA

WELL DATA

DATE FINISHED: 5/23/2017

Diameter (in): 2.25

Well Diameter (in): N/A

DRILLER: C. Iodice

Total Depth (ft.): 10

Total Depth (ft.): N/A

LBA INSPECTOR: M. Donovan

Depth to Refusal (ft.): N/A

Screen Length (ft.): N/A

NORTHING (ft): 186433.878

Depth to Water (ft.): N/A

Depth to Water (ft.): N/A

EASTING (ft): 1012988.113

Depth to Rock (ft.): N/A

Slot Size (in): N/A

SURFACE ELEVATION (ft): N/A

NOTES: Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart.

Soil boring was pre-cleared to 6 ftbg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
			FILL			<1	Moderate yellowish brown (10YR 5/4), COBBLE, little Silt, some coarse to fine Sand, trace Gravel, moist.	Sandy Cobble (Fill)



Louis Berger

Drilling Log

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BORING NO.: SB30

LOCATION: Brooklyn, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 2011040.212.00

PROJECT: Replacement of Trunk Water Mains in East New York Avenue

FMS ID#: BED776

DRILLING CONTRACTOR: Aquifer Drilling and Testing Inc

WOL #: 12450-LBA-4-11627

DRILLING METHOD: Direct Push

DATE STARTED: 5/8/2017

BOREHOLE DATA

WELL DATA

DATE FINISHED: 5/23/2017

Diameter (in): 2.25

Well Diameter (in): N/A

DRILLER: C. Iodice

Total Depth (ft.): 10

Total Depth (ft.): N/A

LBA INSPECTOR: M. Donovan

Depth to Refusal (ft.): N/A

Screen Length (ft.): N/A

NORTHING (ft): 186433.878

Depth to Water (ft.): N/A

Depth to Water (ft.): N/A

EASTING (ft): 1012988.113

Depth to Rock (ft.): N/A

Slot Size (in): N/A

SURFACE ELEVATION (ft): N/A

NOTES: Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart.

Soil boring was pre-cleared to 6 ftbg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
	0 1 2 3 4 5 6 7 8 9 10		GM			<1	Moderate yellowish brown (10YR 5/4), coarse to fine GRAVEL, little Silt, some coarse to fine Sand, moist.	Sandy Gravel; Collected grab sample SB30 from 8.5 to 9.0 ftbg and composite sample SB30 from 0.5 to 9.0 ftbg.
	10						Total Depth of Boring 10 feet.	



Louis Berger

Drilling Log

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BORING NO.: SB31

LOCATION: Brooklyn, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 2011040.212.00

PROJECT: Replacement of Trunk Water Mains in East New York Avenue

FMS ID#: BED776

DRILLING CONTRACTOR: Aquifer Drilling and Testing Inc

WOL #: 12450-LBA-4-11627

DRILLING METHOD: Direct Push

DATE STARTED: 5/9/2017

BOREHOLE DATA

WELL DATA

DATE FINISHED: 5/23/2017

Diameter (in): 2.25

Well Diameter (in): N/A

DRILLER: C. Iodice

Total Depth (ft.): 10

Total Depth (ft.): N/A

LBA INSPECTOR: M. Donovan

Depth to Refusal (ft): N/A

Screen Length (ft): N/A

NORTHING (ft): 186321.725

Depth to Water (ft.): N/A

Depth to Water (ft.): N/A

EASTING (ft): 1012730.567

Depth to Rock (ft.): N/A

Slot Size (in): N/A

SURFACE ELEVATION (ft): N/A

NOTES: Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart.

Soil boring was pre-cleared to 6 ftbg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
			FILL			<1	Light brown (5YR 6/4), coarse to fine SAND, some Silt, moist.	Silty Sand (Fill)



Louis Berger

Drilling Log

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BORING NO.: SB31

LOCATION: Brooklyn, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 2011040.212.00

PROJECT: Replacement of Trunk Water Mains in East New York Avenue

FMS ID#: BED776

DRILLING CONTRACTOR: Aquifer Drilling and Testing Inc

WOL #: 12450-LBA-4-11627

DRILLING METHOD: Direct Push

DATE STARTED: 5/9/2017

BOREHOLE DATA

WELL DATA

DATE FINISHED: 5/23/2017

Diameter (in): 2.25

Well Diameter (in): N/A

DRILLER: C. Iodice

Total Depth (ft.): 10

Total Depth (ft.): N/A

LBA INSPECTOR: M. Donovan

Depth to Refusal (ft): N/A

Screen Length (ft): N/A

NORTHING (ft): 186321.725

Depth to Water (ft.): N/A

Depth to Water (ft.): N/A

EASTING (ft): 1012730.567

Depth to Rock (ft.): N/A

Slot Size (in): N/A

SURFACE ELEVATION (ft): N/A

NOTES: Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart.
Soil boring was pre-cleared to 6 ftbg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
	8		FILL			<1	Light brown (5YR 6/4), coarse to fine SAND, trace Silt, some Gravel, (30% fill material: brick, ash), moist.	Gravely Sand (Fill); Collected grab sample SB31 from 9.0 to 9.5 ftbg and composite sample SB31 from 0.5 to 9.5 ftbg.
	10						Total Depth of Boring 10 feet.	



Louis Berger

Drilling Log

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BORING NO.: SB32

LOCATION: Brooklyn, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 2011040.212.00

PROJECT: Replacement of Trunk Water Mains in East New York Avenue

FMS ID#: BED776

DRILLING CONTRACTOR: Aquifer Drilling and Testing Inc

WOL #: 12450-LBA-4-11627

DRILLING METHOD: Hand Auger

DATE STARTED: 5/17/2017

BOREHOLE DATA

WELL DATA

DATE FINISHED: 5/17/2017

Diameter (in): 3.0

Well Diameter (in): N/A

DRILLER: R. Sing

Total Depth (ft.): 3.75

Total Depth (ft.): N/A

LBA INSPECTOR: M. Donovan

Depth to Refusal (ft.): 3.75

Screen Length (ft.): N/A

NORTHING (ft): 186429.773

Depth to Water (ft.): N/A

Depth to Water (ft.): N/A

EASTING (ft): 1012595.083

Depth to Rock (ft.): N/A

Slot Size (in): N/A

SURFACE ELEVATION (ft): N/A

NOTES: Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
	0 - 2		FILL			<1	Dark yellowish brown (10YR 4/2), coarse to fine SAND, little Clayey Silt, some Gravel, (10% fill material: asphalt), moist.	Gravelly Sand (Fill); Collected grab sample SB32 from 3.25 to 3.75 ftbg and composite sample SB32 from 0.5 to 3.75 ftbg.
	4 - 6						Total Depth of Boring 3.75 feet.	



Louis Berger

Drilling Log

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BORING NO.: SB33

LOCATION: Brooklyn, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 2011040.212.00

PROJECT: Replacement of Trunk Water Mains in East New York Avenue

FMS ID#: BED776

DRILLING CONTRACTOR: Aquifer Drilling and Testing Inc

WOL #: 12450-LBA-4-11627

DRILLING METHOD: Direct Push

DATE STARTED: 5/9/2017

BOREHOLE DATA

WELL DATA

DATE FINISHED: 5/23/2017

Diameter (in): 2.25

Well Diameter (in): N/A

DRILLER: C. Iodice

Total Depth (ft.): 10

Total Depth (ft.): N/A

LBA INSPECTOR: M. Donovan

Depth to Refusal (ft.): N/A

Screen Length (ft.): N/A

NORTHING (ft): 186359.748

Depth to Water (ft.): N/A

Depth to Water (ft.): N/A

EASTING (ft): 1012531.924

Depth to Rock (ft.): N/A

Slot Size (in): N/A

SURFACE ELEVATION (ft): N/A

NOTES: Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart.

Soil boring was pre-cleared to 6 ftbg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
			FILL			<1	Light gray (N7), 100% FILL MATERIAL (brick, asphalt), moist.	Fill Material
	2		FILL			<1	Light brown (5YR 5/6), SILT, some coarse to fine Sand, moist.	Sandy Silt (Fill)
	4							
	6							



Louis Berger

Drilling Log

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BORING NO.: SB33

LOCATION: Brooklyn, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 2011040.212.00

PROJECT: Replacement of Trunk Water Mains in East New York Avenue

FMS ID#: BED776

DRILLING CONTRACTOR: Aquifer Drilling and Testing Inc

WOL #: 12450-LBA-4-11627

DRILLING METHOD: Direct Push

DATE STARTED: 5/9/2017

BOREHOLE DATA

WELL DATA

DATE FINISHED: 5/23/2017

Diameter (in): 2.25

Well Diameter (in): N/A

DRILLER: C. Iodice

Total Depth (ft.): 10

Total Depth (ft.): N/A

LBA INSPECTOR: M. Donovan

Depth to Refusal (ft.): N/A

Screen Length (ft.): N/A

NORTHING (ft): 186359.748

Depth to Water (ft.): N/A

Depth to Water (ft.): N/A

EASTING (ft): 1012531.924

Depth to Rock (ft.): N/A

Slot Size (in): N/A

SURFACE ELEVATION (ft): N/A

NOTES: Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart.
Soil boring was pre-cleared to 6 ftbg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
	0 2 4 6 8 10		ML			<1	Light brown (5YR 5/6), Clayey SILT, some coarse to fine Sand, little coarse to fine Gravel, moist.	Sandy Clayey Silt; Collected grab sample SB33 from 9.0 to 9.5 ftbg and composite sample SB33 from 0.5 to 9.5 ftbg.
							Total Depth of Boring 10 feet.	



Louis Berger

Drilling Log

Page 1 of 2

BORING NO.: SB34

LOCATION: Brooklyn, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 2011040.212.00

PROJECT: Replacement of Trunk Water Mains in East New York Avenue

FMS ID#: BED776

DRILLING CONTRACTOR: Aquifer Drilling and Testing Inc

WOL #: 12450-LBA-4-11627

DRILLING METHOD: Direct Push

DATE STARTED: 5/18/2017

BOREHOLE DATA

WELL DATA

DATE FINISHED: 5/23/2017

Diameter (in): 2.25

Well Diameter (in): N/A

DRILLER: C. Iodice

Total Depth (ft.): 10

Total Depth (ft.): N/A

LBA INSPECTOR: M. Donovan

Depth to Refusal (ft.): N/A

Screen Length (ft.): N/A

NORTHING (ft): 186140.736

Depth to Water (ft.): N/A

Depth to Water (ft.): N/A

EASTING (ft): 1012488.631

Depth to Rock (ft.): N/A

Slot Size (in): N/A

SURFACE ELEVATION (ft): N/A

NOTES: Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart.
Soil boring was pre-cleared to 6 ftbg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
	0		FILL			<1	Moderate brown (5YR 4/4), Cobbles, some coarse to fine Sand, little coarse to fine Gravel, moist.	Sandy Cobbles (Fill)



Louis Berger

Drilling Log

Page 2 of 2

BORING NO.: SB34

LOCATION: Brooklyn, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 2011040.212.00

PROJECT: Replacement of Trunk Water Mains in East New York Avenue

FMS ID#: BED776

DRILLING CONTRACTOR: Aquifer Drilling and Testing Inc

WOL #: 12450-LBA-4-11627

DRILLING METHOD: Direct Push

DATE STARTED: 5/18/2017

BOREHOLE DATA

WELL DATA

DATE FINISHED: 5/23/2017

Diameter (in): 2.25

Well Diameter (in): N/A

DRILLER: C. Iodice

Total Depth (ft.): 10

Total Depth (ft.): N/A

LBA INSPECTOR: M. Donovan

Depth to Refusal (ft.): N/A

Screen Length (ft.): N/A

NORTHING (ft): 186140.736

Depth to Water (ft.): N/A

Depth to Water (ft.): N/A

EASTING (ft): 1012488.631

Depth to Rock (ft.): N/A

Slot Size (in): N/A

SURFACE ELEVATION (ft): N/A

NOTES: Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart.
Soil boring was pre-cleared to 6 ftbg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
	0		FILL			<1	Moderate brown (5YR 4/4), coarse to fine GRAVEL, little Clayey Silt, some coarse to fine Sand, (10% fill material: brick), moist.	Sandy Gravel (Fill); Collected grab sample SB34 from 6.5 to 7.0 ftbg and composite sample SB34 from 0.5 to 7.0 ftbg.
	10						Total Depth of Boring 10 feet.	



Louis Berger

Drilling Log

Page 1 of 2

BORING NO.: SB35

LOCATION: Brooklyn, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 2011040.212.00

PROJECT: Replacement of Trunk Water Mains in East New York Avenue

FMS ID#: BED776

DRILLING CONTRACTOR: Aquifer Drilling and Testing Inc

WOL #: 12450-LBA-4-11627

DRILLING METHOD: Direct Push

DATE STARTED: 5/18/2017

BOREHOLE DATA

WELL DATA

DATE FINISHED: 5/23/2017

Diameter (in): 2.25

Well Diameter (in): N/A

DRILLER: C. Iodice

Total Depth (ft.): 10

Total Depth (ft.): N/A

LBA INSPECTOR: M. Donovan

Depth to Refusal (ft.): N/A

Screen Length (ft.): N/A

NORTHING (ft): 186094.735

Depth to Water (ft.): N/A

Depth to Water (ft.): N/A

EASTING (ft): 1012406.581

Depth to Rock (ft.): N/A

Slot Size (in): N/A

SURFACE ELEVATION (ft): N/A

NOTES: Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart.
Soil boring was pre-cleared to 6 ftbg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
	0		FILL			△	Dark yellowish brown (10YR 4/2), coarse to fine SAND, some Silt, trace coarse to fine Gravel, moist.	Silty Sand (Fill)
	2							
	4							
	6							



Louis Berger

Drilling Log

Page 2 of 2

BORING NO.: SB35

LOCATION: Brooklyn, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 2011040.212.00

PROJECT: Replacement of Trunk Water Mains in East New York Avenue

FMS ID#: BED776

DRILLING CONTRACTOR: Aquifer Drilling and Testing Inc

WOL #: 12450-LBA-4-11627

DRILLING METHOD: Direct Push

DATE STARTED: 5/18/2017

BOREHOLE DATA

WELL DATA

DATE FINISHED: 5/23/2017

Diameter (in): 2.25

Well Diameter (in): N/A

DRILLER: C. Iodice

Total Depth (ft.): 10

Total Depth (ft.): N/A

LBA INSPECTOR: M. Donovan

Depth to Refusal (ft.): N/A

Screen Length (ft.): N/A

NORTHING (ft): 186094.735

Depth to Water (ft.): N/A

Depth to Water (ft.): N/A

EASTING (ft): 1012406.581

Depth to Rock (ft.): N/A

Slot Size (in): N/A

SURFACE ELEVATION (ft): N/A

NOTES: Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart.

Soil boring was pre-cleared to 6 ftbg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
	8		FILL			△	Dark yellowish brown (10YR 4/2), coarse to fine GRAVEL, little Silt, some coarse to fine Sand, (5% fill material: brick), moist.	Sandy Gravel (Fill); Collected grab sample SB35 from 9.5 to 10.0 ftbg and composite sample SB35 from 0.5 to 10.0 ftbg.
	10						Total Depth of Boring 10 feet.	

APPENDIX C LABORATORY ANALYTICAL RESULTS

(Note: The LABORATORY ANALYTICAL RESULTS file is available from the ACCO Contracts Office on a CD that is part of a purchased set of bid documents. The file will also be uploaded to NYCDDC, BID DOCUMENTS ONLINE website for contractors to download the report.)

NO TEXT ON THIS PAGE

UI - PAGES

UTILITY INTERFERENCES SECTION

NOTICE

THE PAGES CONTAINED IN THIS SECTION (UI - PAGES) REPRESENT ADDITIONAL CONTRACT REQUIREMENTS APPLYING TO WORK PERFORMED IN THE PRESENCE OF PRIVATELY OWNED UTILITY FACILITIES.

(NO TEXT ON THIS PAGE)

UTILITY INTERFERENCES (UI) SECTION

DATED: December 18, 2019

1. The Contractor shall be responsible for compliance with all the provisions of the following Sections and Schedules, which are hereby made a part of the original contract documents:
 - A. "UI SECTION: Additional Contract Requirements Applying to Work Performed in the Presence of Privately Owned Utility Facilities" (Pages UI-3 through UI-11).
 - B. Schedule U-1 (Page UI-13).
 - C. Schedule U-2 Con Edison (Pages UI-14 through UI-54), Verizon (Pages UI-55 through UI-69), Altice (Pages UI-70 through UI-73).
 - D. Schedule U-3 Page UI-74 (as per the Private Utilities reference document for UI SECTION called "CET SPECIFICATIONS AND SKETCHES", dated November 2010), Test Pits pages UI-75 through UI-114 in this Section UI-Pages.
 - E. Utility drawings (43 Sheets) consisting of:
 - * Con Edison – Conduit and Duct Occupancy Plates CECD1-CECD9
 - * Verizon – Existing Facility Plates VER1- VER23
 - * ALTICE – Overhead Utility Facility ALT1-ALT11

All Forty-Three (43) drawings are attached to the Plans.
2. Each facility operator shall provide inspectors at the work site to inspect methods of interference work, verify quantities and items of Utility Work, and coordinate all phases of the facility operator operations.
3. In addition, the following statements are made to provide clarification of various Paragraphs under UI Section:
 - A. UI Section, Paragraph 4, requires the Contractor to immediately commence negotiations with each Company for an Interference Agreement under which the Company will compensate the Contractor for any Interference Work which the Company does not elect to perform with its own forces or by specialty contractors retained by the Company. Thus the Contractor is on notice that its work under the Contract may be affected by Interference Work performed by (a) the Contractor pursuant to a separate Interference Agreement with the Company, (b) the Company, or (c) partly by each.

- B. UI Section, Paragraph 2, informs the Contractor that the duration of the Contract as shown in Schedule A includes the time which may be necessary for the Contractor to perform the necessary Interference Work.
- C. The Contractor is hereby informed that the duration of the Contract as shown in Schedule A includes the time which may be necessary for the Company to perform whatever portion of the Interference Work which the Company elects to perform with its own forces or by specialty contractors retained by the Company.
- D. UI Section informs the Contractor that the City has entered into an Interference Agreement with the Companies regarding interferences to the City work in this Contract created by the facilities owned and/or operated by such Companies. Pursuant to this Section, a sample of the Utility Agreement letter as executed by the Companies is annexed on page UI-12, as an Exhibit to the Contract. Signed copies of those Utility Agreement letters are on file with New York City Department of Design and Construction (DDC).
- E. The City has no contract with any of the Companies for work on or adjacent to the site of work under this Contract, and the Companies are not "Other Contractors" as defined for the purposes of this Contract. The Contractor is reminded, however, that pursuant to UI Section, Paragraph 4, the City will not compensate the Contractor for any direct and/or indirect costs related to Interference Work, regardless of whether such Interference Work is covered by an Interference Agreement between the Contractor and the Company or is performed by the Company using its own forces or by specialty contractors retained by the Company.
- F. UI Section, Paragraph 14, provides that the provisions of UI Section are material provisions of the Contract and that the Contractor's failure to comply with the procedures set forth in UI Section are sufficient for the Commissioner to declare the Contractor in default pursuant to Article 48 of the Contract.

Pursuant to this Section, the Contractor is informed that the Performance Bond required of the Contractor pursuant to the Contract is not deemed to guarantee performance of any of the Interference Work.

Utility Interferences Section - Additional Contract Requirements Applicable to Work Performed in the Presence of Privately Owned Utility Facilities

The Contractor is hereby notified that pursuant to the law and franchise agreements issued by the City, certain private utility and public service companies named in Schedule U-1 ("the Companies") own and/or operate surface and/or subsurface facilities within the limits of this contract. The existence of these facilities impacts the productivity of the City work called for in the contract. In order to improve coordination of the City construction with the private utility facilities owned and/or operated by the Companies named in Schedule U-1, Article 1.06.30 of the Standard Highway Specifications of the New York City Department of Transportation, Dated August 1, 2015; and/or Articles 10.15 through 10.18 of the Standard Sewer and Water Main Specifications of the New York City Department of Environmental Protection, Dated July 1, 2014; as applicable, are amended and will be implemented as follows:

1. Pre-engineering:

The anticipated scopes of private utility facilities interferences and anticipated work items and specifications are included in this contract. The locations of these interferences are indicated on the plans and/or listed in the specifications for this contract, and a schedule of estimated quantities by type of interference expected to be encountered within the limits of this project area have been listed on Schedule U-2. In addition, in Schedule U-3 the Companies have provided standard details and methods for supporting, protecting, relocating, and/or working around their facilities when they are in interference with City contract work.

2. Means and methods for City work:

a) The Contractor is hereby notified that the utility interferences identified on the plans and/or listed in the Specifications to be known conditions which may impact the performance of, and/or interferes with, City work. The Contractor will be required to perform such utility work as directed by the Resident Engineer in order to clear all utility interferences from the project site as required for satisfactory completion of City work within specified contract schedule.

b) In areas serviced by overhead lines on poles carrying electric, telecommunication and cable system, the Contractor understands and by bidding for this contract agrees that he/she has reviewed the schedule of estimated quantities by type of interference expected to be encountered within the limits of this project and that he/she will be required to perform the public work in the presence of these overhead lines and appurtenances located in areas adjacent and/or within the project area. As a consequence he/she will select means and method of construction appropriate to maintain the safety clearances required or as permitted by contract specifications (e.g. "CET 350 – Overhead Accommodation Protection of Overhead Facilities, Poles, and Appurtenances") in order to avoid damaging the insulation or shielding of these lines and also to prevent knocking

them down. The duration of the contract as shown in Schedule A thus includes the time which may be necessary for the Contractor to remove, repair, protect, support, shift, temporarily remove and replace, work around and/or work in the presence of the Companies' facilities ("Interference Work") as described on the plans and/or specifications of the contract during the progress of the City work.

3. *Field inspection prior to construction:*

Prior to the start of any contract work in areas serviced by overhead electric lines, and after the award to the apparent low bidder for this contract, the Contractor must request a field walk of the project area along with the operator of the overhead electrical facilities and the DDC Engineer-In-Charge. At that time the facility operator, pursuant to contract specification (e.g. "CET 350 - Overhead Accommodation Protection of Overhead Facilities, Poles, and Appurtenances") will confirm the type and condition of the overhead electrical lines and the sufficiency of their insulating properties with respect to the means and methods proposed by the Contractor. The Contractor must be prepared to describe in enough details his/her proposed means and methods of construction operations in order to anticipate the likelihood that electric lines insulation would be cut or otherwise compromised. Also such details will allow the facility operator to anticipate the need for added insulation and/or shielding of non-insulated lines.

4. *Compensation for interference work:*

Compensation for Interference Work is a matter of adjustment between the Contractor and each private utility company located within the limits of the project area and whose utility facilities are affected by City contract work. In particular, the City will not compensate the Contractor for any direct and/or indirect costs related to Interference Work, including, but not limited to, delay, lost profit, increased overhead, or any other impact costs which are deemed to be included in cost agreement between the Contractor and private utility company affected by such work. Upon receipt of a Notice of Award from the City, the Contractor shall immediately commence negotiations with each of the Companies concerning the manner in which and the price for which the Contractor, through its own forces or by others hired by it, will perform and be paid by the Company for all necessary Interference Work as defined above that the Company(ies) choose(s) not to perform with its(their) own forces or by specialty Contractors hired by it (them) (as per "Interference Agreement"). Specialty contractors' work is limited to (i) insulation installation and removal, (ii) live gas and steam work, (iii) cleanup and disposal of hazardous materials, (iv) splicing live electrical and telecommunications facilities, and (v) work not within the competence of general construction contractors.

5. Interference Agreement:

a) The Companies have provided estimate of the quantity of each type of interferences expected to be encountered in the contract in Schedule U-2. The parties may negotiate an Interference Agreement in any format or manner they deem fit based on quantities and types of Interferences expected to be encountered on this Contract as stated in Schedule U-2.

b) Furthermore, in Schedule U-3, standard unit work measurement and payment provisions are specified and shall apply only if the Contractor and affected Utility companies enters into a unit price based on an Interference Agreement, otherwise the unit of work measurement, and payment provisions set forth in Schedule U-3 shall not apply. The Contractor shall notify the City upon concluding an Interference Agreement with each of the Companies, which shall be binding and final once concluded.

6. City contract work to continue without Interference Agreement:

If, prior to the start of construction, as directed by the City's Order to work / Notice To Proceed (OTW/ NTP) date any of the Companies and the Contractor have not concluded an Interference Agreement as described above, then the City will issue to private utility company (ies) in a written "48 Hours' notice to Public Corporation" in accordance with the Administrative Code of the City of New York. Construction will then proceed as ordered and the Contractor will be directed by the Resident Engineer (RE) to perform the City work on Time, Material and Equipment basis (T&M) as specified in standard City contract agreement Article 26.2. T&M records will include identification of types of utility facilities interfering with City work, utility facility owners, specifying the nature and quantity of any materials, plant and equipment furnished or used in connection with the performance of such work and crew size, such as: name and number of each worker employed on such work. T&M records will also indicate the hours of active time, standby time and idle time. The Company (ies) and the Contractor will maintain separate records of the actual quantity and cost of labor, materials, and equipment expended, and will provide copies of this information to the other party on a daily basis for reconciliation. These T&M records along with cost evaluations will be submitted daily to the Resident Engineer for review and approval. The total cost of City work will be based on quantity of work performed multiplied by unit price contract bid items. The total interference cost will be calculated as the difference between the total T&M cost and total cost for City work. The Resident Engineer will conduct a monthly reconciliation session of the daily T&M records with the affected Company (ies) and the Contractor. If the Contractor and affected utility companies cannot reconcile their T&M records, by the last day of each month, then the Resident Engineer will submit the approved City's T&M records along with total cost evaluations to the DDC Director of Construction who will review these records and recommend approval and validity certification by the DDC Construction Assistant Commissioner.

- a) Copies of the DDC approved and certified T&M records will then be transmitted by the DDC to the Contractor and the utility companies. These certified records may be used by the Contractor for compensation claims against the responsible private facility owners, or may be used by any party as supporting documentation in dispute regarding compensation for performing Interference Work as identified in Schedule U-2. The Contractor will be required to perform City work while invoices are submitted by the Contractor to the utility companies for payment within 30 days, or while compensation disputes between the Contractor and affected company (ies) are submitted to Binding Arbitration process described in Paragraph 10.
- b) All issues related to utility work and/or delays due to compensation disputes or claims against utility companies are not allowable as justification for granting contract time extensions or delay claims against the City. The City may assess liquidated damages specified in the contract for net overall delays suffered by City contract work as a result of utility issues, disputes and claims.
- c) The standard City contract dispute resolution process specified in Article 27 "Presentation of disputes to Commissioner", of the standard City contract agreement is not applicable to any disputes related to utility work and/or compensation for such work or claim against utility companies. Utility work issues, disputes and claims may only be submitted to Binding Arbitration process described in Paragraph 10.
- d) The Contractor will notify the Resident Engineer when utility capital work not specified in Schedule U-2 and/or for utility work that require the intervention of company utility specialty crews causes excessive contractor's labor and equipment standby or idleness and, thereby jeopardizing the City project schedule. The Resident Engineer will submit the facts to the DDC Director of Construction who will recommend to the DDC Deputy Commissioner regarding the issuance of a "48 Hours' notice to Public Corporation" to the concerned utility company as authorized by the New York City Administrative Code Section 19-143 and/or Section 24-521 as applicable.
- e) Utility delays caused by utility capital work not listed in Schedule U-2 and/or by unavailability of utility specialty crews cannot be discounted for earning any contractual bonus when such bonus clause is included in a contract. However, if such specified bonus is not earned or is disallowed by the City or if the City assesses specified liquidated damages as a result of such excessive delays, the Contractor may seek damages from the responsible utility company (ies).

7. Extra utility work with Interference Agreement:

If during construction the Contractor encounters utility facilities interferences or utility scope of work that it believes is not covered by the Interference Agreement as described above, then the Contractor shall immediately notify the Company in writing, with a copy to the City, describing the nature and location of the extra work in question. The Company then has five (5) business days to investigate the conditions and then:

a) Advise the Contractor and the City in writing that no interference with its facilities exists at the location in question, and hence that the Contractor may proceed with City work without providing for any impact from Company facilities;

b) Advise the Contractor and the City in writing that the Interference Agreement negotiated pursuant to Paragraph 6, above, provides for the scope of work encountered, specifying the exact unit items and/or terms of the agreement that cover the work;

c) Advise the Contractor and the City in writing that it intends to perform the necessary utility work with company forces or with its own contractor including, but not limited to, relocating its facility out of the way of the proposed City work. In this case, the Company shall provide a written schedule for the performance of the utility work it proposes to perform, which shall be subject to approval by the City based on its impact to the Contractor's currently approved progress schedule. Upon approval of the Company's schedule by the City, the Contractor shall provide access to the worksite to the Company and/or any contractors hired by it to perform this utility work. If necessary, the City may grant a contract time extension for delays caused by the performance of such utility work by the company.

d) Reasonably specify in writing the scope of work to be performed by the Contractor on behalf of the Company that is not covered under the Interference Agreement negotiated pursuant to Paragraph 6, including, but not limited to, relocating, supporting, and/or protecting the Company's facilities, and/or shifting the City facility if approved by the Resident Engineer, and/or otherwise changing its operations to work in the presence of the Company's facilities. Should the Company elect this option, it must adequately define and provide an initial price offer for the work required to be performed.

8. Means and Methods for utility work:

Upon receipt of the Company's determination pursuant to Paragraphs 7.b, or 7.d, above, the Contractor shall determine reasonable means and methods of performing the work defined by the Company. These means and methods are subject to approval of the Company, which shall not be unreasonably withheld. If, however, the Company objects to the Contractor's proposed means and methods then it shall define an alternate method of construction. Upon receipt of the Company's approval or its

proposed alternate method of construction, the Contractor shall commence performance of the work defined by the Company as soon as possible, and shall perform the work in a good, workmanlike, and efficient manner, using the means and methods approved by the Company, in order to permit the City work to proceed in the most expeditious manner possible, but without imposing unreasonable and/or unnecessary costs on the Company. It is expressly understood by all parties that the City's rights pursuant to Article 4 of the Contract apply to Utility Work performed pursuant to this Section.

9. *Disputed utility work covered by an interference agreement:*

The City Work will continue as described in Paragraph 6 above. In the event of any dispute between the Company (ies) and the Contractor regarding any issue related to the performance of, or payment for, utility work, including, but not limited to, any indirect or impact costs incurred by the Contractor due to the Utility Work and/or to the existence of facilities owned or operated by the Company (ies) on the line of the work. The Company (ies) and the Contractor hereby agree to submit to each other a "Final Offer," in writing, by certified mail. Each party shall then have three business days to consider each other's Final Offer. In the event that neither party accepts the other's Final Offer within those three days, the Company (ies) and the Contractor agree to immediately submit the dispute to binding arbitration as described in Paragraph 10. During the pendency of any arbitration, the Company (ies) and the Contractor shall maintain separate records of the actual quantity and cost of labor, materials, and equipment expended, and to provide copies of this information to the other party on a daily basis for reconciliation. Any and all disagreement with the records maintained and provided by the other, must be documented in writing to all parties. However, these records are solely for the benefit of presentation to the arbitrator, whose decision may not necessarily be based on these records and in any event is final. Both parties should be aware that the City will not confirm or deny the accuracy of any records that is not certified by DDC. While the arbitration is pending, the Company shall pay the Contractor on a monthly basis, based on the price offered by the Company to the Contractor for the performance of the work.

10. *Arbitration of utility work:*

The arbitration of the issues described above shall be conducted pursuant to the Construction Industry Arbitration Rules of the American Arbitration Association (hereinafter "the Rules" and "AAA") in effect on the date the arbitration is initiated except as set forth herein. The arbitration award shall be final and binding upon the parties to the arbitration and judgment upon the award may be entered in a court having jurisdiction.

- a) Once an arbitrator(s) has been appointed by the AAA, the arbitration shall be scheduled as promptly as possible given the arbitrator(s) and the parties' schedules.

- b) No later than seven days prior to the first arbitration hearing, Company and the Contractor shall submit to the arbitrator(s), and to each other, a summary of each party's respective position and such other information as is deemed appropriate, along with a copy of each party's Final Offer as specified in Paragraph 9.
- c) The arbitration shall be conducted and concluded in two days.
- d) On the morning of the first day of the arbitration, the Contractor and/or representatives shall have 3 ½ hrs to make a presentation of its claim to the arbitrator. During its presentation, the Contractor shall not be permitted to produce any documents or cost records which have not already been provided to the Company. The Contractor shall be permitted to produce any analysis or description of its claim which has been prepared for the purpose of its presentation.
- e) Company and/or its representatives shall have two hours to ask the Contractor questions about its claim and its presentation. Thereafter the arbitrator(s) shall have two hours to ask the Contractor questions about its claim and its presentation.
- f) On the morning of the second day of the arbitration, Company and/or its representatives shall have 3 ½ hours to make a presentation of its claim to the arbitrator. During its presentation, the Company shall not be permitted to produce any documents or cost records which have not already been provided to the Contractor. The Company shall be permitted to produce any analysis or description of its claim which has been prepared for the purpose of its presentation.
- g) The Contractor and/or its representatives shall have two hours to ask Company questions about its claim and its presentation. Thereafter the arbitrator(s) shall have two hours to ask Company questions about its claim and its presentation.
- h) Subject to the above time limitations, the arbitrator(s) may conduct the arbitration in such manner as the arbitrator(s) deems reasonable.
- i) The arbitrator(s) shall then have one week to select in writing, as the arbitrator ('s) award, that party's Final Offer which appears to be more reasonable, based on the presentations at the arbitration hearings.
- j) The arbitrator shall have no discretion to grant an award other than one of the two Final Offers submitted by the parties.
- k) Any award for work that has already been performed shall be paid on the 7th day after receipt of the arbitrator's decision, or on the 30th day after completion of the work, whichever is later. Payment for work not yet completed at the time of the arbitrator's decision shall be paid within 30 days of completion of work. Interest shall accrue from the date payment is due at the rate of 9% per annum. Either

party may cause judgment to be entered in accordance with the arbitrator(s) decision in a court in the State of New York, County of New York.

l) The arbitrator's fees and any other costs of the arbitration shall be initially shared equally by Company and the Contractor. The non-prevailing party shall then pay all arbitrator's fees and costs of the arbitration and shall reimburse the prevailing party for its share of such fees and costs theretofore paid.

m) The parties may, at any time, settle any matter submitted to arbitration.

11. Order-out waiver:

The Contractor and all subcontractors hired by it, if an Interference Agreement is executed as specified between the concerned parties, agree to waive any rights they may have, if any, under law, contract or otherwise to compel the City to assert any right the City may have, including the issuance of any directives required under the New York City Administrative Code, Section 19-143 and Section 24-521, to require any or all of the Companies to maintain, repair, replace, protect, support, shift, alter, relocate, and/or remove utility facilities in connection with the work to be performed under this contract. However, nothing in this Section shall preclude the City from exercising its rights under the Law to issue such a directive to the Company.

12. Cost of insurance:

Each of the named Companies, at their option and if an Interference Agreement is executed as specified between the concerned parties, may be named as an additional insured on all insurance policies required to be maintained under this contract. In the event that a Company opts to be so named as an additional insured, the actual incremental cost, if any, to the Contractor of providing such insurance coverage shall be borne by that Company. The Contractor shall provide a written statement from its insurance provider documenting the actual cost of this added coverage to the Company. Under no circumstances shall the cost of insurance coverage on behalf of any Company be borne by the City. Nothing in this paragraph shall be interpreted to imply the City's acceptance of any additional responsibility or liability for any matter related to the performance of Utility Work. In particular, the Company and the Contractor bear joint and full responsibility to ensure that any Utility Work performed by the Contractor is in compliance with all applicable government and Company regulations.

13. Cost of utility interference work:

The Companies, by virtue of participating in design alignment meetings and submitting their scope of Utility Interferences Work to the City, have agreed to perform their obligations described in this Section. It is expressly understood that the cost of Utility Work or any delays caused by such Utility Work shall not be a charge against the City, but shall be a matter for adjustment between the Contractor and the Company or Companies concerned. The City and the Contractor agree that the Companies are

third party beneficiaries of this Section of the contract, if an Interference Agreement is executed between the Contractor and utility company (ies). The provisions of this Section shall govern in all cases where Company property interferes with or is about to be disturbed by the City work, notwithstanding any other provision of the Contract, except for Natural Gas transmission/distribution facilities covered subject to the Gas Facility Cost Allocation Act (GFCAA) and covered separately in this contract.

14. Default declaration:

The Contractor agrees that the provisions of this Section are material provisions of the contract, and that the Contractor's failure to comply with the procedures set forth above are sufficient for the Commissioner to declare the Contractor in default pursuant to Article 48 of the Contract.

15. NYS Labor Law:

The Contractor is hereby advised that New York State Labor Law and/or, Davis-Bacon Act if federally funded, applies to public work. The work described in this Utility Interferences Section of the contract performed by utility company (ies) with their own forces or vendors hired by such company (ies) is not public work.

16. Facility operators:

The insurance requirements in Paragraph 12 of this UI Section apply to: (i) additional Companies, if any, who were not named in Schedule "A" but which have executed an Interference Agreement with the Contractor for utility work; and (ii) additional coverage, if any, paid for by Utility Companies whose utility facilities are located within the project limits, that they may require for the utility work pursuant to an Interference Agreement between the Contractor and such utility company (ies).

(End of Section)

"STANDARD UTILITY LETTER OF AGREEMENT"

(Name)
Deputy Commissioner, Infrastructure Division
Department of Design and Construction
30-30 Thomson Avenue
Long Island City, NY 11101

RE: City Work Performed in the Presence of Private Utility Facilities
Project No: _____

Dear (Name):

This letter is to certify that _____, has requested the inclusion of the attached "Utility Interferences (UI) Section: Additional contract requirements applying to work performed in the presence of privately owned utility." The company agrees to abide by the terms of this UI Section at the company's own expenses due to their facilities interferences with the Public work.

Sincerely,

By: Authorized Company Representative

Title

NOTARY PUBLIC

CERTIFIED AS TO FORM
AND LEGAL AUTHORITY:

By: _____

SCHEDULE U-1

LISTING OF COMPANY (IES) NAMED FOR THIS CONTRACT

<u>COMPANY NAME</u>	<u>CONTACT NAME</u>	<u>CONTACT TELEPHONE</u>
CON EDISON	O'NEIL WRIGHT	212-460-3870
VERIZON	AUBREY MAKHANLALL	516-758-3705
ALTICE	GENE YURMAN	718-861-6890

SCHEDULE U-2

**UTILITY INTERFERENCE
FOR INFORMATION ONLY
ENGINEER'S ESTIMATE OF QUANTITY AND TYPES OF INTERFERENCE
FOR CONSOLIDATED EDISON
BED776
TRUNK WATER MAIN IN EAST NEW YORK**

CET ITEM	DESCRIPTION	UNITS	ESTIMATED QUANTITY
CET 100.1	UTILITIES CROSSING TRENCH FOR CATCH BASIN CHUTE CONNECT. AND/OR TESTPIT (TYPE .1)	EA	10
CET 100.2	UTILITIES CROSSING TRENCH FOR CATCH BASIN CHUTE CONNECT. AND/OR TESTPIT (TYPE .2)	EA	9
CET 100.3	UTILITIES CROSSING TRENCH FOR CATCH BASIN CHUTE CONNECT. AND/OR TESTPIT (TYPE .3)	EA	4
CET 100.4	UTILITIES CROSSING TRENCH FOR CATCH BASIN CHUTE CONNECT. AND/OR TESTPIT (TYPE .4)	EA	1
CET 101.1	UTILITIES CROSSING TRENCH FOR SEWERS UP TO AND INCL. 24" DIAMETER (TYPE .1)	EA	22
CET 101.2	UTILITIES CROSSING TRENCH FOR SEWERS UP TO AND INCL. 24" DIAMETER (TYPE .2)	EA	15
CET 101.3	UTILITIES CROSSING TRENCH FOR SEWERS UP TO AND INCL. 24" DIAMETER (TYPE .3)	EA	6
CET 101.4	UTILITIES CROSSING TRENCH FOR SEWERS UP TO AND INCL. 24" DIAMETER (TYPE .4)	EA	2
CET 103.2	UTILITIES CROSSING TRENCH FOR SEWERS OVER 36" TO 48" DIAMETER (TYPE .2)	EA	2
CET 108.1	UTILITIES CROSSING TRENCH FOR WATERMAIN UP TO AND INCL. 12" DIAMETER (TYPE .1)	EA	58
CET 108.2	UTILITIES CROSSING TRENCH FOR WATERMAIN UP TO AND INCL. 12" DIAMETER (TYPE .2)	EA	45
CET 108.3	UTILITIES CROSSING TRENCH FOR WATERMAIN UP TO AND INCL. 12" DIAMETER (TYPE .3)	EA	23
CET 109.1	UTILITIES CROSSING TRENCH FOR WATERMAIN OVER 12" AND UP TO 24" (TYPE .1)	EA	55
CET 109.2	UTILITIES CROSSING TRENCH FOR WATERMAIN OVER 12" AND UP TO 24" (TYPE .2)	EA	54
CET 109.3	UTILITIES CROSSING TRENCH FOR WATERMAIN OVER 12" AND UP TO 24" (TYPE .3)	EA	17
CET 109.4	UTILITIES CROSSING TRENCH FOR WATERMAIN OVER 12" AND UP TO 24" (TYPE .4)	EA	3
CET 111.1	UTILITIES CROSSING TRENCH FOR WATERMAIN OVER 36" AND UP TO 48" (TYPE .1)	EA	31

**UTILITY INTERFERENCE
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TRUNK WATER MAIN IN EAST NEW YORK**

CET ITEM	DESCRIPTION	UNITS	ESTIMATED QUANTITY
CET 111.2	UTILITIES CROSSING TRENCH FOR WATERMAIN OVER 36" AND UP TO 48" (TYPE .2)	EA	22
CET 111.3	UTILITIES CROSSING TRENCH FOR WATERMAIN OVER 36" AND UP TO 48" (TYPE .3)	EA	7
CET 200.1	EXTRA DEPTH EXCAVATION OF CATCH BASIN CHUTE CONNECTIONS (INVERT DEPTH 4'-6" TO 5' FOR TYPE 2 OR UP TO 5'-6 FOR TYPE 3)	LF	22
CET 225.1A	INSTALLATION AND REMOVAL OF CATCH BASINS WITH UTILITY INTERFERENCES	EA	18
CET 225.1B	INSTALLATION OF CATCH BASINS WITH UTILITY INTERFERENCES	EA	14
CET 225.1C	REMOVAL OF CATCH BASINS WITH UTILITY INTERFERENCES	EA	2
CET 300	SPECIAL CARE EXCAVATION AND BACKFILING	CY	134
CET 301	SPECIAL CARE HAND EXCAVATION OIL-O-STATIC ENCROACHMENT	CY	27
CET 302	FIELD COATING OF OIL-O-STATIC FEEDER PIPES	LF	115
CET 303	FURNISH, DELIVER AND INSTALL 3/8" CLEAN SAND BACKFILL	CY	30
CET 304 A	FURNISH, DELIVER AND INSTALL CONCRETE ROAD BASE	CY	40
CET 305	FURNISH AND INSTALL ASPHALT PAVING MIXTURE	TONS	20
CET 330E-A.1	SUPPORT & PROTECT ELEC, GAS & STEAM FAC. DURING EXCAVATION OF CITY TRENCH WHEN FAC. LIE W/IN TRENCH LIMITS W/O SHEETING (TYPE .1)	LF	40
CET 330E-A.2	SUPPORT & PROTECT ELEC, GAS & STEAM FAC. DURING EXCAVATION OF CITY TRENCH WHEN FAC. LIE W/IN TRENCH LIMITS W/O SHEETING(TYPE .2)	LF	30
CET 330E-B.1	SUPPORT & PROTECT ELEC, GAS & STEAM FAC. DURING EXCAVATION OF CITY TRENCH WHEN FAC. LIE W/IN TRENCH LIMITS W/ SHEETING (TYPE .1)	LF	22
CET 330E-B.2	SUPPORT & PROTECT ELEC, GAS & STEAM FAC. DURING EXCAVATION OF CITY TRENCH WHEN FAC. LIE W/IN TRENCH LIMITS W/ SHEETING (TYPE .2)	LF	107
CET 330E-B.3	SUPPORT & PROTECT ELEC, GAS & STEAM FAC. DURING EXCAVATION OF CITY TRENCH WHEN FAC. LIE W/IN TRENCH LIMITS W/ SHEETING (TYPE .3)	LF	33

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CET ITEM	DESCRIPTION	UNITS	ESTIMATED QUANTITY
CET 350	OVERHEAD ACCOMMODATION, PROTECTION OF OVERHEAD FACILITIES, POLES AND APPURTENANCES	LS	1
CET 400	TEST PITS FOR UTILITY FACILITIES	CY	125
CET 401	TRENCH EXCAVATION FOR ADJUSTMENT OF UTILITY FACILITIES	CY	503
CET 402.1	EXISTING OCCUPIED CONCRETE ENCASED CONDUITS PLACED IN FINAL POSITION W/O CONCRETE ENCASEMENT	LF	2,590
CET 402.2	EXISTING OCCUPIED NON-CONCRETE ENCASED CONDUITS PLACED IN FINAL POSITION W/O CONCRETE ENCASEMENT	LF	380
CET 402.V1	EXISTING VACANT CONCRETE ENCASED CONDUITS PLACED IN FINAL POSITION W/O CONCRETE ENCASEMENT	LF	3,660
CET 402.V2	EXISTING VACANT NON-CONCRETE ENCASED CONDUITS PLACED IN FINAL POSITION W/O CONCRETE ENCASEMENT	LF	160
CET 403	PLACING STEEL PROTECTION PLATES FOR UTILITY FACILITIES	SF	104
CET 405.1	EXCAVATION FOR INSTALLATION OF UTILITY FACILITIES WITH TOTAL DEPTHS LESS THAN 5 FEET (C.Y.)	CY	111
CET 406	EXCAVATION FOR UTILITY STRUCTURE	CY	18
CET 450.1	CONSTRUCTION FIELD SUPPORT REQUIRING AVERAGE SIZE SURVEY CREW PERFORMING TYPICAL SURVEY FUNCTIONS (TYPE .1)	CRHRS	1
CET 450.2	CONSTRUCTION FIELD SUPPORT REQUIRING AVERAGE SMALL SIZE CREW CAPABLE OF PERFORMING VARIOUS TASKS (TYPE .2)	CRHRS	1
CET 450.3	CONSTRUCTION FIELD SUPPORT REQUIRING AVERAGE MEDIUM SIZE CREW CAPABLE OF PERFORMING VARIOUS TASKS (TYPE .3)	CRHRS	1
CET 500	REMOVAL OF ABANDONED UTILITY CONDUITS (NON-CONCRETE ENCASED)	LF	3,414
CET 501	REMOVAL OF ABANDONED MASONRY FOR ELEC. AND TEL. FACILITIES	CY	519
CET 603E.1	INSTALL UTILITY CONDUITS PLACED IN FINAL POSITION WITHOUT CONCRETE ENCASEMENT	LF	2,000
CET 636 ED RD	ADJUSTMENT OF UTILITY HARDWARE IN ROADWAY (30" TO UNDER 34" WIDTH)	EA	21

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CET ITEM	DESCRIPTION	UNITS	ESTIMATED QUANTITY
CET 636 EE RD	ADJUSTMENT OF UTILITY HARDWARE IN ROADWAY (34" TO UNDER 41" WIDTH)	EA	19
CET 636 EE SW	ADJUSTMENT OF UTILITY HARDWARE IN SIDEWALK (34" TO UNDER 41" WIDTH)	EA	1
CET 636 EG RD	ADJUSTMENT OF UTILITY HARDWARE IN ROADWAY (41" TO UNDER 75" WIDTH)	EA	3
CET 636 EI RD	ADJUSTMENT OF UTILITY HARDWARE IN ROADWAY (125" TO UNDER 170" WIDTH)	EA	1
CET 636 ME	MOD. OF WORK METHODS TO ACCOMM. UTILITY STREET HARDWARE DURING PAVE MILL. & RESURF. OPS. (34" TO UNDER 41" WIDTH)	EA	7
CET 636 MG	MOD. OF WORK METHODS TO ACCOMM. UTILITY STREET HARDWARE DURING PAVE MILL. & RESURF. OPS. (41" TO UNDER 75" WIDTH)	EA	1
CET 638N	INSTALLATION OF FIELD CONSTRUCTED UTILITY STRUCTURE	CY	53
CET 638R	BREAK OUT AND REMOVE UTILITY STRUCTURE	CY	46
CET 710.1	REMOVAL OF ABANDONED UTILITY STEEL/CAST IRON/PLASTIC, UP TO AND INCL. 12" DIAMETER PIPES	LF	2,046
CET 802A	SPECIAL MODIFICATION OF WORK FOR INSTALLATION OF NEW SIDEWALKS	SF	2,553
CET 802B	SPECIAL MODIFICATION OF WORK FOR INSTALLATION OF NEW CURBS	LF	210
CET 803.2	LINE CUT BY PNEUMATIC TOOLS IN LIEU OF SAW CUT ASSOCIATED W/ ROADWAY REMOVAL (ASPHALT & CONCRETE)	LF	345

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CET 100.1 UTILITIES CROSSING TRENCH FOR CATCH BASIN CHUTE CONNECT. AND/OR TESTPIT (TYPE .1) EA

At the following locations:

Park Pl. from East New York Ave. to Thomas Boyland St. (Sheet 8)
Bergen St. from East New York Ave. to Mother Gaston Blvd. (Sh 10)
Int. East New York Ave., Junius St., and Pacific St. (Sheet 11)
Atlantic Ave. Between Snediker Ave. and Hinsdale St. (Sheet 11a)
South Int. East New York Ave., Alabama Ave., and Fulton St (Sh 14)
Southern Intersection Jamaica Ave. and Georgia Ave. (Sheet 14)
Int. Jamaica Ave., New Jersey Ave., and Marginal Ave. East (Sh 15)
18' N/N/C Jamaica Ave. and E/S Marginal St. East (Sheet 15)
Jamaica Ave. Between New Jersey Ave. and Vermont St. (Sheet 15)
Intersection Howard Ave. and Pitkin Ave. (Sheet 8)

Total Quantity for CET 100.1 = 10

CET 100.2 UTILITIES CROSSING TRENCH FOR CATCH BASIN CHUTE CONNECT. AND/OR TESTPIT (TYPE .2) EA

At the following locations:

Park Pl. from East New York Ave. to Thomas Boyland St. (Sheet 8)
East New York Ave. from West Int. to East Int. Mother Gaston (Sh 10)
Int. East New York Ave., Sackman St. and Dean St. (Sheet 10)
Intersection Jamaica Ave. and Fanchon Pl. (Sheet 14)
South Int. East New York Ave., Alabama Ave., and Fulton St (Sh 14)
Fulton St. Between Alabama Ave. and Georgia Ave. (Sheet 14)
Georgia Ave. Between Atlantic Ave. and Fulton St. (Sheet 13)

Total Quantity for CET 100.2 = 9

CET 100.3 UTILITIES CROSSING TRENCH FOR CATCH BASIN CHUTE CONNECT. AND/OR TESTPIT (TYPE .3) EA

At the following locations:

Intersection Saratoga Ave. and St. Johns Pl. (Sheet 7)
Int. East New York Ave., Sackman St. and Dean St. (Sheet 10)
Int. East New York Ave., Junius St., and Pacific St. (Sheet 11)
Sheffield Ave. Between Jamaica Ave. and Fulton St. (Sheet 15)

AS ENCOUNTERED AND DIRECTED BY A CON EDISON REPRESENTATIVE

Total Quantity for CET 100.3 = 4

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CET 100.4 UTILITIES CROSSING TRENCH FOR CATCH BASIN CHUTE CONNECT. AND/OR TESTPIT (TYPE .4) EA

At the following locations:

Prospect Pl. Between Rockaway Ave. and Eastern Pkwy. (Sheet 9)

Total Quantity for CET 100.4 = 1

CET 101.1 UTILITIES CROSSING TRENCH FOR SEWERS UP TO AND INCL. 24" DIAMETER (TYPE .1) EA

At the following locations:

Pitkin Ave. Between Howard Ave. and Eastern Pkwy. (Sheet 6)

Int. East New York Ave., Pitkin Ave. and Grafton St. (Sheet 6)

East New York Ave. Between Grafton St. and Legion St. (Sheet 6)

Intersection East New York Ave. and St. Johns Pl. (Sheet 7)

East New York Ave. Between Strauss St. and Herzl St. (Sheet 7)

Intersection East New York Ave. and Bristol St. (Sheet 8)

East New York Ave. from St. Marks Ave. to Mother Gaston Blvd. (Sh 9)

Bergen St. from East New York Ave. to Mother Gaston Blvd. (Sh 10)

Intersection East New York Ave. and Christopher Ave. (Sheet 10)

East New York Ave. Between Powell St. and Junius St. (Sheet 11)

Intersection Atlantic Ave. and Williams Pl. (Sheet 11a)

Intersection Fulton St. and Georgia Ave. (Sheet 14)

Southern Intersection Jamaica Ave. and Georgia Ave. (Sheet 14)

N/S Jamaica Ave. Between Bushwick Ave. and Fanchon Pl. (Sheet 15)

S/S Jamaica Ave. from Sheffield Ave. to Pennsylvania Ave. (Sh 15)

Georgia Ave. from Atlantic Ave. to East New York Ave. (Sheet 16)

AS ENCOUNTERED AND DIRECTED BY A CON EDISON REPRESENTATIVE

Total Quantity for CET 101.1 = 22

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CET 101.2 **UTILITIES CROSSING TRENCH FOR SEWERS UP TO AND INCL. 24" DIAMETER (TYPE .2)** **EA**

At the following locations:

Intersection Saratoga Ave. and St. Johns Pl. (Sheet 7)
Intersection East New York Ave. and St. Johns Pl. (Sheet 7)
Intersection East New York Ave. and Bristol St. (Sheet 8)
Intersection East New York Ave. and St. Marks Ave. (Sheet 9)
Intersection Mother Gaston Blvd. and Bergen St. (Sheet 10)
Int. East New York Ave., Junius St., and Pacific St. (Sheet 11)
Intersection Atlantic Ave. and Williams Pl. (Sheet 11a)
Georgia Ave. from Atlantic Ave. to East New York Ave. (Sheet 13)
Northern Intersection Atlantic Ave. and Williams Ave. (Sheet 14)
N/S East New York Ave. Between Fulton St. and Broadway (Sheet 14)
Intersection Jamaica Ave. and Fanchon Pl. (Sheet 14)
Intersection Fulton St. and Georgia Ave. (Sheet 14)
N/S Jamaica Ave. Between Bushwick Ave. and Fanchon Pl. (Sheet 15)
Intersection Atlantic Ave. and Georgia Ave. (Sheet 13)

AS ENCOUNTERED AND DIRECTED BY A CON EDISON REPRESENTATIVE

Total Quantity for CET 101.2 = 15

CET 101.3 **UTILITIES CROSSING TRENCH FOR SEWERS UP TO AND INCL. 24" DIAMETER (TYPE .3)** **EA**

At the following locations:

Intersection East New York Ave. and Legion St. (Sheet 6)
East New York Ave. from Junius St. to Van Sinderen Ave. (Sheet 11a)
Northern Intersection Atlantic Ave. and Williams Ave. (Sheet 14)
Intersection Jamaica Ave. and Fanchon Pl. (Sheet 14)
Southern Intersection Jamaica Ave. and Georgia Ave. (Sheet 14)
Intersection East New York Ave. and Pacific St. (Sheet 11)

AS ENCOUNTERED AND DIRECTED BY A CON EDISON REPRESENTATIVE

Total Quantity for CET 101.3 = 6

CET 101.4 **UTILITIES CROSSING TRENCH FOR SEWERS UP TO AND INCL. 24" DIAMETER (TYPE .4)** **EA**

At the following locations:

East New York Ave. from Rockaway Ave. to St. Marks Ave. (Sheet 9)
Int. Jamaica Ave., Pennsylvania Ave., and Bushwick Ave. (Sheet 15)

Total Quantity for CET 101.4 = 2

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CET 103.2

UTILITIES CROSSING TRENCH FOR SEWERS OVER 36" TO 48" DIAMETER (TYPE .2)

EA

At the following locations:

Int. East New York Ave., Pitkin Ave. and Grafton St. (Sheet 6)

AS ENCOUNTERED AND DIRECTED BY A CON EDISON REPRESENTATIVE

Total Quantity for CET 103.2 = 2

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CET 108.1

UTILITIES CROSSING TRENCH FOR WATERMAIN UP TO AND INCL. 12" DIAMETER (TYPE .1)

EA

At the following locations:

Intersection East New York Ave. and Tapscott St. (Sheet 6)
Howard Ave. Between Pitkin Ave. and Lincoln Pl. (Sheet 6)
Intersection Pitkin Ave. and Legion St. (Sheet 6)
East New York Ave. Between Grafton St. and Legion St. (Sheet 6)
East New York Ave. Between Legion St. and Saratoga Ave. (Sheet 6)
Western Int. East New York Ave. and Saratoga Ave. (Sheet 7)
Intersection East New York Ave. and St. Johns Pl. (Sheet 7)
East New York Ave. Between Strauss St. and Herzl St. (Sheet 7)
Intersection East New York Ave. and Herzl St. (Sheet 7)
East New York Ave. Between Herzl St. and Amboy St. (Sheet 7)
Intersection East New York Ave. and Amboy St. (Sheet 7)
East New York Ave. from Thomas Boyland St. to Bristol St. (Sheet 8)
Intersection East New York Ave. and Bristol St. (Sheet 8)
Park Pl. from East New York Ave. to Thomas Boyland St. (Sheet 8)
East New York Ave. Between Bristol St. and Chester St. (Sheet 8)
East New York Ave. Between Chester St. and Rockaway Ave. (Sheet 8)
East New York Ave. Between Chester St. and Rockaway Ave. (Sheet 9)
East New York Ave. from Rockaway Ave. to St. Marks Ave. (Sheet 9)
St. Marks Ave. from East New York Ave. to Eastern Pkwy. (Sheet 9)
Intersection East New York Ave. and St. Marks Ave. (Sheet 9)
Bergen St. from East New York Ave. to Mother Gaston Blvd. (Sh 10)
Int. East New York Ave., Sackman St. and Dean St. (Sheet 10)
Int. East New York Ave., Junius St., and Pacific St. (Sheet 11)
Atlantic Ave. from Van Sinderen Ave. to Havens Pl. (Sheet 11a)
Southern Intersection Atlantic Ave. and Williams Ave. (Sheet 12)
N/S Atlantic Ave. from Hinsdale St. to Williams Ave. (Sheet 12)
N/S Atlantic Ave. Between Alabama Ave. and Georgia Ave. (Sheet 13)
Northern Intersection Atlantic Ave. and Williams Ave. (Sheet 14)
Williams Ave. from Atlantic Ave. to East New York Ave. (Sheet 14)
S/S East New York Ave. from Williams Ave. to Alabama Ave. (Sh 14)
S/S East New York Ave. from Williams Ave. to Alabama Ave. (Sh 14)
Intersection Fulton St. and Georgia Ave. (Sheet 14)
Southern Intersection Jamaica Ave. and Georgia Ave. (Sheet 14)
Jamaica Ave. Between New Jersey Ave. and Vermont St. (Sheet 15)
Intersection Jamaica Ave. and Vermont St. (Sheet 15)
Intersection Jamaica Ave. and Vermont St. (Sheet 15)
Int. East New York Ave., Van Sinderen Ave., Atlantic Ave. (Sh 11a)

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Int. East New York Ave. and Atlantic Ave. (Sheet 11a)
Georgia Ave. from Atlantic Ave. to East New York Ave. (Sheet 16)

Total Quantity for CET 108.1 = 58

CET 108.2 UTILITIES CROSSING TRENCH FOR WATERMAIN UP TO AND INCL. 12" DIAMETER (TYPE .2) EA

At the following locations:

Intersection East New York Ave. and Tapscott St. (Sheet 6)
East New York Ave. Between Tapscott St. and Howard Ave. (Sheet 6)
Intersection East New York Ave. and Howard Ave. (Sheet 6)
Howard Ave. Between East New York Ave. and Sutter Ave. (Sheet 6)
Int. East New York Ave., Pitkin Ave. and Grafton St. (Sheet 6)
Pitkin Ave. Between Grafton St. and Legion St. (Sheet 6)
Intersection Pitkin Ave. and Legion St. (Sheet 6)
Legion St. Between Pitkin Ave. and Suter Ave. (Sheet 6)
Intersection Saratoga Ave. and St. Johns Pl. (Sheet 7)
Intersection East New York Ave. and St. Johns Pl. (Sheet 7)
Intersection East New York Ave. and Bristol St. (Sheet 8)
Int. East New York Ave., Rockaway Ave., and Prospect Pl. (Sheet 9)
East New York Ave. from Rockaway Ave. to St. Marks Ave. (Sheet 9)
Intersection East New York Ave. and St. Marks Ave. (Sheet 9)
East Int. of East New York Ave. and Mother Gaston Blvd. (Sheet 10)
East Int. of East New York Ave. and Mother Gaston Blvd. (Sheet 10)
Int. East New York Ave., Sackman St. and Dean St. (Sheet 10)
Junius St. Between East New York Ave. and Liberty Ave. (Sheet 11)
Int. East New York Ave., Junius St., and Pacific St. (Sheet 11)
East New York Ave. from Junius St. to Van Sinderen Ave. (Sheet 11a)
Atlantic Ave. from East New York Ave. to Williams Ave. (Sheet 11a)
N/S Atlantic Ave. from Hinsdale St. to Williams Ave. (Sheet 12)
N/ S Atlantic Ave. from Williams Ave. to Alabama Ave. (Sheet 12)
N/S Atlantic Ave. Between Alabama Ave. and Georgia Ave. (Sheet 13)
Northern Intersection Atlantic Ave. and Williams Ave. (Sheet 14)
Intersection Fulton St. and Georgia Ave. (Sheet 14)
Intersection Atlantic Ave. and Georgia Ave. (Sheet 13)
Intersection Atlantic Ave. and Sheffield Ave. (Sheet 13)
Atlantic Ave. from Sheffield Ave. and Pennsylvania Ave. (Sheet 13)

Total Quantity for CET 108.2 = 45

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CET 108.3

UTILITIES CROSSING TRENCH FOR WATERMAIN UP TO AND INCL. 12" DIAMETER (TYPE 3)

EA

At the following locations:

- Intersection East New York Ave. and Legion St. (Sheet 6)
- East New York Ave. Between Legion St. and Saratoga Ave. (Sheet 6)
- East New York Ave. Between Legion St. and Saratoga Ave. (Sheet 7)
- Saratoga Ave. Between East New York Ave. and Pitkin Ave. (Sheet 7)
- Western Int. East New York Ave. and Saratoga Ave. (Sheet 7)
- Eastern Int. East New York Ave. and Saratoga Ave. (Sheet 7)
- 1' S/S/C East New York Ave. and 70' E/E/C Saratoga Ave. (Sh 7)
- Intersection East New York Ave. and Amboy St. (Sheet 7)
- Intersection East New York Ave. and Chester St. (Sheet 8)
- Int. East New York Ave., Sackman St. and Dean St. (Sheet 10)
- East New York Ave. Between Powell St. and Junius St. (Sheet 11)
- Int. of East New York Ave. and Van Sinderen Ave. (Sheet 11a)
- East New York Ave. from Van Sinderen Ave. to Atlantic Ave. (Sh 11a)
- Northern Intersection Atlantic Ave. and Alabama Ave. (Sheet 13)
- Georgia Ave. Between Fulton St. and Jamaica Ave. (Sheet 14)
- Southern Intersection Jamaica Ave. and Georgia Ave. (Sheet 14)
- 44' S/S/C East New York Ave. and 2' EW/C Chester St. (Sheet 8)
- Intersection Atlantic Ave. and Georgia Ave. (Sheet 13)
- Atlantic Ave. Between Georgia Ave. and Sheffield Ave. (Sheet 13)
- Intersection Atlantic Ave. and Sheffield Ave. (Sheet 13)

AS ENCOUNTERED AND DIRECTED BY A CON EDISON REPRESENTATIVE

Total Quantity for CET 108.3 = 23

**CON EDISON SCOPE OF WORK
SUPPORT AND PROTECTION
BED776
TRUNK WATER MAIN IN EAST NEW YORK**

PROJECT ID: BED776

CET 109.1

UTILITIES CROSSING TRENCH FOR WATERMAIN OVER 12" AND UP TO 24" (TYPE .1)

EA

At the following locations:

- Howard Ave. Between Pitkin Ave. and Lincoln Pl. (Sheet 6)
- Int. East New York Ave., Pitkin Ave. and Grafton St. (Sheet 6)
- Intersection Pitkin Ave. and Legion St. (Sheet 6)
- East New York Ave. Between Grafton St. and Legion St. (Sheet 6)
- Intersection East New York Ave. and Legion St. (Sheet 6)
- East New York Ave. Between Legion St. and Saratoga Ave. (Sheet 6)
- Intersection East New York Ave. and St. Johns Pl. (Sheet 7)
- East New York Ave. Between Strauss St. and Herzl St. (Sheet 7)
- Intersection East New York Ave. and Herzl St. (Sheet 7)
- East New York Ave. Between Herzl St. and Amboy St. (Sheet 7)
- Intersection East New York Ave. and Amboy St. (Sheet 7)
- Intersection East New York Ave. and Thomas Boyland St. (Sheet 8)
- East New York Ave. from Thomas Boyland St. to Bristol St. (Sheet 8)
- Intersection East New York Ave. and Bristol St. (Sheet 8)
- East New York Ave. Between Bristol St. and Chester St. (Sheet 8)
- East New York Ave. Between Chester St. and Rockaway Ave. (Sheet 8)
- East New York Ave. Between Chester St. and Rockaway Ave. (Sheet 9)
- East New York Ave. from Rockaway Ave. to St. Marks Ave. (Sheet 9)
- Intersection East New York Ave. and St. Marks Ave. (Sheet 9)
- East New York Ave. from St. Marks Ave. to Mother Gaston Blvd. (Sheet 9)
- Western Int. East New York Ave. and Mother Gaston Blvd. (Sheet 10)
- Intersection East New York Ave. and Christopher Ave. (Sheet 10)
- East New York Ave. Between Sackman St. and Powell St. (Sheet 11)
- Intersection East New York Ave. and Powell St. (Sheet 11)
- East New York Ave. Between Powell St. and Junius St. (Sheet 11)
- Junius St. Between East New York Ave. and Liberty Ave. (Sheet 11)
- East New York Ave. from Junius St. to Van Sinderen Ave. (Sheet 11a)
- Van Sinderen Ave. from Atlantic Ave. to Herkimer St. (Sheet 11a)
- Atlantic Ave. from East New York Ave. to Snediker Ave. (Sheet 11a)
- Atlantic Ave. Between Snediker Ave. and Hinsdale St. (Sheet 11a)
- Atlantic Ave. from Van Sinderen Ave. to Williams Pl. (Sheet 11a)
- Intersection Atlantic Ave. and Hinsdale St. (Sheet 12)
- S/ S Atlantic Ave. from Hinsdale St. to Williams Ave. (Sheet 12)
- Southern Intersection Atlantic Ave. and Williams Ave. (Sheet 12)
- Northern Intersection Atlantic Ave. and Williams Ave. (Sheet 12)
- Williams Ave. from Atlantic Ave. to East New York Ave. (Sheet 12)
- Southern Int. East New York Ave. and Williams Ave. (Sheet 14)

**CON EDISON SCOPE OF WORK
SUPPORT AND PROTECTION
BED776
TRUNK WATER MAIN IN EAST NEW YORK**

PROJECT ID: BED776

Williams Ave. from Atlantic Ave. to East New York Ave. (Sheet 14)

N/S Jamaica Ave. Between Bushwick Ave. and Fanchon Pl. (Sheet 15)

Int. Jamaica Ave., New Jersey Ave., and Marginal Ave. East (Sh 15)

Jamaica Ave. Between New Jersey Ave. and Vermont St. (Sheet 15)

Atlantic Ave. from Sheffield Ave. and Pennsylvania Ave. (Sheet 13)

AS ENCOUNTERED AND DIRECTED BY A CON EDISON REPRESENTATIVE

Total Quantity for CET 109.1 = 55

CON EDISON SCOPE OF WORK
SUPPORT AND PROTECTION
BED776
TRUNK WATER MAIN IN EAST NEW YORK

PROJECT ID: BED776

CET 109.2

UTILITIES CROSSING TRENCH FOR WATERMAIN OVER 12" AND UP TO 24" (TYPE 2)

EA

At the following locations:

Intersection East New York Ave. and Howard Ave. (Sheet 6)
Intersection East New York Ave. and Howard Ave. (Sheet 6)
Howard Ave. Between East New York Ave. and Sutter Ave. (Sheet 6)
Int. East New York Ave., Pitkin Ave. and Grafton St. (Sheet 6)
Intersection Pitkin Ave. and Legion St. (Sheet 6)
Intersection East New York Ave. and Legion St. (Sheet 6)
Intersection Saratoga Ave. and St. Johns Pl. (Sheet 7)
Intersection East New York Ave. and St. Johns Pl. (Sheet 7)
Intersection East New York Ave. and Thomas Boyland St. (Sheet 8)
Intersection East New York Ave. and Bristol St. (Sheet 8)
Int. East New York Ave., Rockaway Ave., and Prospect Pl. (Sheet 9)
East New York Ave. from Rockaway Ave. to St. Marks Ave. (Sheet 9)
Western Int. East New York Ave. and Mother Gaston Blvd. (Sheet 10)
East New York Ave. from West Int. to East Int. Mother Gaston (Sh 10)
East Int. of East New York Ave. and Mother Gaston Blvd. (Sheet 10)
Intersection East New York Ave. and Bergen St. (Sheet 10)
East New York Ave. from Christopher Ave. to Sackman St. (Sheet 10)
Int. East New York Ave., Sackman St. and Dean St. (Sheet 10)
Intersection East New York Ave. and Powell St. (Sheet 11)
Van Sinderen Ave. from Atlantic Ave. to Herkimer St. (Sheet 11a)
Intersection Atlantic Ave. and Snediker Ave. (Sheet 11a)
Southern Intersection Atlantic Ave. and Williams Ave. (Sheet 12)
Northern Intersection Atlantic Ave. and Williams Ave. (Sheet 12)
Southern Intersection Atlantic Ave. and Alabama Ave. (Sheet 13)
S/S Atlantic Ave. Between Alabama Ave. and Georgia Ave. (Sheet 13)
N/S East New York Ave. Between Fulton St. and Broadway (Sheet 14)
Intersection East New York Ave. and Broadway (Sheet 14)
Intersection Jamaica Ave. and Fanchon Pl. (Sheet 14)
Southern Int. East New York Ave. and Williams Ave. (Sheet 14)
Williams Ave. from Atlantic Ave. to East New York Ave. (Sheet 14)
N/S Jamaica Ave. Between Bushwick Ave. and Fanchon Pl. (Sheet 15)
Int. Jamaica Ave., Pennsylvania Ave., and Bushwick Ave. (Sheet 15)
Int. Jamaica Ave., New Jersey Ave., and Marginal Ave. East (Sh 15)
Intersection Atlantic Ave. and Georgia Ave. (Sheet 13)

Total Quantity for CET 109.2 = 54

**CON EDISON SCOPE OF WORK
SUPPORT AND PROTECTION
BED776
TRUNK WATER MAIN IN EAST NEW YORK**

PROJECT ID: BED776

CET 109.3 **UTILITIES CROSSING TRENCH FOR WATERMAIN OVER 12" AND UP TO 24" (TYPE 3)** **EA**

At the following locations:

Eastern Int. East New York Ave. and Saratoga Ave. (Sheet 7)
Int. East New York Ave., Rockaway Ave., and Prospect Pl. (Sheet 9)
East New York Ave. from Rockaway Ave. to St. Marks Ave. (Sheet 9)
East Int. of East New York Ave. and Mother Gaston Blvd. (Sheet 10)
Intersection Atlantic Ave. and Snediker Ave. (Sheet 11a)
Intersection Atlantic Ave. and Williams Pl. (Sheet 11a)
Intersection Atlantic Ave. and Hinsdale St. (Sheet 12)
Southern Intersection Atlantic Ave. and Williams Ave. (Sheet 12)
Northern Intersection Atlantic Ave. and Williams Ave. (Sheet 12)
Northern Intersection Atlantic Ave. and Williams Ave. (Sheet 14)
Intersection Jamaica Ave. and Fanchon Pl. (Sheet 14)
East New York Ave. from Rockaway Ave. to St. Marks Ave. (Sheet 9)
Intersection Atlantic Ave. and Georgia Ave. (Sheet 13)

AS ENCOUNTERED AND DIRECTED BY A CON EDISON REPRESENTATIVE

Total Quantity for CET 109.3 = 17

CET 109.4 **UTILITIES CROSSING TRENCH FOR WATERMAIN OVER 12" AND UP TO 24" (TYPE 4)** **EA**

At the following locations:

East New York Ave. from Rockaway Ave. to St. Marks Ave. (Sheet 9)
Int. Jamaica Ave., Pennsylvania Ave., and Bushwick Ave. (Sheet 15)

Total Quantity for CET 109.4 = 3

CON EDISON SCOPE OF WORK
SUPPORT AND PROTECTION
BED776
TRUNK WATER MAIN IN EAST NEW YORK

PROJECT ID: BED776

CET 111.1

UTILITIES CROSSING TRENCH FOR WATERMAIN OVER 36" AND UP TO 48" (TYPE .1)

EA

At the following locations:

- Int. East New York Ave., Pitkin Ave. and Grafton St. (Sheet 6)
 - East New York Ave. Between Grafton St. and Legion St. (Sheet 6)
 - East New York Ave. Between Legion St. and Saratoga Ave. (Sheet 6)
 - Intersection East New York Ave. and St. Johns Pl. (Sheet 7)
 - East New York Ave. Between Strauss St. and Herzl St. (Sheet 7)
 - Intersection East New York Ave. and Herzl St. (Sheet 7)
 - East New York Ave. Between Herzl St. and Amboy St. (Sheet 7)
 - Intersection East New York Ave. and Amboy St. (Sheet 7)
 - Intersection East New York Ave. and Thomas Boyland St. (Sheet 8)
 - East New York Ave. from Thomas Boyland St. to Bristol St. (Sheet 8)
 - Intersection East New York Ave. and Bristol St. (Sheet 8)
 - East New York Ave. Between Bristol St. and Chester St. (Sheet 8)
 - East New York Ave. Between Chester St. and Rockaway Ave. (Sheet 8)
 - East New York Ave. Between Chester St. and Rockaway Ave. (Sheet 9)
 - East New York Ave. from Rockaway Ave. to St. Marks Ave. (Sheet 9)
 - Intersection East New York Ave. and St. Marks Ave. (Sheet 9)
 - East New York Ave. from St. Marks Ave. to Mother Gaston Blvd. (Sh 9)
 - Bergen St. from East New York Ave. to Mother Gaston Blvd. (Sh 10)
 - Intersection East New York Ave. and Christopher Ave. (Sheet 10)
 - East New York Ave. Between Sackman St. and Powell St. (Sheet 11)
 - Intersection East New York Ave. and Powell St. (Sheet 11)
 - East New York Ave. Between Powell St. and Junius St. (Sheet 11)
 - N/S Jamaica Ave. Between Bushwick Ave. and Fanchon Pl. (Sheet 15)
 - S/S Jamaica Ave. from Sheffield Ave. to Pennsylvania Ave. (Sh 15)
 - Int. Jamaica Ave., New Jersey Ave., and Marginal Ave. East (Sh 15)
 - Jamaica Ave. Between New Jersey Ave. and Vermont St. (Sheet 15)
- AS ENCOUNTERED AND DIRECTED BY A CON EDISON REPRESENTATIVE
- Total Quantity for CET 111.1 = 31**

CON EDISON SCOPE OF WORK
SUPPORT AND PROTECTION
BED776
TRUNK WATER MAIN IN EAST NEW YORK

PROJECT ID: BED776

CET 111.2

UTILITIES CROSSING TRENCH FOR WATERMAIN OVER 36" AND UP TO 48" (TYPE .2)

EA

At the following locations:

- Intersection East New York Ave. and Howard Ave. (Sheet 6)
- Intersection East New York Ave. and Howard Ave. (Sheet 6)
- Intersection East New York Ave. and St. Johns Pl. (Sheet 7)
- Intersection East New York Ave. and Thomas Boyland St. (Sheet 8)
- Intersection East New York Ave. and Bristol St. (Sheet 8)
- Int. East New York Ave., Rockaway Ave., and Prospect Pl. (Sheet 9)
- East New York Ave. from Rockaway Ave. to St. Marks Ave. (Sheet 9)
- Western Int. East New York Ave. and Mother Gaston Blvd. (Sheet 10)
- East New York Ave. from West Int. to East Int. Mother Gaston (Sh 10)
- Intersection East New York Ave. and Bergen St. (Sheet 10)
- Int. East New York Ave., Sackman St. and Dean St. (Sheet 10)
- Intersection East New York Ave. and Powell St. (Sheet 11)
- Int. East New York Ave., Junius St., and Pacific St. (Sheet 11)
- N/S East New York Ave. Between Fulton St. and Broadway (Sheet 14)
- Intersection East New York Ave. and Broadway (Sheet 14)
- Intersection Jamaica Ave. and Fanchon Pl. (Sheet 14)
- N/S Jamaica Ave. Between Bushwick Ave. and Fanchon Pl. (Sheet 15)
- Int. Jamaica Ave., Pennsylvania Ave., and Bushwick Ave. (Sheet 15)
- Int. Jamaica Ave., New Jersey Ave., and Marginal Ave. East (Sh 15)

Total Quantity for CET 111.2 = 22

CET 111.3

UTILITIES CROSSING TRENCH FOR WATERMAIN OVER 36" AND UP TO 48" (TYPE .3)

EA

At the following locations:

- Intersection East New York Ave. and Legion St. (Sheet 6)
- Eastern Int. East New York Ave. and Saratoga Ave. (Sheet 7)
- East Int. of East New York Ave. and Mother Gaston Blvd. (Sheet 10)
- Northern Intersection Atlantic Ave. and Williams Ave. (Sheet 14)
- Intersection Jamaica Ave. and Fanchon Pl. (Sheet 14)
- Int. Jamaica Ave., Pennsylvania Ave., and Bushwick Ave. (Sheet 15)
- East New York Ave. from Rockaway Ave. to St. Marks Ave. (Sheet 9)

AS ENCOUNTERED AND DIRECTED BY A CON EDISON REPRESENTATIVE

Total Quantity for CET 111.3 = 7

CON EDISON SCOPE OF WORK
SUPPORT AND PROTECTION
BED776
TRUNK WATER MAIN IN EAST NEW YORK

PROJECT ID: BED776

CET 200.1 EXTRA DEPTH EXCAVATION OF CATCH BASIN CHUTE CONNECTIONS (INVERT DEPTH 4'-6" TO 5' FOR TYPE 2 OR UP TO 5'-6 FOR TYPE 3) LF

At the following locations:

Georgia Ave. Between Atlantic Ave. and Fulton St. (Sheet 13)

Total Quantity for CET 200.1 = 22

CET 225.1A INSTALLATION AND REMOVAL OF CATCH BASINS WITH UTILITY INTERFERENCES EA

At the following locations:

Intersection Howard Ave. and Pitkin Ave. (Sheet 6)

East New York Ave. Between Grafton St. and Legion St. (Sheet 6)

Prospect Pl. Between Rockaway Ave. and Eastern Pkwy. (Sheet 9)

Rockaway Ave. Between East New York Ave. and Pitkin Ave. (Sheet 9)

Int. East New York Ave., Sackman St. and Dean St. (Sheet 10)

Atlantic Ave. from East New York Ave. to Snediker Ave. (Sheet 11a)

Atlantic Ave. Between Snediker Ave. and Hinsdale St. (Sheet 11a)

N/S Atlantic Ave. from Williams Ave. to Alabama Ave. (Sheet 13)

Intersection Jamaica Ave. and Fanchon Pl. (Sheet 14)

Southern Int. East New York Ave. and Williams Ave. (Sheet 14)

South Int. East New York Ave., Alabama Ave., and Fulton St. (Sh 14)

N/S Jamaica Ave. Between Bushwick Ave. and Fanchon Pl. (Sheet 15)

S/S Jamaica Ave. from Pennsylvania Ave. to New Jersey Ave. (Sh 15)

Int. Jamaica Ave., New Jersey Ave., and Marginal Ave. East (Sh 15)

18' N/N/C Jamaica Ave. and E/S Marginal St. East (Sheet 15)

Jamaica Ave. Between New Jersey Ave. and Vermont St. (Sheet 15)

N/S Atlantic Ave. Between Alabama Ave. and Georgia Ave. (Sheet 13)

AS ENCOUNTERED AND DIRECTED BY A CON EDISON REPRESENTATIVE

Total Quantity for CET 225.1A = 18

CON EDISON SCOPE OF WORK
SUPPORT AND PROTECTION
BED776
TRUNK WATER MAIN IN EAST NEW YORK

PROJECT ID: BED776

CET 225.1B **INSTALLATION OF CATCH BASINS WITH UTILITY INTERFERENCES**

EA

At the following locations:

- 1' N/S/C St. Johns Pl. and 20' W/W/C Saratoga Ave. (Sheet 7)
- 1' S/N/C St. Johns Pl. and 20' W/W/C Saratoga Ave. (Sheet 7)
- Saratoga Ave. Between St. Johns Pl. and Eastern Pkwy. (Sheet 7)
- Intersection East New York Ave. and St. Johns Pl. (Sheet 7)
- Sterling Pl. Between East New York Ave. and Eastern Pkwy. (Sheet 7)
- East New York Ave. from Thomas Boyland St. to Bristol St. (Sheet 8)
- Park Pl. from East New York Ave. to Thomas Boyland St. (Sheet 8)
- 20' S/S/C East New York Ave. and 2' E/W/C Bristol St. (Sheet 8)
- Mother Gaston Blvd. from East New York Ave. to Bergen St. (Sh 10)
- Mother Gaston Blvd. Between Bergen St. and Dean St. (Sheet 10)
- Bergen St. from East New York Ave. to Mother Gaston Blvd. (Sh 10)
- Intersection East New York Ave. and Bergen St. (Sheet 10)
- Dean St. Between Sackman St. and Mother Gaston Blvd. (Sheet 10)
- Int. East New York Ave., Junius St., and Pacific St. (Sheet 11)

AS ENCOUNTERED AND DIRECTED BY A CON EDISON REPRESENTATIVE

Total Quantity for CET 225.1B = 14

CET 225.1C **REMOVAL OF CATCH BASINS WITH UTILITY INTERFERENCES**

EA

At the following locations:

- N/S East New York Ave. from Atlantic Ave. to Williams Ave. (Sh 14)
- Intersection Jamaica Ave. and Fanchon Pl. (Sheet 14)

Total Quantity for CET 225.1C = 2

**CON EDISON SCOPE OF WORK
SUPPORT AND PROTECTION
BED776
TRUNK WATER MAIN IN EAST NEW YORK**

PROJECT ID: BED776

CET 300

SPECIAL CARE EXCAVATION AND BACKFILING

CY

At the following locations:

Intersection East New York Ave. and Tapscott St. (Sheet 6)
Pitkin Ave. Between Howard Ave. and Eastern Pkwy. (Sheet 6)
Int. East New York Ave., Pitkin Ave. and Grafton St. (Sheet 6)
Pitkin Ave. Between Grafton St. and Legion St. (Sheet 6)
Lincoln Pl. Between East New York Ave. and Howard Ave. (Sheet 6)
East New York Ave. Between Legion St. and Saratoga Ave. (Sheet 6)
Intersection East New York Ave. and St. Johns Pl. (Sheet 7)
Intersection East New York Ave. and Herzl St. (Sheet 7)
Intersection East New York Ave. and Thomas Boyland St. (Sheet 8)
East New York Ave. from Thomas Boyland St. to Bristol St. (Sheet 8)
East New York Ave. from Thomas Boyland St. to Bristol St. (Sheet 8)
East New York Ave. Between Bristol St. and Chester St. (Sheet 8)
Intersection East New York Ave. and Chester St. (Sheet 8)
Prospect Pl. Between Rockaway Ave. and Eastern Pkwy. (Sheet 9)
East New York Ave. from Rockaway Ave. to St. Marks Ave. (Sheet 9)
East New York Ave. from Rockaway Ave. to St. Marks Ave. (Sheet 9)
East New York Ave. from Rockaway Ave. to St. Marks Ave. (Sheet 9)
East New York Ave. from Rockaway Ave. to St. Marks Ave. (Sheet 9)
East New York Ave. from Rockaway Ave. to St. Marks Ave. (Sheet 9)
East New York Ave. from St. Marks Ave. to Mother Gaston Blvd. (Sh 9)
Western Int. East New York Ave. and Mother Gaston Blvd. (Sheet 10)
Western Int. East New York Ave. and Mother Gaston Blvd. (Sheet 10)
Bergen St. from East New York Ave. to Mother Gaston Blvd. (Sh 10)
East New York Ave. from West Int. to East Int. Mother Gaston (Sh 10)
East Int. of East New York Ave. and Mother Gaston Blvd. (Sheet 10)
Intersection East New York Ave. and Christopher Ave. (Sheet 10)
East New York Ave. from Christopher Ave. to Sackman St. (Sheet 10)
Int. East New York Ave., Sackman St. and Dean St. (Sheet 10)
Int. East New York Ave., Sackman St. and Dean St. (Sheet 10)
Int. East New York Ave., Sackman St. and Dean St. (Sheet 10)
Int. East New York Ave., Sackman St. and Dean St. (Sheet 10)
East New York Ave. Between Sackman St. and Powell St. (Sheet 11)
Int. East New York Ave., Junius St., and Pacific St. (Sheet 11)
Int. East New York Ave., Junius St., and Pacific St. (Sheet 11)
East New York Ave. from Junius St. to Van Sinderen Ave. (Sheet 11a)
Intersection Atlantic Ave. and Snediker Ave. (Sheet 11a)

**CON EDISON SCOPE OF WORK
SUPPORT AND PROTECTION
BED776
TRUNK WATER MAIN IN EAST NEW YORK**

PROJECT ID: BED776

Southern Intersection Atlantic Ave. and Williams Ave. (Sheet 12)
S/S Atlantic Ave. from Williams Ave. to Alabama Ave. (Sheet 12)
N/S Atlantic Ave. from Hinsdale St. to Williams Ave. (Sheet 12)
N/S Atlantic Ave. from Hinsdale St. to Williams Ave. (Sheet 12)
Northern Intersection of Atlantic Ave. and Georgia Ave. (Sheet 13)
Northern Intersection of Atlantic Ave. and Georgia Ave. (Sheet 13)
S/S Atlantic Ave. Between Georgia Ave. and Alabama Ave. (Sheet 13)
Southern Intersection Atlantic Ave. and Alabama Ave. (Sheet 13)
N/S East New York Ave. from Atlantic Ave. to Williams Ave. (Sh 14)
N/S East New York Ave. from Atlantic Ave. to Williams Ave. (Sh 14)
N/S East New York Ave. from Atlantic Ave. to Williams Ave. (Sh 14)
N/S East New York Ave. from Atlantic Ave. to Williams Ave. (Sh 14)
Northern Intersection Atlantic Ave. and Williams Ave. (Sheet 14)
Northern Intersection Atlantic Ave. and Williams Ave. (Sheet 14)
Northern Intersection Atlantic Ave. and Williams Ave. (Sheet 14)
N/S East New York Ave. Between Fulton St. and Broadway (Sheet 14)
Southern Int. East New York Ave. and Williams Ave. (Sheet 14)
Chester St. Between East New York Ave. and Pitkin Ave. (Sheet 8)
Intersection East New York Ave. and Pacific St. (Sheet 11)
Georgia Ave. from Atlantic Ave. to East New York Ave. (Sheet 16)
Intersection Atlantic Ave. and Georgia Ave. (Sheet 13)
Intersection Atlantic Ave. and Georgia Ave. (Sheet 13)
Atlantic Ave. Between Georgia Ave. and Sheffield Ave. (Sheet 13)
Atlantic Ave. Between Georgia Ave. and Sheffield Ave. (Sheet 13)
Atlantic Ave. Between Georgia Ave. and Sheffield Ave. (Sheet 13)
Atlantic Ave. from Sheffield Ave. and Pennsylvania Ave. (Sheet 13)
Intersection of Atlantic Ave. and Pennsylvania Ave. (Sheet 13)

Total Quantity for CET 300 = 134

CON EDISON SCOPE OF WORK
SUPPORT AND PROTECTION
BED776
TRUNK WATER MAIN IN EAST NEW YORK

PROJECT ID: BED776

CET 301 **SPECIAL CARE HAND EXCAVATION OIL-O-STATIC ENCROACHMENT** **CY**

At the following locations:

- Intersection East New York Ave. and Bristol St. (Sheet 8)
- Intersection East New York Ave. and Bristol St. (Sheet 8)
- Intersection East New York Ave. and Bristol St. (Sheet 8)
- Bergen St. from East New York Ave. to Mother Gaston Blvd. (Sh 10)
- Bergen St. from East New York Ave. to Mother Gaston Blvd. (Sh 10)
- Intersection Atlantic Ave. and Georgia Ave. (Sheet 13)

AS ENCOUNTERED AND DIRECTED BY A CON EDISON REPRESENTATIVE

Total Quantity for CET 301 = 27

CET 302 **FIELD COATING OF OIL-O-STATIC FEEDER PIPES** **LF**

At the following locations:

- Intersection East New York Ave. and Bristol St. (Sheet 8)
- Intersection East New York Ave. and Bristol St. (Sheet 8)
- Intersection East New York Ave. and Bristol St. (Sheet 8)
- Park Pl. from East New York Ave. to Thomas Boyland St. (Sheet 8)
- East Int. of East New York Ave. and Mother Gaston Blvd. (Sheet 10)
- East Int. of East New York Ave. and Mother Gaston Blvd. (Sheet 10)
- N/S East New York Ave. Between Fulton St. and Broadway (Sheet 14)
- N/S East New York Ave. Between Fulton St. and Broadway (Sheet 14)
- Fulton St. Between Alabama Ave. and Georgia Ave. (Sheet 14)
- Intersection Fulton St. and Georgia Ave. (Sheet 14)
- Intersection Atlantic Ave. and Georgia Ave. (Sheet 13)

AS ENCOUNTERED AND DIRECTED BY A CON EDISON REPRESENTATIVE

Total Quantity for CET 302 = 115

CON EDISON SCOPE OF WORK
SUPPORT AND PROTECTION
BED776
TRUNK WATER MAIN IN EAST NEW YORK

PROJECT ID: BED776

CET 303

FURNISH, DELIVER AND INSTALL 3/8" CLEAN SAND BACKFILL

CY

At the following locations:

Intersection East New York Ave. and Bristol St. (Sheet 8)
Intersection East New York Ave. and Bristol St. (Sheet 8)
Intersection East New York Ave. and Bristol St. (Sheet 8)
Park Pl. from East New York Ave. to Thomas Boyland St. (Sheet 8)
East Int. of East New York Ave. and Mother Gaston Blvd. (Sheet 10)
East Int. of East New York Ave. and Mother Gaston Blvd. (Sheet 10)
N/S East New York Ave. Between Fulton St. and Broadway (Sheet 14)
N/S East New York Ave. Between Fulton St. and Broadway (Sheet 14)
Fulton St. Between Alabama Ave. and Georgia Ave. (Sheet 14)
Intersection Fulton St. and Georgia Ave. (Sheet 14)
Intersection Fulton St. and Georgia Ave. (Sheet 14)
Intersection Atlantic Ave. and Georgia Ave. (Sheet 13)
Intersection Atlantic Ave. and Georgia Ave. (Sheet 13)

AS ENCOUNTERED AND DIRECTED BY A CON EDISON REPRESENTATIVE

Total Quantity for CET 303 = 30

CET 304 A

FURNISH, DELIVER AND INSTALL CONCRETE ROAD BASE

CY

At the following locations:

1' N/S/C St. Johns Pl. and 20' W/W/C Saratoga Ave. (Sheet 7)
1' S/N/C St. Johns Pl. and 20' W/W/C Saratoga Ave. (Sheet 7)
30' N/N/C St. Johns Pl. and 2' W/E/C Saratoga Ave. (Sheet 7)
6' N/N/C East New York Ave., 2' W/E/C St. Johns Pl. (Sheet 7)
20' S/S/C East New York Ave. and 2' E/W/C Bristol St. (Sheet 8)
2' N/S/C Prospect Pl. and 18' W/W/C Rockaway Ave. (Sheet 9)
30' N/N/C Bergen St. and 3' W/E/C Mother Gaston Blvd. (Sheet 10)
1' N/S/C Dean St. and 18' W/W/C Sackman St. (Sheet 10)
17' N/N/C Dean St. and 2' W/E/C Sackman St. (Sheet 10)
S/S Atlantic Ave. Between Snediker Ave. and Hinsdale St. (Sh 11a)
23' N/N/C Atlantic Ave. and 3' E/W/C Williams Pl. (Sheet 11a)
Southern Int. East New York Ave. and Williams Ave. (Sheet 14)
30' S/S/C Jamaica Ave. and 1' E/W/C Sheffield Ave. (Sheet 15)
7' N/S/C Pitkin Ave. and 150' W/W/C Howard Ave. (Sheet 6)
N/S East New York Ave. from Junius St. to Van Sinderen Ave. (Sh 11a)

AS ENCOUNTERED AND DIRECTED BY A CON EDISON REPRESENTATIVE

Total Quantity for CET 304 A = 40

CON EDISON SCOPE OF WORK
SUPPORT AND PROTECTION
BED776
TRUNK WATER MAIN IN EAST NEW YORK

PROJECT ID: BED776

CET 305	FURNISH AND INSTALL ASPHALT PAVING MIXTURE	TONS
	<i>At the following locations:</i>	
	1' N/S/C St. Johns Pl. and 20' W/W/C Saratoga Ave. (Sheet 7) 1' S/N/C St. Johns Pl. and 20' W/W/C Saratoga Ave. (Sheet 7) 30' N/N/C St. Johns Pl. and 2' W/E/C Saratoga Ave. (Sheet 7) 6' N/N/C East New York Ave., 2' W/E/C St. Johns Pl. (Sheet 7) 20' S/S/C East New York Ave. and 2' E/W/C Bristol St. (Sheet 8) 30' N/N/C Bergen St. and 3' W/E/C Mother Gaston Blvd.(Sheet 10) 1' N/S/C Dean St. and 18' W/W/C Sackman St. (Sheet 10) 17' N/N/C Dean St. and 2' W/E/C Sackman St. (Sheet 10) S/S Atlantic Ave. Between Snediker Ave. and Hinsdale St. (Sh 11a) 23' N/N/C Atlantic Ave. and 3' E/W/C Williams Pl. (Sheet 11a) Southern Int. East New York Ave. and Williams Ave. (Sheet 14) 2' N/S/C Prospect Pl. and 18' W/W/C Rockaway Ave. (Sheet 9) 30' S/S/C Jamaica Ave. and 1' E/W/C Sheffield Ave. (Sheet 15) 7' N/S/C Pitkin Ave. and 150' W/W/C Howard Ave. (Sheet 6) N/S East New York Ave. from Junius St. to Van Sinderen Ave(Sh 11a)	
	AS ENCOUNTERED AND DIRECTED BY A CON EDISON REPRESENTATIVE	
	Total Quantity for CET 305 = 20	
CET 330E-A.1	SUPPORT & PROTECT ELEC, GAS & STEAM FAC. DURING EXCAVATION OF CITY TRENCH WHEN FAC. LIE W/IN TRENCH LIMITS W/O SHEETING (TYPE .1)	LF
	<i>At the following locations:</i>	
	Atlantic Ave. from Van Sinderen Ave. to Havens Pl. (Sheet 11a)	
	AS ENCOUNTERED AND DIRECTED BY A CON EDISON REPRESENTATIVE	
	Total Quantity for CET 330E-A.1 = 40	
CET 330E-A.2	SUPPORT & PROTECT ELEC, GAS & STEAM FAC. DURING EXCAVATION OF CITY TRENCH WHEN FAC. LIE W/IN TRENCH LIMITS W/O SHEETING(TYPE .2)	LF
	<i>At the following locations:</i>	
	Mother Gaston Blvd. from East New York Ave. to Liberty Ave. (Sh 10)	
	Total Quantity for CET 330E-A.2 = 30	
CET 330E-B.1	SUPPORT & PROTECT ELEC, GAS & STEAM FAC. DURING EXCAVATION OF CITY TRENCH WHEN FAC. LIE W/IN TRENCH LIMITS W/ SHEETING (TYPE .1)	LF
	<i>At the following locations:</i>	
	Intersection Atlantic Ave. and Snediker Ave. (Sheet 11a)	
	Total Quantity for CET 330E-B.1 = 22	

**CON EDISON SCOPE OF WORK
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BED776
TRUNK WATER MAIN IN EAST NEW YORK**

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CET 330E-B.2 **SUPPORT & PROTECT ELEC, GAS & STEAM FAC. DURING EXCAVATION OF CITY TRENCH WHEN FAC. LIE W/IN TRENCH LIMITS W/ SHEETING (TYPE .2)** **LF**

At the following locations:

Int. East New York Ave., Pitkin Ave. and Grafton St. (Sheet 6)
East Int. of East New York Ave. and Mother Gaston Blvd. (Sheet 10)
Junius St. Between East New York Ave. and Liberty Ave. (Sheet 11)
Int. Jamaica Ave., Pennsylvania Ave., and Bushwick Ave. (Sheet 15)

AS ENCOUNTERED AND DIRECTED BY A CON EDISON REPRESENTATIVE

Total Quantity for CET 330E-B.2 = 107

CET 330E-B.3 **SUPPORT & PROTECT ELEC, GAS & STEAM FAC. DURING EXCAVATION OF CITY TRENCH WHEN FAC. LIE W/IN TRENCH LIMITS W/ SHEETING (TYPE .3)** **LF**

At the following locations:

Int. East New York Ave., Rockaway Ave., and Prospect Pl. (Sheet 9)
Int. East New York Ave., Rockaway Ave., and Prospect Pl. (Sheet 9)

Total Quantity for CET 330E-B.3 = 33

CET 350 **OVERHEAD ACCOMMODATION, PROTECTION OF OVERHEAD FACILITIES, POLES AND APPURTENANCES** **LS**

At the following locations:

Intersection Jamaica Ave. and Vermont St. (Sheet 15)

AS SHOWN ON CONTRACT DOCUMENTS

Total Quantity for CET 350 = 1

CET 400 **TEST PITS FOR UTILITY FACILITIES** **CY**

At the following locations:

Various Locations

Total Quantity for CET 400 = 125

**CON EDISON SCOPE OF WORK
SUPPORT AND PROTECTION
BED776
TRUNK WATER MAIN IN EAST NEW YORK**

PROJECT ID: BED776

CET 401

TRENCH EXCAVATION FOR ADJUSTMENT OF UTILITY FACILITIES

CY

At the following locations:

- 4' N/S/C East New York Ave. and 23' W/E/C Saratoga Ave. (Sh 7)
- 1' N/S/C St. Johns Pl. and 20' W/W/C Saratoga Ave. (Sheet 7)
- 1' S/N/C St. Johns Pl. and 20' W/W/C Saratoga Ave. (Sheet 7)
- 30' N/N/C St. Johns Pl. and 2' W/E/C Saratoga Ave. (Sheet 7)
- 6' N/N/C East New York Ave., 2' W/E/C St. Johns Pl. (Sheet 7)
- 30' N/N/C East New York Ave. and W/S Sterling Pl. (Sheet 7)
- 20' S/S/C East New York Ave. and 2' E/W/C Bristol St. (Sheet 8)
- 3' S/S/C East New York Ave., 296' E/E/C Rockaway Ave. (Sheet 9)
- 30' N/N/C Bergen St. and 3' W/E/C Mother Gaston Blvd. (Sheet 10)
- 1' N/S/C Dean St. and 18' W/W/C Sackman St. (Sheet 10)
- 17' N/N/C Dean St. and 2' W/E/C Sackman St. (Sheet 10)
- N/S East New York Ave. from Junius St. to Van Sinderen Ave (Sh 11a)
- S/S Atlantic Ave. Between Snediker Ave. and Hinsdale St. (Sh 11a)
- 23' N/N/C Atlantic Ave. and 3' E/W/C Williams Pl. (Sheet 11a)
- 9' S/N/C East New York Ave. and 10' E/E/C Williams Pl. (Sh 11a)
- 16' N/N/C Jamaica Ave. and 2' W/E/C Fanchon Pl. (Sheet 14)
- Southern Int. East New York Ave. and Williams Ave. (Sheet 14)
- N/S Jamaica Ave. Between Bushwick Ave. and Fanchon Pl. (Sheet 15)
- 4' N/S/C East New York Ave., 50' E/E/C Thomas Boyland St. (Sh 8)
- 2' N/S/C Prospect Pl. and 18' W/W/C Rockaway Ave. (Sheet 9)
- 30' S/S/C Jamaica Ave. and 1' E/W/C Sheffield Ave. (Sheet 15)
- 4' S/N/C East New York Ave., 23' W/W/C Pacific St. (Sheet 11)
- 7' N/S/C Pitkin Ave. and 150' W/W/C Howard Ave. (Sheet 6)
- Georgia Ave. Between Atlantic Ave. and Fulton St. (Sheet 13)
- 1' N/S/C Atlantic Ave. and 5' W/E/C Georgia Ave. (Sheet 13)
- 14' S/N/C Atlantic Ave. and 13' E/W/C Georgia Ave. (Sheet 13)
- 4' S/S/C Atlantic Ave., 85' W/W/C Pennsylvania Ave. (Sheet 13)
- 1' S/S/C Atlantic Ave., 11' E/W/C Pennsylvania Ave. (Sheet 13)

AS ENCOUNTERED AND DIRECTED BY A CON EDISON REPRESENTATIVE

Total Quantity for CET 401 = 503

CON EDISON SCOPE OF WORK
SUPPORT AND PROTECTION
BED776
TRUNK WATER MAIN IN EAST NEW YORK

PROJECT ID: BED776

CET 402.1

EXISTING OCCUPIED CONCRETE ENCASED CONDUITS PLACED IN FINAL POSITION W/O
CONCRETE ENCASEMENT

LF

At the following locations:

- 1' N/S/C St. Johns Pl. and 20' W/W/C Saratoga Ave. (Sheet 7)
- 1' S/N/C St. Johns Pl. and 20' W/W/C Saratoga Ave. (Sheet 7)
- 30' N/N/C St. Johns Pl. and 2' W/E/C Saratoga Ave. (Sheet 7)
- 6' N/N/C East New York Ave., 2' W/E/C St. Johns Pl. (Sheet 7)
- 30' N/N/C East New York Ave. and W/S Sterling Pl. (Sheet 7)
- 20' S/S/C East New York Ave. and 2' E/W/C Bristol St. (Sheet 8)
- 3' S/S/C East New York Ave., 296' E/E/C Rockaway Ave. (Sheet 9)
- 1' N/S/C Dean St. and 18' W/W/C Sackman St. (Sheet 10)
- 17' N/N/C Dean St. and 2' W/E/C Sackman St. (Sheet 10)
- N/S East New York Ave. from Junius St. to Van Sinderen Ave.(Sh 11a)
- S/S Atlantic Ave. Between Snediker Ave. and Hinsdale St. (Sh 11a)
- 23' N/N/C Atlantic Ave. and 3' E/W/C Williams Pl. (Sheet 11a)
- 9' S/N/C East New York Ave. and 10' E/E/C Williams Pl. (Sh 11a)
- Southern Int. East New York Ave. and Williams Ave. (Sheet 14)
- N/S Jamaica Ave. Between Bushwick Ave. and Fanchon Pl. (Sheet 15)
- 4' N/S/C East New York Ave., 50' E/E/C Thomas Boyland St.(Sh 8)
- 2' N/S/C Prospect Pl. and 18' W/W/C Rockaway Ave. (Sheet 9)
- 30' S/S/C Jamaica Ave. and 1' E/W/C Sheffield Ave. (Sheet 15)
- 4' S/N/C East New York Ave., 23' W/W/C Pacific St. (Sheet 11)
- Georgia Ave. Between Atlantic Ave. and Fulton St. (Sheet 13)
- 1' N/S/C Atlantic Ave. and 5' W/E/C Georgia Ave. (Sheet 13)
- 4' S/S/C Atlantic Ave., 85' W/W/C Pennsylvania Ave. (Sheet 13)
- 1' S/S/C Atlantic Ave., 11' E/W/C Pennsylvania Ave. (Sheet 13)

AS ENCOUNTERED AND DIRECTED BY A CON EDISON REPRESENTATIVE

Total Quantity for CET 402.1 = 2,590

CET 402.2

EXISTING OCCUPIED NON-CONCRETE ENCASED CONDUITS PLACED IN FINAL POSITION W/O
CONCRETE ENCASEMENT

LF

At the following locations:

- 4' N/S/C East New York Ave. and 23' W/E/C Saratoga Ave. (Sh 7)
- 30' N/N/C Bergen St. and 3' W/E/C Mother Gaston Blvd.(Sheet 10)
- 16' N/N/C Jamaica Ave. and 2' W/E/C Fanchon Pl. (Sheet 14)
- 7' N/S/C Pitkin Ave. and 150' W/W/C Howard Ave. (Sheet 6)
- 14' S/N/C Atlantic Ave. and 13' E/W/C Georgia Ave. (Sheet 13)

AS ENCOUNTERED AND DIRECTED BY A CON EDISON REPRESENTATIVE

Total Quantity for CET 402.2 = 380

**CON EDISON SCOPE OF WORK
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TRUNK WATER MAIN IN EAST NEW YORK**

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**CET 402.V1 EXISTING VACANT CONCRETE ENCASED CONDUITS PLACED IN FINAL POSITION W/O
CONCRETE ENCASUREMENT**

LF

At the following locations:

- 1' N/S/C St. Johns Pl. and 20' W/W/C Saratoga Ave. (Sheet 7)
- 1' S/N/C St. Johns Pl. and 20' W/W/C Saratoga Ave. (Sheet 7)
- 30' N/N/C St. Johns Pl. and 2' W/E/C Saratoga Ave. (Sheet 7)
- 6' N/N/C East New York Ave., 2' W/E/C St. Johns Pl. (Sheet 7)
- 30' N/N/C East New York Ave. and W/S Sterling Pl. (Sheet 7)
- 20' S/S/C East New York Ave. and 2' E/W/C Bristol St. (Sheet 8)
- 3' S/S/C East New York Ave., 296' E/E/C Rockaway Ave. (Sheet 9)
- 1' N/S/C Dean St. and 18' W/W/C Sackman St. (Sheet 10)
- 17' N/N/C Dean St. and 2' W/E/C Sackman St. (Sheet 10)
- N/S East New York Ave. from Junius St. to Van Sinderen Ave(Sh 11a)
- S/S Atlantic Ave. Between Snediker Ave. and Hinsdale St. (Sh 11a)
- 23' N/N/C Atlantic Ave. and 3' E/W/C Williams Pl. (Sheet 11a)
- Southern Int. East New York Ave. and Williams Ave. (Sheet 14)
- N/S Jamaica Ave. Between Bushwick Ave. and Fanchon Pl. (Sheet 15)
- 4' N/S/C East New York Ave., 50' E/E/C Thomas Boyland St.(Sh 8)
- 2' N/S/C Prospect Pl. and 18' W/W/C Rockaway Ave. (Sheet 9)
- 30' S/S/C Jamaica Ave. and 1' E/W/C Sheffield Ave. (Sheet 15)
- 4' S/N/C East New York Ave., 23' W/W/C Pacific St. (Sheet 11)
- Georgia Ave. Between Atlantic Ave. and Fulton St. (Sheet 13)
- 1' N/S/C Atlantic Ave. and 5' W/E/C Georgia Ave. (Sheet 13)
- 4' S/S/C Atlantic Ave., 85' W/W/C Pennsylvania Ave. (Sheet 13)
- 1' S/S/C Atlantic Ave., 11' EW/C Pennsylvania Ave. (Sheet 13)

AS ENCOUNTERED AND DIRECTED BY A CON EDISON REPRESENTATIVE

Total Quantity for CET 402.V1 = 3,660

**CET 402.V2 EXISTING VACANT NON-CONCRETE ENCASED CONDUITS PLACED IN FINAL POSITION W/O
CONCRETE ENCASUREMENT**

LF

At the following locations:

- 16' N/N/C Jamaica Ave. and 2' W/E/C Fanchon Pl. (Sheet 14)
- 14' S/N/C Atlantic Ave. and 13' E/W/C Georgia Ave. (Sheet 13)

AS ENCOUNTERED AND DIRECTED BY A CON EDISON REPRESENTATIVE

Total Quantity for CET 402.V2 = 160

CON EDISON SCOPE OF WORK
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BED776
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PROJECT ID: BED776

CET 403 PLACING STEEL PROTECTION PLATES FOR UTILITY FACILITIES SF

At the following locations:

N/S East New York Ave. Between Fulton St. and Broadway (Sheet 14)

N/S East New York Ave. Between Fulton St. and Broadway (Sheet 14)

Intersection Atlantic Ave. and Georgia Ave. (Sheet 13)

Intersection Atlantic Ave. and Georgia Ave. (Sheet 13)

AS ENCOUNTERED AND DIRECTED BY A CON EDISON REPRESENTATIVE

Total Quantity for CET 403 = 104

CET 405.1 EXCAVATION FOR INSTALLATION OF UTILITY FACILITIES WITH TOTAL DEPTHS LESS THAN 5 FEET (C.Y.) CY

At the following locations:

Various Locations

Total Quantity for CET 405.1 = 111

CET 406 EXCAVATION FOR UTILITY STRUCTURE CY

At the following locations:

Western Intersection East New York Ave. and Saratoga Ave. (Sheet 7)

Intersection Saratoga Ave. and St. Johns Pl. (Sheet 7)

East New York Ave. from Junius St. to Van Sinderen Ave. (Sheet 11a)

S/S Atlantic Ave. from Hinsdale St. to Williams Ave. (Sheet 12)

S/S Atlantic Ave. from Hinsdale St. to Williams Ave. (Sheet 12)

Intersection Atlantic Ave. and Sheffield Ave. (Sheet 13)

Total Quantity for CET 406 = 18

CET 450.1 CONSTRUCTION FIELD SUPPORT REQUIRING AVERAGE SIZE SURVEY CREW PERFORMING TYPICAL SURVEY FUNCTIONS (TYPE .1) CRHRS

At the following locations:

Various Locations

Total Quantity for CET 450.1 = 1

CET 450.2 CONSTRUCTION FIELD SUPPORT REQUIRING AVERAGE SMALL SIZE CREW CAPABLE OF PERFORMING VARIOUS TASKS (TYPE .2) CRHRS

At the following locations:

Various Locations

Total Quantity for CET 450.2 = 1

CON EDISON SCOPE OF WORK
SUPPORT AND PROTECTION
BED776
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PROJECT ID: BED776

CET 450.3 CONSTRUCTION FIELD SUPPORT REQUIRING AVERAGE MEDIUM SIZE CREW CAPABLE OF PERFORMING VARIOUS TASKS (TYPE 3) CRHRS

At the following locations:

Various Locations

Total Quantity for CET 450.3 = 1

CET 500 REMOVAL OF ABANDONED UTILITY CONDUITS (NON-CONCRETE ENCASED) LF

At the following locations:

Intersection East New York Ave. and Howard Ave. (Sheet 6)
East New York Ave. Between Grafton St. and Legion St. (Sheet 6)
East New York Ave. Between Saratoga Ave. and Strauss St. (Sheet 7)
East New York Ave. Between Bristol St. and Chester St. (Sheet 8)
East New York Ave. from Rockaway Ave. to St. Marks Ave. (Sheet 9)
Intersection East New York Ave. and St. Marks Ave. (Sheet 9)
East Int. of East New York Ave. and Mother Gaston Blvd. (Sheet 10)
East Int. of East New York Ave. and Mother Gaston Blvd. (Sheet 10)
Intersection East New York Ave. and Bergen St. (Sheet 10)
East New York Ave. from Bergen St. to Christopher Ave. (Sheet 10)
Intersection East New York Ave. and Christopher Ave. (Sheet 10)
East New York Ave. from Christopher Ave. to Sackman St. (Sheet 10)
East New York Ave. from Christopher Ave. to Sackman St. (Sheet 10)
East New York Ave. from Junius St. to Van Sinderen Ave. (Sheet 11a)
East New York Ave. Between Junius St. and Atlantic Ave. (Sheet 11a)
East New York Ave. from Van Sinderen Ave. to Atlantic Ave. (Sh 11a)
Atlantic Ave. from East New York Ave. to Snediker Ave. (Sheet 11a)
Int. Jamaica Ave., Pennsylvania Ave., and Bushwick Ave. (Sheet 15)
Int. Jamaica Ave., Pennsylvania Ave., and Bushwick Ave. (Sheet 15)

AS ENCOUNTERED AND DIRECTED BY A CON EDISON REPRESENTATIVE

Total Quantity for CET 500 = 3,414

**CON EDISON SCOPE OF WORK
SUPPORT AND PROTECTION
BED776
TRUNK WATER MAIN IN EAST NEW YORK**

PROJECT ID: BED776

CET 501

REMOVAL OF ABANDONED MASONRY FOR ELEC. AND TEL. FACILITIES

CY

At the following locations:

East New York Ave. Between Tapscott St. and Howard Ave. (Sheet 6)
Intersection East New York Ave. and Howard Ave. (Sheet 6)
Intersection East New York Ave. and Howard Ave. (Sheet 6)
Intersection East New York Ave. and Howard Ave. (Sheet 6)
Intersection East New York Ave. and Howard Ave. (Sheet 6)
Pitkin Ave. Between Howard Ave. and Eastern Pkwy. (Sheet 6)
Pitkin Ave. Between Howard Ave. and Eastern Pkwy. (Sheet 6)
Pitkin Ave. Between Howard Ave. and Eastern Pkwy. (Sheet 6)
Howard Ave. Between Pitkin Ave. and Lincoln Pl. (Sheet 6)
Int. East New York Ave., Pitkin Ave. and Grafton St. (Sheet 6)
East New York Ave. Between Grafton St. and Legion St. (Sheet 6)
East New York Ave. Between Grafton St. and Legion St. (Sheet 6)
Intersection East New York Ave. and Legion St. (Sheet 6)
Intersection East New York Ave. and Legion St. (Sheet 6)
Intersection East New York Ave. and Legion St. (Sheet 6)
Intersection East New York Ave. and Legion St. (Sheet 6)
Lincoln Pl. Between East New York Ave. and Howard Ave. (Sheet 6)
East New York Ave. Between Legion St. and Saratoga Ave. (Sheet 6)
East New York Ave. Between Legion St. and Saratoga Ave. (Sheet 6)
East New York Ave. Between Saratoga Ave. and Strauss St. (Sheet 7)
6' N/N/C East New York Ave., 2' W/E/C St. Johns Pl. (Sheet 7)
Intersection East New York Ave. and St. Johns Pl. (Sheet 7)
East New York Ave. Between Strauss St. and Herzl St. (Sheet 7)
East New York Ave. Between Strauss St. and Herzl St. (Sheet 7)
Intersection East New York Ave. and Herzl St. (Sheet 7)
East New York Ave. Between Herzl St. and Amboy St. (Sheet 7)
East New York Ave. Between Herzl St. and Amboy St. (Sheet 7)
East New York Ave. Between Herzl St. and Amboy St. (Sheet 7)
Intersection East New York Ave. and Amboy St. (Sheet 7)
Intersection East New York Ave. and Amboy St. (Sheet 7)
Intersection East New York Ave. and Amboy St. (Sheet 7)
Intersection East New York Ave. and Amboy St. (Sheet 7)
East New York Ave. from Amboy St. to Thomas Boyland St. (Sheet 7)
East New York Ave. from Amboy St. to Thomas Boyland St. (Sheet 8)
East New York Ave. from Amboy St. to Thomas Boyland St. (Sheet 8)
East New York Ave. from Thomas Boyland St. to Bristol St. (Sheet 8)
East New York Ave. from Thomas Boyland St. to Bristol St. (Sheet 8)

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East New York Ave. from Thomas Boyland St. to Bristol St. (Sheet 8)
Intersection East New York Ave. and Bristol St. (Sheet 8)
Intersection East New York Ave. and Bristol St. (Sheet 8)
Park Pl. from East New York Ave. to Thomas Boyland St. (Sheet 8)
East New York Ave. Between Bristol St. and Chester St. (Sheet 8)
East New York Ave. Between Bristol St. and Chester St. (Sheet 8)
East New York Ave. Between Bristol St. and Chester St. (Sheet 8)
East New York Ave. Between Bristol St. and Chester St. (Sheet 8)
East New York Ave. Between Bristol St. and Chester St. (Sheet 8)
East New York Ave. Between Bristol St. and Chester St. (Sheet 8)
East New York Ave. Between Bristol St. and Chester St. (Sheet 8)
East New York Ave. Between Chester St. and Rockaway Ave. (Sheet 8)
East New York Ave. Between Chester St. and Rockaway Ave. (Sheet 8)
East New York Ave. Between Chester St. and Rockaway Ave. (Sheet 8)
East New York Ave. Between Chester St. and Rockaway Ave. (Sheet 8)
East New York Ave. Between Chester St. and Rockaway Ave. (Sheet 8)
East New York Ave. Between Chester St. and Rockaway Ave. (Sheet 8)
East New York Ave. Between Chester St. and Rockaway Ave. (Sheet 8)
Int. East New York Ave., Rockaway Ave., and Prospect Pl. (Sheet 9)
Int. East New York Ave., Rockaway Ave., and Prospect Pl. (Sheet 9)
Int. East New York Ave., Rockaway Ave., and Prospect Pl. (Sheet 9)
East New York Ave. from Rockaway Ave. to St. Marks Ave. (Sheet 9)
East New York Ave. from Rockaway Ave. to St. Marks Ave. (Sheet 9)
East New York Ave. from Rockaway Ave. to St. Marks Ave. (Sheet 9)
East New York Ave. from Rockaway Ave. to St. Marks Ave. (Sheet 9)
East New York Ave. from Rockaway Ave. to St. Marks Ave. (Sheet 9)
East New York Ave. from Rockaway Ave. to St. Marks Ave. (Sheet 9)
East New York Ave. from Rockaway Ave. to St. Marks Ave. (Sheet 9)
East New York Ave. from Rockaway Ave. to St. Marks Ave. (Sheet 9)
East New York Ave. from Rockaway Ave. to St. Marks Ave. (Sheet 9)
East New York Ave. from Rockaway Ave. to St. Marks Ave. (Sheet 9)
St. Marks Ave. from East New York Ave. to Eastern Pkwy. (Sheet 9)
Intersection East New York Ave. and St. Marks Ave. (Sheet 9)
Intersection East New York Ave. and St. Marks Ave. (Sheet 9)
East New York Ave. from St. Marks Ave. to Mother Gaston Blvd.(Sh 9)
East New York Ave. from St. Marks Ave. to Mother Gaston Blvd.(Sh 9)
East New York Ave. from St. Marks Ave. to Mother Gaston Blvd(Sh 10)
Western Int. East New York Ave. and Mother Gaston Blvd. (Sheet 10)
Western Int. East New York Ave. and Mother Gaston Blvd. (Sheet 10)
Western Int. East New York Ave. and Mother Gaston Blvd. (Sheet 10)

**CON EDISON SCOPE OF WORK
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TRUNK WATER MAIN IN EAST NEW YORK**

PROJECT ID: BED776

East New York Ave. from West Int. to East Int. Mother Gaston(Sh 10)
East New York Ave. from West Int. to East Int. Mother Gaston(Sh 10)
East New York Ave. from West Int. to East Int. Mother Gaston(Sh 10)
East Int. of East New York Ave. and Mother Gaston Blvd. (Sheet 10)
East Int. of East New York Ave. and Mother Gaston Blvd. (Sheet 10)
East Int. of East New York Ave. and Mother Gaston Blvd. (Sheet 10)
Intersection East New York Ave. and Bergen St. (Sheet 10)
Intersection East New York Ave. and Bergen St. (Sheet 10)
Intersection East New York Ave. and Bergen St. (Sheet 10)
Intersection East New York Ave. and Bergen St. (Sheet 10)
Intersection East New York Ave. and Bergen St. (Sheet 10)
Intersection East New York Ave. and Bergen St. (Sheet 10)
East New York Ave. from Bergen St. to Christopher Ave. (Sheet 10)
Intersection East New York Ave. and Christopher Ave. (Sheet 10)
Intersection East New York Ave. and Christopher Ave. (Sheet 10)
Intersection East New York Ave. and Christopher Ave. (Sheet 10)
East New York Ave. from Christopher Ave. to Sackman St. (Sheet 10)
East New York Ave. from Christopher Ave. to Sackman St. (Sheet 10)
East New York Ave. from Christopher Ave. to Sackman St. (Sheet 10)
East New York Ave. from Christopher Ave. to Sackman St. (Sheet 10)
Int. East New York Ave., Sackman St. and Dean St. (Sheet 10)
Int. East New York Ave., Sackman St. and Dean St. (Sheet 10)
Int. East New York Ave., Sackman St. and Dean St. (Sheet 10)
Int. East New York Ave., Junius St., and Pacific St. (Sheet 11)
East New York Ave. from Junius St. to Van Sinderen Ave. (Sheet 11a)
East New York Ave. from Van Sinderen Ave. to Atlantic Ave. (Sh 11a)
Intersection Atlantic Ave. and Snediker Ave. (Sheet 11a)
Intersection Atlantic Ave. and Williams Pl. (Sheet 11a)
Intersection Atlantic Ave. and Williams Pl. (Sheet 11a)
Intersection Atlantic Ave. and Williams Pl. (Sheet 11a)
Southern Intersection Atlantic Ave. and Williams Ave. (Sheet 12)
Southern Intersection Atlantic Ave. and Williams Ave. (Sheet 12)
S/ S Atlantic Ave. from Williams Ave. to Alabama Ave. (Sheet 12)
N/S Atlantic Ave. from Williams Ave. to Alabama Ave. (Sheet 12)
N/S Atlantic Ave. from Williams Ave. to Alabama Ave. (Sheet 12)
N/S Atlantic Ave. from Williams Ave. to Alabama Ave. (Sheet 13)
Northern Intersection Atlantic Ave. and Alabama Ave. (Sheet 13)
Northern Intersection Atlantic Ave. and Alabama Ave. (Sheet 13)
S/S Atlantic Ave. Between Georgia Ave. and Alabama Ave. (Sheet 13)
S/S Atlantic Ave. Between Alabama Ave. and Georgia Ave. (Sheet 13)

CON EDISON SCOPE OF WORK
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PROJECT ID: BED776

N/S East New York Ave. from Atlantic Ave. to Williams Ave. (Sh 14)
N/S East New York Ave. from Atlantic Ave. to Williams Ave. (Sh 14)
Northern Intersection Atlantic Ave. and Williams Ave. (Sheet 14)
Intersection East New York Ave. and Broadway (Sheet 14)
Jamaica Ave. from Broadway to Fanchon Pl. (Sheet 14)
Jamaica Ave. from Broadway to Fanchon Pl. (Sheet 14)
S/S East New York Ave. from Williams Ave. to Atlantic Ave. (Sh 14)
Southern Int. East New York Ave. and Williams Ave. (Sheet 14)
Fulton St. from Alabama Ave. to Georgia Ave. (Sheet 14)
Fulton St. Between Alabama Ave. and Georgia Ave. (Sheet 14)
Intersection Fulton St. and Georgia Ave. (Sheet 14)
Intersection Fulton St. and Georgia Ave. (Sheet 14)
Intersection Fulton St. and Georgia Ave. (Sheet 14)
Southern Intersection Jamaica Ave. and Georgia Ave. (Sheet 14)
Int. Jamaica Ave., Pennsylvania Ave., and Bushwick Ave. (Sheet 15)
Int. Jamaica Ave., Pennsylvania Ave., and Bushwick Ave. (Sheet 15)
Int. Jamaica Ave., Pennsylvania Ave., and Bushwick Ave. (Sheet 15)
Int. Jamaica Ave., New Jersey Ave., and Marginal Ave. East (Sh 15)

AS ENCOUNTERED AND DIRECTED BY A CON EDISON REPRESENTATIVE

Total Quantity for CET 501 = 519

CET 603E.1 INSTALL UTILITY CONDUITS PLACED IN FINAL POSITION WITHOUT CONCRETE ENCASEMENT LF

At the following locations:

Various Locations

Total Quantity for CET 603E.1 = 2,000

CON EDISON SCOPE OF WORK
SUPPORT AND PROTECTION
BED776
TRUNK WATER MAIN IN EAST NEW YORK

PROJECT ID: BED776

CET 636 ED RD ADJUSTMENT OF UTILITY HARDWARE IN ROADWAY (30" TO UNDER 34" WIDTH)

EA

At the following locations:

East New York Ave. Between Legion St. and Saratoga Ave. (Sheet 6)
Intersection East New York Ave. and St. Johns Pl. (Sheet 7)
East New York Ave. Between Strauss St. and Herzl St. (Sheet 7)
Intersection East New York Ave. and Herzl St. (Sheet 7)
Intersection East New York Ave. and Amboy St. (Sheet 7)
Intersection East New York Ave. and Thomas Boyland St. (Sheet 8)
East New York Ave. from Thomas Boyland St. to Bristol St. (Sheet 8)
East New York Ave. from Rockaway Ave. to St. Marks Ave. (Sheet 9)
Bergen St. from East New York Ave. to Mother Gaston Blvd. (Sh 10)
East Int. of East New York Ave. and Mother Gaston Blvd. (Sheet 10)
Intersection East New York Ave. and Christopher Ave. (Sheet 10)
East New York Ave. Between Sackman St. and Powell St. (Sheet 11)
East New York Ave. Between Powell St. and Junius St. (Sheet 11)
Northern Intersection Atlantic Ave. and Williams Ave. (Sheet 14)

AS ENCOUNTERED AND DIRECTED BY A CON EDISON REPRESENTATIVE

Total Quantity for CET-636 ED R = 21

**CON EDISON SCOPE OF WORK
SUPPORT AND PROTECTION
BED776
TRUNK WATER MAIN IN EAST NEW YORK**

PROJECT ID: BED776

CET 636 EE RD ADJUSTMENT OF UTILITY HARDWARE IN ROADWAY (34" TO UNDER 41" WIDTH)

EA

At the following locations:

Intersection East New York Ave. and Howard Ave. (Sheet 6)
Int. East New York Ave., Pitkin Ave. and Grafton St. (Sheet 6)
Intersection East New York Ave. and Legion St. (Sheet 6)
Intersection East New York Ave. and Amboy St. (Sheet 7)
Intersection East New York Ave. and Bristol St. (Sheet 8)
Intersection East New York Ave. and Chester St. (Sheet 8)
Int. East New York Ave., Rockaway Ave., and Prospect Pl. (Sheet 9)
East New York Ave. from Rockaway Ave. to St. Marks Ave. (Sheet 9)
Western Int. East New York Ave. and Mother Gaston Blvd. (Sheet 10)
East New York Ave. from West Int. to East Int. Mother Gaston (Sh 10)
Intersection East New York Ave. and Powell St. (Sheet 11)
Int. East New York Ave., Junius St., and Pacific St. (Sheet 11)
Intersection East New York Ave. and Broadway (Sheet 14)
Intersection Jamaica Ave. and Fanchon Pl. (Sheet 14)
N/S Jamaica Ave. Between Bushwick Ave. and Fanchon Pl. (Sheet 15)
S/S Jamaica Ave. from Sheffield Ave. to Pennsylvania Ave. (Sh 15)
S/S Jamaica Ave. from Pennsylvania Ave. to New Jersey Ave. (Sh 15)
Western Intersection New York Ave. and Saratoga Ave. (Sheet 7)
Chester St. Between East New York Ave. and Pitkin Ave. (Sheet 8)
AS ENCOUNTERED AND DIRECTED BY A CON EDISON REPRESENTATIVE
Total Quantity for CET 636 EE R = 19

CET 636 EE SW ADJUSTMENT OF UTILITY HARDWARE IN SIDEWALK (34" TO UNDER 41" WIDTH)

EA

At the following locations:

Atlantic Ave. from Sheffield Ave. and Pennsylvania Ave. (Sheet 13)
AS ENCOUNTERED AND DIRECTED BY A CON EDISON REPRESENTATIVE
Total Quantity for CET 636 EE S = 1

CET 636 EG RD ADJUSTMENT OF UTILITY HARDWARE IN ROADWAY (41" TO UNDER 75" WIDTH)

EA

At the following locations:

Intersection East New York Ave. and Thomas Boyland St. (Sheet 8)
Int. East New York Ave., Sackman St. and Dean St. (Sheet 10)
Intersection Fulton St. and Georgia Ave. (Sheet 14)
AS ENCOUNTERED AND DIRECTED BY A CON EDISON REPRESENTATIVE
Total Quantity for CET 636 EG R = 3

CON EDISON SCOPE OF WORK
SUPPORT AND PROTECTION
BED776
TRUNK WATER MAIN IN EAST NEW YORK

PROJECT ID: BED776

CET 636 EI RD ADJUSTMENT OF UTILITY HARDWARE IN ROADWAY (125" TO UNDER 170" WIDTH) EA

At the following locations:

Int. East New York Ave., Junius St., and Pacific St. (Sheet 11)

AS ENCOUNTERED AND DIRECTED BY A CON EDISON REPRESENTATIVE

Total Quantity for CET 636 EI R = 1

CET 636 ME MOD. OF WORK METHODS TO ACCOMM. UTILITY STREET HARDWARE DURING PAVE MILL. & RESURF. OPS. (34" TO UNDER 41" WIDTH) EA

At the following locations:

Intersection Atlantic Ave. and Georgia Ave. (Sheet 13)

Atlantic Ave. Between Georgia Ave. and Sheffield Ave. (Sheet 13)

Intersection Atlantic Ave. and Sheffield Ave. (Sheet 13)

Atlantic Ave. from Sheffield Ave. and Pennsylvania Ave. (Sheet 13)

AS ENCOUNTERED AND DIRECTED BY A CON EDISON REPRESENTATIVE

Total Quantity for CET 636 ME = 7

CET 636 MG MOD. OF WORK METHODS TO ACCOMM. UTILITY STREET HARDWARE DURING PAVE MILL. & RESURF. OPS. (41" TO UNDER 75" WIDTH) EA

At the following locations:

Intersection Atlantic Ave. and Georgia Ave. (Sheet 13)

AS ENCOUNTERED AND DIRECTED BY A CON EDISON REPRESENTATIVE

Total Quantity for CET 636 MG = 1

CET 638N INSTALLATION OF FIELD CONSTRUCTED UTILITY STRUCTURE CY

At the following locations:

Western Intersection East New York Ave. and Saratoga Ave. (Sheet 7)

Intersection Saratoga Ave. and St. Johns Pl. (Sheet 7)

East New York Ave. from Junius St. to Van Sinderen Ave. (Sheet 11a)

S/S Atlantic Ave. from Hinsdale St. to Williams Ave. (Sheet 12)

Northern Intersection Atlantic Ave. and Williams Ave. (Sheet 12)

Various Locations

Intersection Atlantic Ave. and Sheffield Ave. (Sheet 13)

AS ENCOUNTERED AND DIRECTED BY A CON EDISON REPRESENTATIVE

Total Quantity for CET 638N = 53

CON EDISON SCOPE OF WORK
SUPPORT AND PROTECTION
BED776
TRUNK WATER MAIN IN EAST NEW YORK

PROJECT ID: BED776

CET 638R

BREAK OUT AND REMOVE UTILITY STRUCTURE

CY

At the following locations:

Western Intersection East New York Ave. and Saratoga Ave. (Sheet 7)

Intersection Saratoga Ave. and St. Johns Pl. (Sheet 7)

East New York Ave. from Junius St. to Van Sinderen Ave. (Sheet 11a)

S/S Atlantic Ave. from Hinsdale St. to Williams Ave. (Sheet 12)

Northern Intersection Atlantic Ave. and Williams Ave. (Sheet 12)

Intersection Atlantic Ave. and Sheffield Ave. (Sheet 13)

AS ENCOUNTERED AND DIRECTED BY A CON EDISON REPRESENTATIVE

Total Quantity for CET 638R = 46

CON EDISON SCOPE OF WORK
SUPPORT AND PROTECTION
BED776
TRUNK WATER MAIN IN EAST NEW YORK

PROJECT ID: BED776

CET 710.1

REMOVAL OF ABANDONED UTILITY STEEL/CAST IRON/PLASTIC, UP TO AND INCL. 12"
DIAMETER PIPES

LF

At the following locations:

Intersection East New York Ave. and Howard Ave. (Sheet 6)
Int. East New York Ave., Pitkin Ave. and Grafton St. (Sheet 6)
East New York Ave. Between Grafton St. and Legion St. (Sheet 6)
East New York Ave. Between Legion St. and Saratoga Ave. (Sheet 6)
East New York Ave. Between Legion St. and Saratoga Ave. (Sheet 7)
Saratoga Ave. Between East New York Ave. and Pitkin Ave. (Sheet 7)
Intersection East New York Ave. and St. Johns Pl. (Sheet 7)
Intersection East New York Ave. and Herzl St. (Sheet 7)
East New York Ave. Between Herzl St. and Amboy St. (Sheet 7)
Intersection East New York Ave. and Amboy St. (Sheet 7)
East New York Ave. from Amboy St. to Thomas Boyland St. (Sheet 8)
East New York Ave. from Thomas Boyland St. to Bristol St. (Sheet 8)
Intersection East New York Ave. and Bristol St. (Sheet 8)
East New York Ave. Between Bristol St. and Chester St. (Sheet 8)
Intersection East New York Ave. and Chester St. (Sheet 8)
East New York Ave. Between Bristol St. and Chester St. (Sheet 8)
East New York Ave. Between Chester St. and Rockaway Ave. (Sheet 8)
East New York Ave. from Rockaway Ave. to St. Marks Ave. (Sheet 9)
St. Marks Ave. from East New York Ave. to Eastern Pkwy. (Sheet 9)
Intersection East New York Ave. and St. Marks Ave. (Sheet 9)
Western Int. East New York Ave. and Mother Gaston Blvd. (Sheet 10)
Intersection East New York Ave. and Bergen St. (Sheet 10)
Intersection East New York Ave. and Christopher Ave. (Sheet 10)
East New York Ave. from Christopher Ave. to Sackman St. (Sheet 10)
East New York Ave. from Christopher Ave. to Sackman St. (Sheet 10)
Int. East New York Ave., Sackman St. and Dean St. (Sheet 10)
Int. East New York Ave., Junius St., and Pacific St. (Sheet 11)
Atlantic Ave. from East New York Ave. to Snediker Ave. (Sheet 11a)
Northern Intersection Atlantic Ave. and Williams Ave. (Sheet 14)
N/S East New York Ave. Between Fulton St. and Broadway (Sheet 14)
Intersection East New York Ave. and Broadway (Sheet 14)
Jamaica Ave. from Broadway to Fanchon Pl. (Sheet 14)
Fulton St. Between Alabama Ave. and Georgia Ave. (Sheet 14)
Intersection Fulton St. and Georgia Ave. (Sheet 14)
Southern Intersection Jamaica Ave. and Georgia Ave. (Sheet 14)
S/S East New York Ave. from Atlantic Ave. to Williams Ave. (Sh 11a)

CON EDISON SCOPE OF WORK
SUPPORT AND PROTECTION
BED776
TRUNK WATER MAIN IN EAST NEW YORK

PROJECT ID: BED776

AS ENCOUNTERED AND DIRECTED BY A CON EDISON REPRESENTATIVE

Total Quantity for CET 710.1 = 2,046

CET 802A

SPECIAL MODIFICATION OF WORK FOR INSTALLATION OF NEW SIDEWALKS

SF

At the following locations:

Intersection East New York Ave. and Howard Ave. (Sheet 6)

Int. East New York Ave., Pitkin Ave. and Grafton St. (Sheet 6)

Intersection Atlantic Ave. and Georgia Ave. (Sheet 13)

Atlantic Ave. Between Georgia Ave. and Sheffield Ave. (Sheet 13)

Intersection Atlantic Ave. and Sheffield Ave. (Sheet 13)

Atlantic Ave. from Sheffield Ave. and Pennsylvania Ave. (Sheet 13)

Intersection of Atlantic Ave. and Pennsylvania Ave. (Sheet 13)

AS ENCOUNTERED AND DIRECTED BY A CON EDISON REPRESENTATIVE

Total Quantity for CET 802A = 2,553

CET 802B

SPECIAL MODIFICATION OF WORK FOR INSTALLATION OF NEW CURBS

LF

At the following locations:

Intersection East New York Ave. and Howard Ave. (Sheet 6)

Int. East New York Ave., Pitkin Ave. and Grafton St. (Sheet 6)

Intersection Atlantic Ave. and Georgia Ave. (Sheet 13)

Atlantic Ave. Between Georgia Ave. and Sheffield Ave. (Sheet 13)

Intersection Atlantic Ave. and Sheffield Ave. (Sheet 13)

Atlantic Ave. from Sheffield Ave. and Pennsylvania Ave. (Sheet 13)

Intersection of Atlantic Ave. and Pennsylvania Ave. (Sheet 13)

AS ENCOUNTERED AND DIRECTED BY A CON EDISON REPRESENTATIVE

Total Quantity for CET 802B = 210

CON EDISON SCOPE OF WORK
SUPPORT AND PROTECTION
BED776
TRUNK WATER MAIN IN EAST NEW YORK

PROJECT ID: BED776

CET 803.2

LINE CUT BY PNEUMATIC TOOLS IN LIEU OF SAW CUT ASSOCIATED W/ ROADWAY REMOVAL
(ASPHALT & CONCRETE)

LF

At the following locations:

- Intersection East New York Ave. and Bristol St. (Sheet 8)
- Intersection East New York Ave. and Bristol St. (Sheet 8)
- Intersection East New York Ave. and Bristol St. (Sheet 8)
- Park Pl. from East New York Ave. to Thomas Boyland St. (Sheet 8)
- Bergen St. from East New York Ave. to Mother Gaston Blvd. (Sh 10)
- Bergen St. from East New York Ave. to Mother Gaston Blvd. (Sh 10)
- East Int. of East New York Ave. and Mother Gaston Blvd. (Sheet 10)
- East Int. of East New York Ave. and Mother Gaston Blvd. (Sheet 10)
- N/S East New York Ave. Between Fulton St. and Broadway (Sheet 14)
- N/S East New York Ave. Between Fulton St. and Broadway (Sheet 14)
- Fulton St. Between Alabama Ave. and Georgia Ave. (Sheet 14)
- Intersection Fulton St. and Georgia Ave. (Sheet 14)
- Intersection Atlantic Ave. and Georgia Ave. (Sheet 13)

AS ENCOUNTERED AND DIRECTED BY A CON EDISON REPRESENTATIVE

Total Quantity for CET 803.2 = 345

UTILITY INTERFERENCES (UI) SECTION WORKSHEET
BED776 - 48" WATER MAIN AND 20", 12", 8" DISTRIBUTION WATER MAIN REPLACEMENT
IN EAST NEW YORK AVE. / JAMAICA AVE. BTW. TAPSCOTT AVE TO VERMONT ST.
IN ATLANTIC AVE. BETWEEN VAN SINDEREN AVE. AND GEORGIA AVE.

FOR INFORMATION ONLY

ENGINEER'S ESTIMATE OF QUANTITY AND TYPES OF INTERFERENCE

FOR VERIZON

BOROUGH OF BROOKLYN

CET ITEM NUMBER	DESCRIPTION	Unit of Measure	Estimated Quantity
CET 100.1	UTILITIES CROSSING TRENCH FOR CATCH BASIN CHUTE CONNECT. AND/OR TEST PIT (TYPE .1)	EA.	4
CET 100.2	UTILITIES CROSSING TRENCH FOR CATCH BASIN CHUTE CONNECT. AND/OR TEST PIT (TYPE .2)	EA.	4
CET 100.3	UTILITIES CROSSING TRENCH FOR CATCH BASIN CHUTE CONNECT. AND/OR TEST PIT (TYPE .3)	EA.	4
CET 100.4	UTILITIES CROSSING TRENCH FOR CATCH BASIN CHUTE CONNECT. AND/OR TEST PIT (TYPE .4)	EA.	3
CET 101.1	UTILITIES CROSSING TRENCH FOR SEWERS OVER 12" TO 24" DIAMETER (TYPE .1)	EA.	4
CET 101.2	UTILITIES CROSSING TRENCH FOR SEWERS OVER 12" TO 24" DIAMETER (TYPE .2)	EA.	6
CET 101.3	UTILITIES CROSSING TRENCH FOR SEWERS OVER 12" TO 24" DIAMETER (TYPE .3)	EA.	2
CET 101.4	UTILITIES CROSSING TRENCH FOR SEWERS OVER 12" TO 24" DIAMETER (TYPE .4)	EA.	3
CET 108.1	UTILITIES CROSSING TRENCH FOR WATERMAIN UP TO AND INCL. 12" DIAMETER (TYPE .1)	EA.	20
CET 108.2	UTILITIES CROSSING TRENCH FOR WATERMAIN UP TO AND INCL. 12" DIAMETER (TYPE .2)	EA.	7
CET 108.3	UTILITIES CROSSING TRENCH FOR WATERMAIN UP TO AND INCL. 12" DIAMETER (TYPE .3)	EA.	15
CET 108.4	UTILITIES CROSSING TRENCH FOR WATERMAIN UP TO AND INCL. 12" DIAMETER (TYPE .4)	EA.	3
CET 109.1	UTILITIES CROSSING TRENCH FOR WATERMAIN OVER 12" AND UP TO 24" DIAMETER (TYPE .1)	EA.	39
CET 109.2	UTILITIES CROSSING TRENCH FOR WATERMAIN OVER 12" AND UP TO 24" DIAMETER (TYPE .2)	EA.	5
CET 109.3	UTILITIES CROSSING TRENCH FOR WATERMAIN OVER 12" AND UP TO 24" DIAMETER (TYPE .3)	EA.	8
CET 109.4	UTILITIES CROSSING TRENCH FOR WATERMAIN OVER 12" AND UP TO 24" DIAMETER (TYPE .4)	EA.	3
CET 111.1	UTILITIES CROSSING TRENCH FOR WATERMAIN OVER 36" AND UP TO 48" DIAMETER (TYPE .1)	EA.	20
CET 111.2	UTILITIES CROSSING TRENCH FOR WATERMAIN OVER 36" AND UP TO 48" DIAMETER (TYPE .2)	EA.	2
CET 111.3	UTILITIES CROSSING TRENCH FOR WATERMAIN OVER 36" AND UP TO 48" DIAMETER (TYPE .3)	EA.	3
CET 111.4	UTILITIES CROSSING TRENCH FOR WATERMAIN OVER 36" AND UP TO 48" DIAMETER (TYPE .4)	EA.	3
CET 200.1	EXTRA DEPTH EXCAVATION OF CATCH BASIN CHUTE CONNECTION PIPES	L.F.	100

UTILITY INTERFERENCES (UI) SECTION WORKSHEET
BED776 - 48" WATER MAIN AND 20", 12", 8" DISTRIBUTION WATER MAIN REPLACEMENT
IN EAST NEW YORK AVE. / JAMAICA AVE. BTW. TAPSCOTT AVE TO VERMONT ST.
IN ATLANTIC AVE. BETWEEN VAN SINDEREN AVE. AND GEORGIA AVE.

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ENGINEER'S ESTIMATE OF QUANTITY AND TYPES OF INTERFERENCE

FOR VERIZON

BOROUGH OF BROOKLYN

CET ITEM NUMBER	DESCRIPTION	Unit of Measure	Estimated Quantity
CET 225.1A	REMOVAL AND INSTALLATION OF CATCH BASINS WITH UTILITY INTERFERENCES	EA.	11
CET 300	SPECIAL CARE EXCAVATION & BACKFILLING	C.Y.	53
CET 304A	FURNISH, DELIVER & INSTALL CONCRETE ROAD BASE	C.Y.	272
CET 304B	FURNISH, DELIVER & INSTALL CONCRETE SIDEWALK	C.Y.	6
CET 304C	BREAK, REMOVE, AND DISPOSE CONCRETE SIDEWALK	C.Y.	6
CET 305	FURNISH & INSTALL ASPHALT PAVING MIXTURE	TONS	236
CET 330T	SUPPORT & PROTECTION OF COMMUNICATION UTILITY FACILITIES DURING EXCAVATION OF CITY TRENCH WHEN FACILITIES LIE IN OR CLOSE PROXIMITY TO TRENCH LIMITS	L.F.	900
CET 400	TEST PITS	C.Y.	100
CET 401	TRENCH EXCAVATION FOR ADJUSTMENT OF UTILITIES	C.Y.	4423
CET 402T.2A	EXISTING OCCUPIED NON-CONCRETE ENCASED CONDUITS PLACED IN FINAL POSITION WITH CONCRETE ENCASEMENT	L.F.	40955
CET 402T.V2A	EXISTING VACANT NON-CONCRETE ENCASED TELECOMMUNICATION CONDUITS PLACED IN FINAL POSITION WITH CONCRETE ENCASEMENT.	L.F.	13752
CET 403	PLACING STEEL PROTECTION PLATES FOR UTILITIES	S.F.	1000
CET 500	REMOVAL OF ABANDONED UTILITY CONDUITS (NON-CONCRETE ENCASED)	L.F.	1629
CET 636 EE RD	ADJUSTMENT OF UTILITY HARWARE IN ROADWAY (34" TO UNDER 41" WIDTH)	EA.	14
CET 636 ME	MOD. OF METHODS TO ACCOMM. UTILITY STREET HRDW. DURING PAVE. MILL. AND RESURF. OPS (34" TO UNDER 41" WIDTH)	EA.	14
CET 638 N	INSTALLATION OF FIELD CONSTRUCTED UTILITY STRUCTURE	C.Y.	55
CET 638 R	BREAK OUT AND REMOVE UTILITY STRUCTURE CONTAINING ACTIVE FACILITIES	C.Y.	55
CET 700	SPECIAL MODIFICATION OF WORK METHODS TO ACCOMMODATE/PROTECT UNDERGROUND FACILITIES WITH LIMITED COVER	C.Y.	50
CET 711	USE SHEETING LINE AS FORM	L.F.	75
CET 798	MODIFICATION OF NON CONCRETE YOKE TROLLEY STRUCTURES REMOVAL WHEN CROSSING UTILITY FACILITIES	L.F.	200

UTILITY INTERFERENCES (UI) SECTION WORKSHEET
BED776 - 48" WATER MAIN AND 20", 12", 8" DISTRIBUTION WATER MAIN REPLACEMENT
IN EAST NEW YORK AVE. / JAMAICA AVE. BTW. TAPSCOTT AVE TO VERMONT ST.
IN ATLANTIC AVE. BETWEEN VAN SINDEREN AVE. AND GEORGIA AVE.

FOR INFORMATION ONLY

ENGINEER'S ESTIMATE OF QUANTITY AND TYPES OF INTERFERENCE

FOR VERIZON

BOROUGH OF BROOKLYN

CET ITEM NUMBER	DESCRIPTION	Unit of Measure	Estimated Quantity
CET 799	MODIFICATION OF NON CONCRETE TROLLEY STRUCTURES REMOVAL PARALLEL TO UTILITY FACILITIES	L.F.	200
CET 800	MODIFICATION OF CONCRETE YOKE TROLLEY STRUCTURE REMOVAL WHEN CROSSING UTILITY FACILITIES	L.F.	200
CET 801	MODIFICATION OF CONCRETE YOKE TROLLEY STRUCTURE REMOVAL PARALLEL TO UTILITY FACILITIES	L.F.	200
CET 802A	SPECIAL CARE EXCAVATION AND RESTORATION FOR SIDEWALK	L.F.	300
CET 802B	SPECIAL CARE EXCAVATION AND RESTORATION FOR CURB WORK	S.F.	50
CET 803.1	LINE CUT BY PNEUMATIC TOOLS IN LIEU OF SAW CUT ASSOCIATED WITH ROADWAY REMOVAL OPERATIONS	L.F.	200

VERIZON CET SCOPE OF WORK

SUPPORT & PROTECTION

BED776 - 48" WATER MAIN AND 20", 12", 8" DISTRIBUTION WATER MAIN REPLACEMENT

IN EAST NEW YORK AVE. / JAMAICA AVE. BTW. TAPSCOTT AVE TO VERMONT ST.

IN ATLANTIC AVE. BETWEEN VAN SINDEREN AVE. AND GEORGIA AVE.

BOROUGH OF BROOKLYN

CET 100.1	<p>UTILITIES CROSSING TRENCH FOR CATCH BASIN CHUTE CONNECT. AND/OR TEST PIT (TYPE 1)</p> <p>EA.</p> <p>At the following locations:</p> <p>S/S OF EAST NEW YORK AVENUE, E/O STRAUSS STREET 1</p> <p>N/S OF EAST NEW YORK AVENUE, W/O PARK PLACE 1</p> <p>S/S OF PARK PLACE, W/O EAST NEW YORK AVENUE 1</p> <p>S/S OF PROSPECT PLACE, W/O EAST NEW YORK AVENUE 1</p> <p>Total quantity for CET 100.1 - 4</p>
CET 100.2	<p>UTILITIES CROSSING TRENCH FOR CATCH BASIN CHUTE CONNECT. AND/OR TEST PIT (TYPE 2)</p> <p>EA.</p> <p>At the following locations:</p> <p>W/S OF SARATOGA AVENUE, N/O ST JOHNS PLACE 1</p> <p>W/S OF SARATOGA AVENUE FROM EAST NEW YORK AVENUE TO ST JOHNS PLACE 1</p> <p>N/S OF EAST NEW YORK AVENUE, W/O ST MARKS AVENUE 1</p> <p>INT. OF EAST NEW YORK AVENUE AND PACIFIC STREET 1</p> <p>Total quantity for CET 100.2 - 4</p>
CET 100.3	<p>UTILITIES CROSSING TRENCH FOR CATCH BASIN CHUTE CONNECT. AND/OR TEST PIT (TYPE 3)</p> <p>EA.</p> <p>At the following locations:</p> <p>N/S OF EAST NEW YORK AVENUE, E/O MOTHER GASTON BOULEVARD 1</p> <p>W/S OF SACKMAN STREET, N/O DEAN STREET 1</p> <p>W/S OF SHEFFIELD AVENUE, S/O JAMAICA AVENUE 1</p> <p>S/S OF JAMAICA AVENUE, E/O PENNSYLVANIA AVENUE 1</p> <p>Total quantity for CET 100.3 - 4</p>
CET 100.4	<p>UTILITIES CROSSING TRENCH FOR CATCH BASIN CHUTE CONNECT. AND/OR TEST PIT (TYPE 4)</p> <p>EA.</p> <p>At the following locations:</p> <p>AS ENCOUNTERED OR DIRECTED BY A VERIZON FIELD REPRESENTATIVE 3</p> <p>Total quantity for CET 100.4 - 3</p>
CET 101.1	<p>UTILITIES CROSSING TRENCH FOR SEWERS OVER 12" TO 24" DIAMETER (TYPE 1)</p> <p>EA.</p> <p>At the following locations:</p> <p>INT. OF EAST NEW YORK AVENUE AND PARK PLACE 2</p> <p>INT. OF ATLANTIC AVENUE AND GEORGIA AVENUE 1</p> <p>INT. OF JAMAICA AVENUE AND PENNSYLVANIA AVENUE 1</p> <p>Total quantity for CET 101.1 - 4</p>

VERIZON CET SCOPE OF WORK
SUPPORT & PROTECTION
BED776 - 48" WATER MAIN AND 20", 12", 8" DISTRIBUTION WATER MAIN REPLACEMENT
IN EAST NEW YORK AVE. / JAMAICA AVE. BTW. TAPSCOTT AVE TO VERMONT ST.
IN ATLANTIC AVE. BETWEEN VAN SINDEREN AVE. AND GEORGIA AVE.
BOROUGH OF BROOKLYN

CET 101.2	UTILITIES CROSSING TRENCH FOR SEWERS OVER 12" TO 24" DIAMETER (TYPE 2)	EA.
	At the following locations:	
	INT. OF SARATOGA AVENUE AND EAST NEW YORK AVENUE	1
	W/S OF SARATOGA AVENUE FROM EAST NEW YORK AVENUE TO ST JOHNS PLACE	1
	S/S OF BERGEN STREET, W/O EAST NEW YORK AVENUE	2
	INT. OF EAST NEW YORK AVENUE AND PACIFIC STREET	1
	INT. OF GEORGIA AVENUE AND FULTON STREET	1
	Total quantity for CET 101.2 = 6	
CET 101.3	UTILITIES CROSSING TRENCH FOR SEWERS OVER 12" TO 24" DIAMETER (TYPE 3)	EA.
	At the following locations:	
	INT. OF ST MARKS AVENUE AND EAST NEW YORK AVENUE	1
	N/S OF EAST NEW YORK AVENUE FROM MOTHER GASTON BLVD TO BERGEN STREET	1
	Total quantity for CET 101.3 = 2	
CET 101.4	UTILITIES CROSSING TRENCH FOR SEWERS OVER 12" TO 24" DIAMETER (TYPE 4)	EA.
	At the following locations:	
	AS ENCOUNTERED OR DIRECTED BY A VERIZON FIELD REPRESENTATIVE	3
	Total quantity for CET 101.4 = 3	
CET 108.1	UTILITIES CROSSING TRENCH FOR WATERMAIN UP TO AND INCL. 12" DIAMETER (TYPE J)	EA.
	At the following locations:	
	S/S OF EAST NEW YORK AVENUE, E/O LEGION STREET	1
	S/S OF EAST NEW YORK AVENUE, W/O SARATOGA AVENUE	1
	INT. OF SARATOGA AVENUE AND EAST NEW YORK AVENUE	5
	S/S OF EAST NEW YORK AVENUE, E/O SARATOGA AVENUE	4
	INT. OF STRAUSS STREET AND EAST NEW YORK AVENUE	1
	S/S OF EAST NEW YORK AVENUE, E/O BRISTOL STREET	1
	INT. OF EAST NEW YORK AVENUE AND PARK PLACE	1
	N/S OF EAST NEW YORK AVENUE FROM MOTHER GASTON BLVD TO BERGEN STREET	2
	S/S OF EAST NEW YORK AVENUE, E/O VAN SINDEREN AVENUE	2
	N/S OF ATLANTIC AVENUE, W/O WILLIAMS AVENUE	1
	N/S OF JAMAICA AVENUE, W/O VERMONT STREET	1
	Total quantity for CET 108.1 = 20	
CET 108.2	UTILITIES CROSSING TRENCH FOR WATERMAIN UP TO AND INCL. 12" DIAMETER (TYPE 2)	EA.
	At the following locations:	
	INT. OF SARATOGA AVENUE AND EAST NEW YORK AVENUE	1
	INT. OF SARATOGA AVENUE AND ST JOHNS PLACE	1
	INT. OF EAST NEW YORK AVENUE AND PACIFIC STREET	1
	S/S OF EAST NEW YORK AVENUE, E/O JUNIUS AVENUE	1
	N/S OF ATLANTIC AVENUE FROM ALABAMA AVENUE TO GEORGIA AVENUE	2
	INT. OF GEORGIA AVENUE AND FULTON STREET	1
	Total quantity for CET 108.2 = 7	

VERIZON CET SCOPE OF WORK

SUPPORT & PROTECTION

BED776 - 48" WATER MAIN AND 20", 12", 8" DISTRIBUTION WATER MAIN REPLACEMENT

IN EAST NEW YORK AVE. / JAMAICA AVE. BTW. TAPSCOTT AVE TO VERMONT ST.

IN ATLANTIC AVE. BETWEEN VAN SINDEREN AVE. AND GEORGIA AVE.

BOROUGH OF BROOKLYN

CET 108.3 UTILITIES CROSSING TRENCH FOR WATERMAIN UP TO AND INCL 12" DIAMETER (TYPE .3) EA.

At the following locations:

E/S OF ROCKAWAY AVENUE, N/O EAST NEW YORK AVENUE	1
INT. OF ST MARKS AVENUE AND EAST NEW YORK AVENUE	1
N/S OF EAST NEW YORK AVENUE, E/O ST MARKS AVENUE	1
INT. OF EAST NEW YORK AVENUE AND MOTHER GASTON BOULEVARD	1
INT. OF DEAN STREET AND SACKMAN STREET	1
N/S OF ATLANTIC AVENUE, W/O WILLIAMS AVENUE	2
N/S OF ATLANTIC AVENUE, W/O WILLIAMS PLACE	1
N/S OF ATLANTIC AVENUE FROM ALABAMA AVENUE TO GEORGIA AVENUE.	1
INT. OF ATLANTIC AVENUE AND GEORGIA AVENUE	1
N/S OF ATLANTIC AVENUE FROM GEORGIA AVENUE TO SHEFFIELD AVENUE	1
N/S OF ATLANTIC AVENUE FROM SHEFFIELD AVENUE TO PENNSYLVANIA AVENUE	2
INT OF JAMAICA AVENUE AND PENNSYLVANIA AVENUE	1
S/S OF JAMAICA AVENUE BETWEEN NEW JERSEY AND VERMONT STREET	1

Total quantity for CET 108.3 = 15

CET 108.4 UTILITIES CROSSING TRENCH FOR WATERMAIN UP TO AND INCL 12" DIAMETER (TYPE .4) EA.

At the following locations:

AS ENCOUNTERED OR DIRECTED BY A VERIZON FIELD REPRESENTATIVE	3
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Total quantity for CET 108.4 = 3

CET 109.1 UTILITIES CROSSING TRENCH FOR WATERMAIN OVER 12" AND UP TO 24" DIAMETER (TYPE .1) EA.

At the following locations:

N/S OF EAST NEW YORK AVENUE, E/O LINCOLN PLACE	1
N/S OF EAST NEW YORK AVENUE, W/O SARATOGA AVENUE	3
N/S OF EAST NEW YORK AVENUE, W/O HERLZ STREET	1
N/S OF EAST NEW YORK AVENUE, W/O PARK PLACE	1
S/S OF EAST NEW YORK AVENUE, E/O BRISTOL STREET	1
INT. OF ROCKAWAY AVENUE AND EAST NEW YORK AVENUE	2
INT. OF ST MARKS AVENUE AND EAST NEW YORK AVENUE	3
N/S OF EAST NEW YORK AVENUE, E/O ROCKAWAY AVENUE	1
S/S OF EAST NEW YORK AVENUE, E/O ROCKAWAY AVENUE	1
N/S OF EAST NEW YORK AVENUE BETWEEN MOTHER GASTON BLVD AND BERGEN STREET	2
S/S OF EAST NEW YORK AVENUE, W/O MOTHER GASTON BOULEVARD	1
INT. OF EAST NEW YORK AVENUE AND MOTHER GASTON BOULEVARD	3
INT. OF EAST NEW YORK AVENUE AND BERGEN STREET	1
N/S OF EAST NEW YORK AVENUE, E/O CHRISTOPHER AVENUE	1
S/S OF EAST NEW YORK AVENUE, E/O CHRISTOPHER AVENUE	2
INT. OF SACKMAN STREET AND EAST NEW YORK AVENUE	1
S/S OF EAST NEW YORK AVENUE, W/O JUNIUS STREET	2
INT. OF EAST NEW YORK AVENUE AND JUNIUS STREET	1
S/S OF EAST NEW YORK AVENUE, W/O SNEDEKER AVENUE	1
S/S OF ATLANTIC AVENUE, W/O HINSDALE STREET	3
INT. OF ATLANTIC AVENUE AND HINSDALE STREET	1

VERIZON CET SCOPE OF WORK

SUPPORT & PROTECTION

BED776 - 48" WATER MAIN AND 20", 12", 8" DISTRIBUTION WATER MAIN REPLACEMENT

IN EAST NEW YORK AVE. / JAMAICA AVE. BTW. TAPSCOTT AVE TO VERMONT ST.

IN ATLANTIC AVE. BETWEEN VAN SINDEREN AVE. AND GEORGIA AVE.

BOROUGH OF BROOKLYN

	S/S OF ATLANTIC AVENUE, W/O WILLIAMS AVENUE			1
	S/S OF ATLANTIC AVENUE, E/O WILLIAMS AVENUE			1
	E/S WILLIAMS AVENUE, N/O OF ATLANTIC AVENUE			1
	INT. OF ATLANTIC AVENUE AND GEORGIA AVENUE			1
	S/S OF ATLANTIC AVENUE, W/O PENNSYLVANIA AVENUE			1
	N/S OF JAMAICA AVENUE, W/O FANCHON PLACE			1
	Total quantity for	CET 109.1	-	39
CET 109.2	UTILITIES CROSSING TRENCH FOR WATERMAIN OVER 12" AND UP TO 24" DIAMETER (TYPE .2)			EA.
	At the following locations:			
	W/S OF SARATOGA AVENUE FROM EAST NEW YORK AVENUE TO ST JOHNS PLACE			1
	INT. OF EAST NEW YORK AVENUE AND PARK PLACE			1
	INT. OF EAST NEW YORK AVENUE AND ROCKAWAY AVENUE			1
	INT. OF SACKMAN STREET AND EAST NEW YORK AVENUE			1
	INT. OF JAMAICA AVENUE AND SHEFFIELD AVENUE			1
	Total quantity for	CET 109.2	-	5
CET 109.3	UTILITIES CROSSING TRENCH FOR WATERMAIN OVER 12" AND UP TO 24" DIAMETER (TYPE .3)			EA.
	At the following locations:			
	INT. OF ROCKAWAY AVENUE AND EAST NEW YORK AVENUE			1
	N/S OF EAST NEW YORK AVENUE, E/O ROCKAWAY AVENUE			1
	S/S OF EAST NEW YORK AVENUE, E/O ROCKAWAY AVENUE			1
	INT. OF EAST NEW YORK AVENUE AND ST. MARKS PLACE			1
	N/W/C OF EAST NEW YORK AVENUE AND MOTHER GASTON BOULEVARD			1
	N/W/C OF EAST NEW YORK AVENUE AND BERGEN STREET			2
	N/W/C OF JAMAICA AVENUE AND FULTON STREET			1
	Total quantity for	CET 109.3	-	8
CET 109.4	UTILITIES CROSSING TRENCH FOR WATERMAIN OVER 12" AND UP TO 24" DIAMETER (TYPE .4)			EA.
	At the following locations:			
	AS ENCOUNTERED OR DIRECTED BY A VERIZON FIELD REPRESENTATIVE			3
	Total quantity for	CET 109.4	-	3
CET 111.1	UTILITIES CROSSING TRENCH FOR WATERMAIN OVER 36" AND UP TO 48" DIAMETER (TYPE .1)			EA.
	At the following locations:			
	N/S OF EAST NEW YORK AVENUE, E/O LINCOLN PLACE			1
	S/S OF EAST NEW YORK AVENUE, W/O SARATOGA AVENUE			3
	N/S OF EAST NEW YORK AVENUE, W/O HERTZ STREET			1
	N/S OF EAST NEW YORK AVENUE, W/O PARK PLACE			1
	S/S OF EAST NEW YORK AVENUE, E/O BRISTOL STREET			1
	N/S OF EAST NEW YORK AVENUE, E/O ROCKAWAY AVENUE			1
	INT. OF EAST NEW YORK AVENUE AND ST MARKS PLACE			2
	N/S OF EAST NEW YORK AVENUE BETWEEN MOTHER GASTON BLVD AND BERGEN STREET			2

VERIZON CET SCOPE OF WORK

SUPPORT & PROTECTION

BED776 - 48" WATER MAIN AND 20", 12", 8" DISTRIBUTION WATER MAIN REPLACEMENT

IN EAST NEW YORK AVE. / JAMAICA AVE. BTW. TAPSCOTT AVE TO VERMONT ST.

IN ATLANTIC AVE. BETWEEN VAN SINDEREN AVE. AND GEORGIA AVE.

BOROUGH OF BROOKLYN

	INT. OF EAST NEW YORK AVENUE AND MOTHER GASTON BOULEVARD	1
	INT. OF SACKMAN STREET AND EAST NEW YORK AVENUE	2
	N/S OF EAST NEW YORK AVENUE, E/O CHRISTOPHER AVENUE	2
	N/W/C OF JAMAICA AVENUE AND FULTON STREET	1
	N/S OF JAMAICA AVENUE, W/O FANCHON PLACE	1
	INT. OF JAMAICA AVENUE AND SHEFFIELD AVENUE	1
	Total quantity for	CET 111.1 = 20
CET 111.2	UTILITIES CROSSING TRENCH FOR WATERMAIN OVER 36" AND UP TO 48" DIAMETER (TYPE 2)	EA.
	At the following locations:	
	W/S OF SARATOGA AVENUE FROM EAST NEW YORK AVENUE TO ST JOHNS PLACE	1
	INT. OF JUNIUS STREET AND EAST NEW YORK AVENUE	1
	Total quantity for	CET 111.2 = 2
CET 111.3	UTILITIES CROSSING TRENCH FOR WATERMAIN OVER 36" AND UP TO 48" DIAMETER (TYPE 3)	EA.
	At the following locations:	
	N/S OF EAST NEW YORK AVENUE, E/O ROCKAWAY AVENUE	3
	Total quantity for	CET 111.3 = 3
CET 111.4	UTILITIES CROSSING TRENCH FOR WATERMAIN OVER 36" AND UP TO 48" DIAMETER (TYPE 4)	EA.
	At the following locations:	
	AS ENCOUNTERED OR DIRECTED BY A VERIZON FIELD REPRESENTATIVE	3
	Total quantity for	CET 111.4 = 3
CET 200.1	EXTRA DEPTH EXCAVATION OF CATCH BASIN CHUTE CONNECTION PIPES	L.F.
	At the following locations:	
	AS ENCOUNTERED OR DIRECTED BY A VERIZON FIELD REPRESENTATIVE	100
	Total quantity for	CET 200.1 = 100
CET 225.1A	REMOVAL AND INSTALLATION OF CATCH BASINS WITH UTILITY INTERFERENCES	EA.
	At the following locations:	
	N/S OF EAST NEW YORK AVENUE W/O PARK PLACE	1
	N/S OF EAST NEW YORK AVENUE W/O ST. MARK PLACE	1
	N/S OF EAST NEW YORK AVENUE W/O MOTHER GASTON BOULEVARD	2
	N/S OF EAST NEW YORK AVENUE E/O MOTHER GASTON BOULEVARD	1
	N/S OF EAST NEW YORK AVENUE E/O BERGEN STREET	1
	S/S OF EAST NEW YORK AVENUE W/O VAN SINDEREN AVENUE	1
	W/S OF FANCHON PLACE, N/O JAMAICA AVENUE	1
	N/S OF JAMAICA AVENUE, W/O FANCHON PLACE	1
	S/S OF JAMAICA AVENUE, E/O PENNSYLVANIA AVENUE	1
	S/S OF JAMAICA AVENUE, E/O JERSEY AVENUE	1
	Total quantity for	CET 225.1A = 11

VERIZON CET SCOPE OF WORK

SUPPORT & PROTECTION

BED776 - 48" WATER MAIN AND 20", 12", 8" DISTRIBUTION WATER MAIN REPLACEMENT

IN EAST NEW YORK AVE. / JAMAICA AVE. BTW. TAPSCOTT AVE TO VERMONT ST.

IN ATLANTIC AVE. BETWEEN VAN SINDEREN AVE. AND GEORGIA AVE.

BOROUGH OF BROOKLYN

CET 300	SPECIAL CARE EXCAVATION & BACKFILLING	C.Y.
	At the following locations:	
	E/S OF JUNIUS STREET, S/O EAST NEW YORK AVENUE	3
	N/S OF ATLANTIC AVENUE, W/O WILLIAMS PLACE	2
	N/S OF ATLANTIC AVENUE FROM GEORGIA AVENUE TO SHEFFIELD AVENUE	26
	N/S OF ATLANTIC AVENUE FROM SHEFFIELD AVENUE TO PENNSYLVANIA AVENUE	22
	Total quantity for CET 300 = 53	
CET 304A	FURNISH, DELIVER & INSTALL CONCRETE ROAD BASE	C.Y.
	At the following locations:	
	W/S OF SARATOGA AVENUE FROM EAST NEW YORK AVENUE TO ST JOHNS PLACE	33
	W/S OF SARATOGA AVENUE, N/O ST JOHNS PLACE	6
	E/S OF ROCKAWAY AVENUE, N/O EAST NEW YORK AVENUE	5
	W/S OF SACKMAN STREET, N/O DEAN STREET	3
	N/S OF ATLANTIC AVENUE, E/O EAST NEW YORK AVENUE	6
	N/S OF ATLANTIC AVENUE, W/O WILLIAMS AVENUE	6
	N/S OF ATLANTIC AVENUE FROM WILLIAMS AVENUE TO ALABAMA AVENUE	50
	N/S OF ATLANTIC AVENUE FROM ALABAMA AVENUE TO GEORGIA AVENUE	46
	INT. OF ATLANTIC AVENUE AND GEORGIA AVENUE	6
	N/S OF ATLANTIC AVENUE FROM GEORGIA AVENUE TO SHEFFIELD AVENUE	11
	N/S OF ATLANTIC AVENUE FROM SHEFFIELD AVENUE TO PENNSYLVANIA AVENUE	26
	INT. OF JAMAICA AVENUE AND BROADWAY	4
	INT. OF FULTON STREET AND ALABAMA AVENUE	2
	N/S OF JAMAICA AVENUE, E/O FANCHON PLACE	12
	W/S OF SHEFFIELD AVENUE, S/O JAMAICA AVENUE	6
	S/S OF JAMAICA AVENUE, E/O PENNSYLVANIA AVENUE	14
	S/S OF JAMAICA AVENUE, E/O NEW JERSEY AVENUE	12
	S/S OF JAMAICA AVENUE, W/O NEW JERSEY AVENUE	14
	INT. OF JAMAICA AVENUE AND NEW JERSEY AVENUE	4
	S/S OF JAMAICA AVENUE BETWEEN NEW JERSEY AND VERMONT STREET	6
	Total quantity for CET 304A = 272	
CET 304B	FURNISH, DELIVER & INSTALL CONCRETE SIDEWALK	C.Y.
	At the following locations:	
	N/S OF JAMAICA AVENUE, W/O FANCHON PLACE	6
	Total quantity for CET 304B = 6	
CET 304C	BREAK, REMOVE, AND DISPOSE CONCRETE SIDEWALK	C.Y.
	At the following locations:	
	N/S OF JAMAICA AVENUE, W/O FANCHON PLACE	6
	Total quantity for CET 304C = 6	

VERIZON CET SCOPE OF WORK

SUPPORT & PROTECTION

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IN EAST NEW YORK AVE. / JAMAICA AVE. BTW. JAPSCOTT AVE TO VERMONT ST.

IN ATLANTIC AVE. BETWEEN VAN SINDEREN AVE. AND GEORGIA AVE.

BOROUGH OF BROOKLYN

CET 305 FURNISH & INSTALL ASPHALT PAVING MIXTURE TONS

At the following locations:

W/S OF SARATOGA AVENUE FROM EAST NEW YORK AVENUE TO ST JOHNS PLACE	29
W/S OF SARATOGA AVENUE, N/O ST JOHNS PLACE	5
E/S OF ROCKAWAY AVENUE, N/O EAST NEW YORK AVENUE	4
W/S OF SACKMAN STREET, N/O DEAN STREET	2
N/S OF ATLANTIC AVENUE, E/O EAST NEW YORK AVENUE	5
N/S OF ATLANTIC AVENUE, W/O WILLIAMS AVENUE	5
N/S OF ATLANTIC AVENUE FROM WILLIAMS AVENUE TO ALABAMA AVENUE	44
N/S OF ATLANTIC AVENUE FROM ALABAMA AVENUE TO GEORGIA AVENUE	40
INT. OF ATLANTIC AVENUE AND GEORGIA AVENUE	5
N/S OF ATLANTIC AVENUE FROM GEORGIA AVENUE TO SHEFFIELD AVENUE	10
N/S OF ATLANTIC AVENUE FROM SHEFFIELD AVENUE TO PENNSYLVANIA AVENUE	23
INT. OF FULTON STREET AND ALABAMA AVENUE	1
INT. OF JAMAICA AVENUE AND BROADWAY	4
N/S OF JAMAICA AVENUE, E/O FANCHON PLACE	10
W/S OF SHEFFIELD AVENUE, S/O JAMAICA AVENUE	6
S/S OF JAMAICA AVENUE, E/O PENNSYLVANIA AVENUE	12
S/S OF JAMAICA AVENUE, E/O NEW JERSEY AVENUE	10
S/S OF JAMAICA AVENUE, W/O NEW JERSEY AVENUE	12
INT. OF JAMAICA AVENUE AND NEW JERSEY AVENUE	4
S/S OF JAMAICA AVENUE BETWEEN NEW JERSEY AND VERMONT STREET	5

Total quantity for CET 305 = 236

CET 330T SUPPORT & PROTECTION OF COMMUNICATION UTILITY FACILITIES DURING EXCAVATION OF CITY TRENCH WHEN FACILITIES LIE IN OR CLOSE PROXIMITY TO TRENCH LIMITS L.F.

At the following locations:

N/S OF EAST NEW YORK AVENUE FROM W/O PARK PLACE TO PARK PLACE	170
N/S OF EAST NEW YORK AVENUE FROM ST MARKS AVENUE TO W/O MOTHER GASTON BLVD	240
S/S OF ATLANTIC AVENUE FROM SNEDEKER STREET TO E/O HINSDALE STREET	365
INT. OF ATLANTIC AVENUE AND GEORGIA AVENUE	15
N/S OF JAMAICA AVENUE, W/O FANCHON PLACE	110

Total quantity for CET 330T = 900

CET 400 TEST PITS C.Y.

At the following locations:

AS ENCOUNTERED OR DIRECTED BY A VERIZON FIELD REPRESENTATIVE	100
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Total quantity for CET 400 = 100

CET 401 TRENCH EXCAVATION FOR ADJUSTMENT OF UTILITIES C.Y.

At the following locations:

INT. OF SARATOGA AVENUE AND EAST NEW YORK AVENUE	33
W/S OF SARATOGA AVENUE FROM EAST NEW YORK AVENUE TO ST JOHNS PLACE	200
W/S OF SARATOGA AVENUE, N/O ST JOHNS PLACE	35
N/S OF EAST NEW YORK AVENUE, W/O SARATOGA AVENUE	89
N/S OF EAST NEW YORK AVENUE, E/O PARK PLACE	42
N/S OF EAST NEW YORK AVENUE FROM PARK PLACE TO PROSPECT PLACE	708
E/S OF ROCKAWAY AVENUE, N/O EAST NEW YORK AVENUE	38
N/S OF EAST NEW YORK AVENUE, E/O ROCKAWAY AVENUE	88

VERIZON CET SCOPE OF WORK

SUPPORT & PROTECTION

BED776 - 48" WATER MAIN AND 20", 12", 8" DISTRIBUTION WATER MAIN REPLACEMENT

IN EAST NEW YORK AVE. / JAMAICA AVE. BTW. TAPSCOTT AVE TO VERMONT ST.

IN ATLANTIC AVE. BETWEEN VAN SINDEREN AVE. AND GEORGIA AVE.

BOROUGH OF BROOKLYN

S/S OF EAST NEW YORK AVENUE, E/O ROCKAWAY AVENUE	82
N/S OF EAST NEW YORK AVENUE, W/O ST MARKS AVENUE	52
N/S OF EAST NEW YORK AVENUE FROM ST MARKS AVENUE TO W/O MOTHER GASTON BLVD	752
N/S OF EAST NEW YORK AVENUE FROM BERGEN STREET TO SACKMAN STREET	564
INT. OF SACKMAN STREET AND EAST NEW YORK AVENUE	37
W/S OF SACKMAN STREET, N/O DEAN STREET	17
INT. OF EAST NEW YORK AVENUE AND JUNIUS STREET	61
N/S OF ATLANTIC AVENUE, E/O EAST NEW YORK AVENUE	37
S/S OF EAST NEW YORK AVENUE BETWEEN JUNIUS STREET AND VAN SINDEREN AVENUE	124
N/S OF ATLANTIC AVENUE, W/O WILLIAMS AVENUE	37
N/S OF ATLANTIC AVENUE FROM WILLIAMS AVENUE TO ALABAMA AVENUE	334
N/S OF ATLANTIC AVENUE FROM ALABAMA AVENUE TO GEORGIA AVENUE	246
INT. OF ATLANTIC AVENUE AND GEORGIA AVENUE	37
N/S OF ATLANTIC AVENUE FROM GEORGIA AVENUE TO SHEFFIELD AVENUE	73
N/S OF ATLANTIC AVENUE FROM SHEFFIELD AVENUE TO PENNSYLVANIA AVENUE	175
INT. OF BROADWAY AND JAMAICA AVENUE	33
INT. OF FULTON STREET AND ALABAMA AVENUE	7
N/S OF JAMAICA AVENUE, W/O FANCHON PLACE	47
N/S OF JAMAICA AVENUE, E/O FANCHON PLACE	72
W/S OF SHEFFIELD AVENUE, S/O JAMAICA AVENUE	36
S/S OF JAMAICA AVENUE, E/O PENNSYLVANIA AVENUE	122
S/S OF JAMAICA AVENUE, E/O NEW JERSEY AVENUE	60
S/S OF JAMAICA AVENUE, W/O NEW JERSEY AVENUE	120
INT. OF JAMAICA AVENUE AND NEW JERSEY AVENUE	27
S/S OF JAMAICA AVENUE BETWEEN NEW JERSEY AND VERMONT STREET	38

Total quantity for CET 401 - 4423

CET 402T.2A

EXISTING OCCUPIED NON-CONCRETE ENCASED CONDUITS PLACED IN FINAL POSITION WITH CONCRETE ENCASMENT

L.F.

At the following locations:

INT. OF SARATOGA AVENUE AND EAST NEW YORK AVENUE	300
W/S OF SARATOGA AVENUE FROM EAST NEW YORK AVENUE TO ST JOHNS PLACE	1800
W/S OF SARATOGA AVENUE, N/O ST JOHNS PLACE	600
N/S OF EAST NEW YORK AVENUE, W/O SARATOGA AVENUE	480
N/S OF EAST NEW YORK AVENUE, E/O PARK PLACE	150
N/S OF EAST NEW YORK AVENUE FROM PARK PLACE TO PROSPECT PLACE	4578
E/S OF ROCKAWAY AVENUE, N/O EAST NEW YORK AVENUE	1170
N/S OF EAST NEW YORK AVENUE, E/O ROCKAWAY AVENUE	1690
S/S OF EAST NEW YORK AVENUE, E/O ROCKAWAY AVENUE	1380
N/S OF EAST NEW YORK AVENUE, W/O ST MARKS AVENUE	420
N/S OF EAST NEW YORK AVENUE FROM ST MARKS AVENUE TO W/O MOTHER GASTON BLVD	6960
INT. OF EAST NEW YORK AVENUE AND SACKMAN STREET	500
W/S OF SACKMAN STREET, N/O DEAN STREET	330
N/S OF EAST NEW YORK AVENUE FROM BERGEN STREET TO SACKMAN STREET	3915
INT. OF EAST NEW YORK AVENUE AND JUNIUS STREET	275
S/S OF EAST NEW YORK AVENUE BETWEEN JUNIUS STREET AND VAN SINDEREN AVENUE	1050
N/S OF ATLANTIC AVENUE, E/O EAST NEW YORK AVENUE	560
N/S OF ATLANTIC AVENUE, W/O WILLIAMS AVENUE	560
N/S OF ATLANTIC AVENUE FROM WILLIAMS AVENUE TO ALABAMA AVENUE	2376
INT. OF ATLANTIC AVENUE AND GEORGIA AVENUE	560
N/S OF ATLANTIC AVENUE FROM GEORGIA AVENUE TO SHEFFIELD AVENUE	740
N/S OF ATLANTIC AVENUE FROM SHEFFIELD AVENUE TO PENNSYLVANIA AVENUE	2030
INT. OF BROADWAY AND JAMAICA AVENUE	360
INT. OF FULTON STREET AND ALABAMA AVENUE	323
N/S OF JAMAICA AVENUE, W/O FANCHON PLACE	1140

VERIZON CET SCOPE OF WORK

SUPPORT & PROTECTION

BED776 - 48" WATER MAIN AND 20", 12", 8" DISTRIBUTION WATER MAIN REPLACEMENT

IN EAST NEW YORK AVE. / JAMAICA AVE. BTW. TAPSCOTT AVE TO VERMONT ST.

IN ATLANTIC AVE. BETWEEN VAN SINDEREN AVE. AND GEORGIA AVE.

BOROUGH OF BROOKLYN

N/S OF JAMAICA AVENUE, E/O FANCHON PLACE	850
W/S OF SHEFFIELD AVENUE, S/O JAMAICA AVENUE	420
S/S OF JAMAICA AVENUE, E/O PENNSYLVANIA AVENUE	2775
S/S OF JAMAICA AVENUE, E/O NEW JERSEY AVENUE	938
S/S OF JAMAICA AVENUE, W/O NEW JERSEY AVENUE	962
INT. OF JAMAICA AVENUE AND NEW JERSEY AVENUE	448
S/S OF JAMAICA AVENUE BETWEEN NEW JERSEY AND VERMONT STREET	315

Total quantity for CET 402T.2A = 40955

CET 402T.V2A EXISTING VACANT NON-CONCRETE ENCASED TELECOMMUNICATION CONDUITS PLACED IN FINAL POSITION WITH CONCRETE ENCASEMENT. S.F.

At the following locations:

INT. OF SARATOGA AVENUE AND EAST NEW YORK AVENUE	90
W/S OF SARATOGA AVENUE FROM EAST NEW YORK AVENUE TO ST JOHNS PLACE	360
W/S OF SARATOGA AVENUE, N/O ST JOHNS PLACE	120
N/S OF EAST NEW YORK AVENUE FROM PARK PLACE TO PROSPECT PLACE	546
E/S OF ROCKAWAY AVENUE, N/O EAST NEW YORK AVENUE	270
N/S OF EAST NEW YORK AVENUE, E/O ROCKAWAY AVENUE	455
S/S OF EAST NEW YORK AVENUE, E/O ROCKAWAY AVENUE	300
N/S OF EAST NEW YORK AVENUE, W/O ST MARKS AVENUE	70
N/S OF EAST NEW YORK AVENUE FROM ST MARKS AVENUE TO W/O MOTHER GASTON BLVD	4060
INT. OF EAST NEW YORK AVENUE AND SACKMAN STREET	350
W/S OF SACKMAN STREET, N/O DEAN STREET	210
N/S OF EAST NEW YORK AVENUE FROM BERGEN STREET TO SACKMAN STREET	3045
N/S OF ATLANTIC AVENUE, E/O EAST NEW YORK AVENUE	120
N/S OF ATLANTIC AVENUE, W/O WILLIAMS AVENUE	120
N/S OF ATLANTIC AVENUE FROM WILLIAMS AVENUE TO ALABAMA AVENUE	522
INT. OF ATLANTIC AVENUE AND GEORGIA AVENUE	120
N/S OF ATLANTIC AVENUE FROM GEORGIA AVENUE TO SHEFFIELD AVENUE	180
N/S OF ATLANTIC AVENUE FROM SHEFFIELD AVENUE TO PENNSYLVANIA AVENUE	435
INT. OF BROADWAY AND JAMAICA AVENUE	90
INT. OF FULTON STREET AND ALABAMA AVENUE	57
N/S OF JAMAICA AVENUE, W/O FANCHON PLACE	600
N/S OF JAMAICA AVENUE, E/O FANCHON PLACE	144
W/S OF SHEFFIELD AVENUE, S/O JAMAICA AVENUE	105
S/S OF JAMAICA AVENUE, E/O PENNSYLVANIA AVENUE	675
S/S OF JAMAICA AVENUE, E/O NEW JERSEY AVENUE	268
S/S OF JAMAICA AVENUE, W/O NEW JERSEY AVENUE	222
INT. OF JAMAICA AVENUE AND NEW JERSEY AVENUE	128
S/S OF JAMAICA AVENUE BETWEEN NEW JERSEY AND VERMONT STREET	90

Total quantity for CET 402T.V2A = 13752

CET 403 PLACING STEEL PROTECTION PLATES FOR UTILITIES S.F.

At the following locations:

AS ENCOUNTERED OR DIRECTED BY A VERIZON FIELD REPRESENTATIVE 1000

Total quantity for CET 403 = 1000

VERIZON CET SCOPE OF WORK
SUPPORT & PROTECTION
BED776 - 48" WATER MAIN AND 20", 12", 8" DISTRIBUTION WATER MAIN REPLACEMENT
IN EAST NEW YORK AVE. / JAMAICA AVE. BTW. TAPSCOTT AVE TO VERMONT ST.
IN ATLANTIC AVE. BETWEEN VAN SINDEREN AVE. AND GEORGIA AVE.
BOROUGH OF BROOKLYN

CET 500	REMOVAL OF ABANDONED UTILITY CONDUITS (NON-CONCRETE ENCASED)	L.F.
	At the following locations:	
	S/S OF EAST NEW YORK AVENUE, E/O STRAUSS STREET	10
	E/O ROCKAWAY AVENUE ACROSS EAST NEW YORK AVENUE	30
	E/S OF ROCKAWAY AVENUE, N/O EAST NEW YORK AVENUE	10
	E/O ST MARKS AVENUE ACROSS EAST NEW YORK AVENUE	179
	N/S OF EAST NEW YORK AVENUE FROM ST MARKS AVENUE TO BERGEN STREET	288
	INT. OF EAST NEW YORK AVENUE AND SACKMAN STREET	183
	N/S OF EAST NEW YORK AVENUE FROM BERGEN STREET TO SACKMAN STREET	574
	S/S OF ATLANTIC AVENUE, W/O WILLIAMS AVENUE	10
	INT. OF ATLANTIC AVENUE AND WILLIAMS AVENUE	45
	INT. OF ATLANTIC AVENUE AND ALABAMA AVENUE	20
	N/S OF ATLANTIC AVENUE W/O AND E/O OF GEORGIA AVENUE	60
	INT. OF ATLANTIC AVENUE AND SHEFFIELD AVENUE	40
	N/S OF ATLANTIC AVENUE W/O SHEFFIELD AVENUE	10
	S/S OF JAMAICA AVENUE, E/O NEW JERSEY AVENUE	70
	INT. OF JAMAICA AVENUE AND NEW JERSEY AVENUE	100
	Total quantity for CET 500 = 1629	
CET 636 EE RD	ADJUSTMENT OF UTILITY HARWARE IN ROADWAY (34" TO UNDER 41" WIDTH)	EA.
	At the following locations:	
	AS ENCOUNTERED OR DIRECTED BY A VERIZON FIELD REPRESENTATIVE	14
	Total quantity for CET 636 EE RD = 14	
CET 636 ME	MOD. OF METHODS TO ACCOMM. UTILITY STREET HRDW. DURING PAVE. MILL. AND RESURF. OPS (34" TO UNDER 41" WIDTH)	EA.
	At the following locations:	
	AS ENCOUNTERED OR DIRECTED BY A VERIZON FIELD REPRESENTATIVE	14
	Total quantity for CET 636 ME = 14	
CET 638 N	INSTALLATION OF FIELD CONSTRUCTED UTILITY STRUCTURE	C.Y.
	At the following locations:	
	N/W/C OF BERGEN STREET AND EAST NEW YORK AVENUE	10
	S/S OF EAST NEW YORK AVENUE AND E/O JUNIUS STREET	8
	INT OF JAMAICA AVENUE AND PENNSYLVANIA AVENUE	26
	INT OF JAMAICA AVENUE AND JERSEY AVENUE	11
	Total quantity for CET 638 N = 55	
CET 638 R	BREAK OUT AND REMOVE UTILITY STRUCTURE CONTAINING ACTIVE FACILITIES	C.Y.
	At the following locations:	
	N/W/C OF BERGEN STREET AND EAST NEW YORK AVENUE	10
	S/S OF EAST NEW YORK AVENUE AND E/O JUNIUS STREET	8
	INT OF JAMAICA AVENUE AND PENNSYLVANIA AVENUE	26
	INT OF JAMAICA AVENUE AND JERSEY AVENUE	11
	Total quantity for CET 638 R = 55	

VERIZON CET SCOPE OF WORK

SUPPORT & PROTECTION

BED776 - 48" WATER MAIN AND 20", 12", 8" DISTRIBUTION WATER MAIN REPLACEMENT

IN EAST NEW YORK AVE. / JAMAICA AVE. BTW. TAPSCOTT AVE TO VERMONT ST.

IN ATLANTIC AVE. BETWEEN VAN SINDEREN AVE. AND GEORGIA AVE.

BOROUGH OF BROOKLYN

CET 700	<p>SPECIAL MODIFICATION OF WORK METHODS TO ACCOMMODATE/PROTECT UNDERGROUND FACILITIES WITH LIMITED COVER</p> <p>At the following locations:</p> <p>AS ENCOUNTERED OR DIRECTED BY A VERIZON FIELD REPRESENTATIVE</p>	C.Y.
	Total quantity for	50
	CET 700 =	50
CET 711	<p>USE SHEETING LINE AS FORM</p> <p>At the following locations:</p> <p>INT. OF EAST NEW YORK AVENUE AND ROCKAWAY AVENUE</p> <p>INT. OF EAST NEW YORK AVENUE AND ST. MARKS PLACE</p> <p>INT. OF SACKMAN STREET AND EAST NEW YORK AVENUE</p> <p>INT. OF ATLANTIC AVENUE AND WILLIAMS PLACE</p> <p>INT. OF ATLANTIC AVENUE AND WILLIAMS AVENUE</p>	L.F.
	Total quantity for	75
	CET 711 =	75
CET 798	<p>MODIFICATION OF NON CONCRETE YOKE TROLLEY STRUCTURES REMOVAL WHEN CROSSING UTILITY FACILITIES</p> <p>At the following locations:</p> <p>AS ENCOUNTERED OR DIRECTED BY A VERIZON FIELD REPRESENTATIVE</p>	L.F.
	Total quantity for	200
	CET 798 =	200
CET 799	<p>MODIFICATION OF NON CONCRETE TROLLEY STRUCTURES REMOVAL PARALLEL TO UTILITY FACILITIES</p> <p>At the following locations:</p> <p>AS ENCOUNTERED OR DIRECTED BY A VERIZON FIELD REPRESENTATIVE</p>	L.F.
	Total quantity for	200
	CET 799 =	200
CET 800	<p>MODIFICATION OF CONCRETE YOKE TROLLEY STRUCTURE REMOVAL WHEN CROSSING UTILITY FACILITIES</p> <p>At the following locations:</p> <p>AS ENCOUNTERED OR DIRECTED BY A VERIZON FIELD REPRESENTATIVE</p>	L.F.
	Total quantity for	200
	CET 800 =	200
CET 801	<p>MODIFICATION OF CONCRETE YOKE TROLLEY STRUCTURE REMOVAL PARALLEL TO UTILITY FACILITIES</p> <p>At the following locations:</p> <p>AS ENCOUNTERED OR DIRECTED BY A VERIZON FIELD REPRESENTATIVE</p>	L.F.
	Total quantity for	200
	CET 801 =	200

VERIZON CET SCOPE OF WORK

SUPPORT & PROTECTION

BED776 - 48" WATER MAIN AND 20" - 12" - 8" DISTRIBUTION WATER MAIN REPLACEMENT

IN EAST NEW YORK AVE. / JAMAICA AVE. BTW. TAPSCOTT AVE TO VERMONT ST.

IN ATLANTIC AVE. BETWEEN VAN SINDEREN AVE. AND GEORGIA AVE.

BOROUGH OF BROOKLYN

CET 802A	SPECIAL CARE EXCAVATION AND RESTORATION FOR SIDEWALK	L.F.
	At the following locations:	
	AS ENCOUNTERED OR DIRECTED BY A VERIZON FIELD REPRESENTATIVE	300
	Total quantity for CET 802A = 300	
CET 802B	SPECIAL CARE EXCAVATION AND RESTORATION FOR CURB WORK	S.F.
	At the following locations:	
	AS ENCOUNTERED OR DIRECTED BY A VERIZON FIELD REPRESENTATIVE	50
	Total quantity for CET 802B = 50	
CET 803.1	LINE CUT BY PNEUMATIC TOOLS IN LIEU OF SAW CUT ASSOCIATED WITH ROADWAY REMOVAL OPERATIONS	L.F.
	At the following locations:	
	AS ENCOUNTERED OR DIRECTED BY A VERIZON FIELD REPRESENTATIVE	200
	Total quantity for CET 803.1 = 200	

ALTICE

FOR INFORMATION ONLY
BED776

WM REPLACEMENT
BOROUGH OF BROOKLYN

DEC. 2019

PROJECT ID: BED776

ITEM	DESCRIPTION	UNITS	ESTIMATED QUANTITY
100.1	Utilities Crossing Trench for Chute Connection	EA	7
101.1	Utilities Crossing Trench for Sewers up to and including 24" Diameter (Up to 0.75 SF)	EA	4
103.1	Utilities Crossing Trench for Sewers over 36" up to 48" Diameter (Up to 0.75 SF)	EA	1
108.1	Utilities Crossing Trench for Watermain up to and including 12" Diameter (Up to 0.75 SF)	EA	20
109.1	Utilities Crossing Trench for Watermain 12" to 24" Diameter (Up to 0.75 SF)	EA	13
111.1	Utilities Crossing Trench for Watermain 36" to 48" Diameter (Up to 0.75 SF)	EA	4
300	Special Care Excavation & Backfilling	CY	256.5
330T	Special care excavation and backfill for conduits in trench	LF	150
350	Overhead Accommodation Protection of Overhead Facilities, Poles, and Appurtenances	LS	1
802A	Special Care Excavation and Restoration for Sidewalk Work	SF	48
802B	Special Care Excavation and Restoration for Curb Work	LF	7.3

ALTICE

For Information Only
BED776
WM REPLACEMENT

DEC. 2019

Borough of Brooklyn
Schedule UI: Scope of Work

CET 100.1

**UTILITIES CROSSING TRENCH FOR CATCH BASIN CHUTE CONNECTIONS
AND/OR TEST PITS (TYPE .1)**

@ THE FOLLOWING LOCATIONS

	QTY(EA)
PITKIN AND EAST NEW YORK AVE	2
PARK PLACE AND EAST NEW YORK AVE	1
CHESTER AND EAST NEW YORK AVE	1
JAMAICE AVE BTWN BUSHWICK AVE AND MARGINAL ST E	2
ATLANTIC AVE AND GEORGIA AVE	1
CET 100.1	TOTAL 7

CET 101.1

**UTILITIES CROSSING TRENCH FOR SEWERS OVER 12" TO 24" DIAMETER
(TYPE .1)**

@ THE FOLLOWING LOCATIONS

	QTY(EA)
EAST NEW YORK AND PITKIN AVE	3
GEORGIA AVE	1
CET 101.1	TOTAL 4

CET 103.1

**UTILITIES CROSSING TRENCH FOR SEWERS OVER 36" TO 48" DIAMETER
(TYPE .1)**

@ THE FOLLOWING LOCATIONS

	QTY(EA)
GRAFTON AND PITKIN AVE	1
CET 103.1	TOTAL 1

CET 108.1

**UTILITIES CROSSING TRENCH FOR WATER MAIN UP TO AND INCLUDING
12" DIAMETER (TYPE .1)**

@ THE FOLLOWING LOCATIONS

	QTY(EA)
TAPSCOT AND EAST NEW YORK AVE	1
AMBOY AND EAST NEW YORK AVE	1
STRAUSS AND EAST NEW YORK AVE	1
SARATOGA AND EAST NEW YORK AVE	1
CHESTER AND EAST NEW YORK AVE	2
THOMAS BOYLAND AND EAST NEW YORK AVE	1

PARK PLACE AND EAST NEW YORK AVE	1
ST. MARKS AVE AND EAST NEW YORK AVE	1
WILLIAMS AND ATLANTIC AVE	1
HINSDALE AND ATLANTIC AVE	1
ALABAMA AND ATLANTIC AVE	2
GEORGIA AND ATLANTIC AVE	2
SHEFFIELD AND ATLANTIC AVE	5

CET 108.1 **TOTAL 20**

CET 109.1
UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 12" AND UP TO 24" DIAMETER (TYPE .1)

@ THE FOLLOWING LOCATIONS

	QTY(EA)
EAST NEW YORK AVE BTWN HOWARD AND LINCOLN ST	2
THOMAS BOYLAND AND EAST NEW YORK AVE	1
CHESTER AND EAST NEW YORK AVE	1
MOTHER GASTON BLVD AND EAST NEW YORK AVE	3
HINSDALE AND ATLANTIC AVE	1
WILLIAMS AND ATLANTIC AVE	1
SHEFFIELD AND ATLANTIC AVE	1
PENNSYLVANIA AVE AND JAMAICA AVE	1
VERMONT AVE AND JAMAICA AVE	2

CET 109.1 **TOTAL 13**

CET 111.1
UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 36" AND UP TO 48" DIAMETER (TYPE .1)

@ THE FOLLOWING LOCATIONS

	QTY(EA)
HOWARD AND EAST NEW YORK AVE	1
THOMAS BOYLAND ST AND EAST NEW YORK AVE	1
CHESTER AND EAST NEW YORK AVE	1
MOTHER GASTON BLVD AND EAST NEW YORK AVE	1

CET 111.1 **TOTAL 4**

CET 300
SPECIAL CARE EXCAVATION AND BACKFILLING

@ THE FOLLOWING LOCATIONS

	QTY(CY)
HOWARD AND PITKIN AVE	34.4
WILLIAMS ATLANTIC AVE	12.5
ATLANTIC AVE BTWN ALABAMA AND PENNSYLVANIA	175
JAMAICA AVE BTWN BUSHWICK AND MARGINAL ST E	34.7

CET 300 **TOTAL 256.6**

CET 330T
SPECIAL CARE EXCAVATION AND BACKFILLING FOR CONDUITS IN THE TRENCH

@ THE FOLLOWING LOCATIONS

ATLANTIC AVE BTWN SHEFFIELD AND PENNSYLVANIA	QTY(LF)
	150
CET 330T	TOTAL 150

CET 350
OVERHEAD ACCOMMODATION PROTECTION OF OVERHEAD
FACILITIES, POLES AND APPURTENANCES

@ THE FOLLOWING LOCATIONS

AS ENCOUNTERED & DIRECTED BY THE ALTICE REPRESENTATIVE	QTY(LS)
	1
CET 350	TOTAL 1

CET 802A
SPECIAL CARE EXCAVATION AND RESTORATION OF SIDEWALK WORK

@ THE FOLLOWING LOCATIONS

SHEFFIELD AND ATLANTIC AVE	QTY(SF)
	48
CET 802A	TOTAL 48

CET 802B
SPECIAL CARE EXCAVATION AND RESTORATION OF CURB WORK

@ THE FOLLOWING LOCATIONS

SHEFFIELD AND ATLANTIC AVE	QTY(LF)
	7.3
CET 802B	TOTAL 7.3

PROJECT ID: BED776

SCHEDULE U-3

(NO TEXT IN THIS SECTION)

TEST PITS

- (1) **THESE TEST PITS DETAIL EXISTING CONDITIONS (AS OF BID DATE) OF UTILITIES AND OTHER SUBSURFACE FACILITIES AT LOCATIONS AS SHOWN ON THE TEST PIT LOCATIONS PLAN OF THE CONTRACT DRAWINGS.**
- (2) **DEPTHS OF FACILITIES ARE FROM EXISTING ROADWAY AND SIDEWALK ELEVATIONS AS SHOWN, OFFSETS ARE FROM EXISTING CURB, PROPERTY AND BUILDING LINES, AS SHOWN.**
- (3) **RELEVANT ITEMS ARE NOTED ON EACH TEST PIT DIAGRAM.**

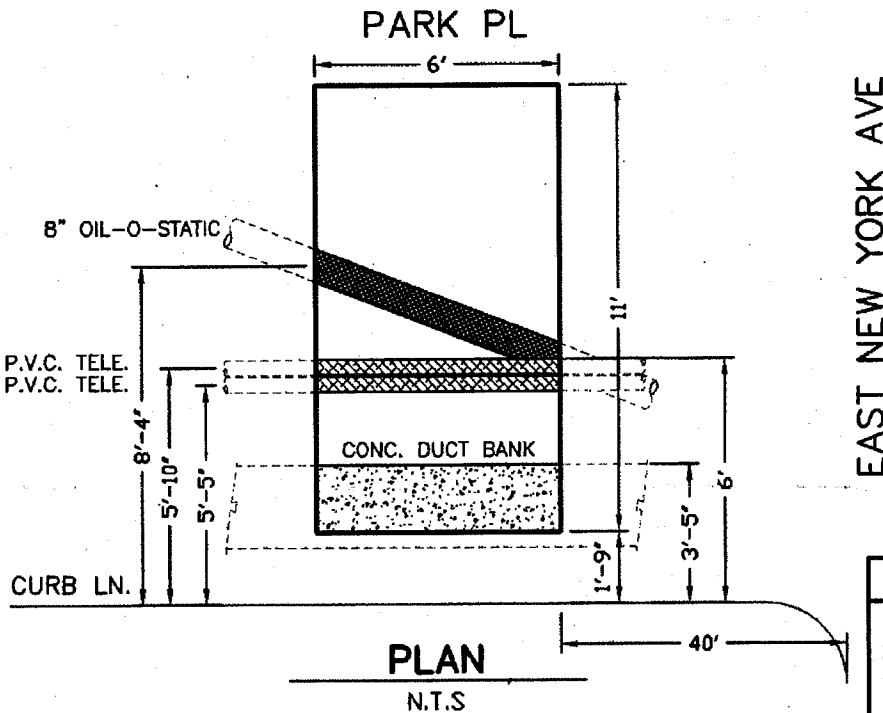
(NO TEXT IN THIS SECTION)



JOB NO: BED776
 PREPARED BY: R. TENNEY
 CHECKED BY: D. AGUGLIARO

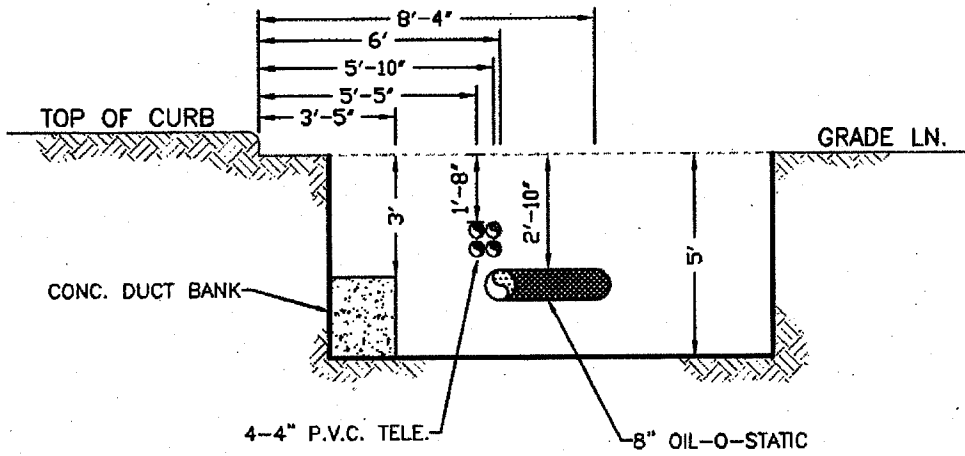
TEST PIT # 16
 DATE: 11/29/18
 DATE: 11/29/18

JOB NAME: TRUNK WM IN EAST NEW YORK LOCATION: 40' WWC EAST NEW YORK AVE
 PURPOSE: LOCATE UNDERGROUND ELECTRIC FACILITIES 21" NSC PARK PL
 DATE OF EXCAVATION: 10/18/18 CONTRACT SHEET NO: 8 OF 21



EAST NEW YORK AVE

CET
100.1, 100.2, 225.1B, 301, 302, 303, 501, 803.2





JOB NO: BED776

TEST PIT # 32

PREPARED BY: R. TENNEY

DATE: 12/10/18

CHECKED BY: D. AGUGLIARO

DATE: 12/10/18

JOB NAME: TRUNK WM IN EAST NEW YORK

LOCATION: 15' EEC DEAN ST

PURPOSE: LOCATE UNDERGROUND ELECTRIC FACILITIES

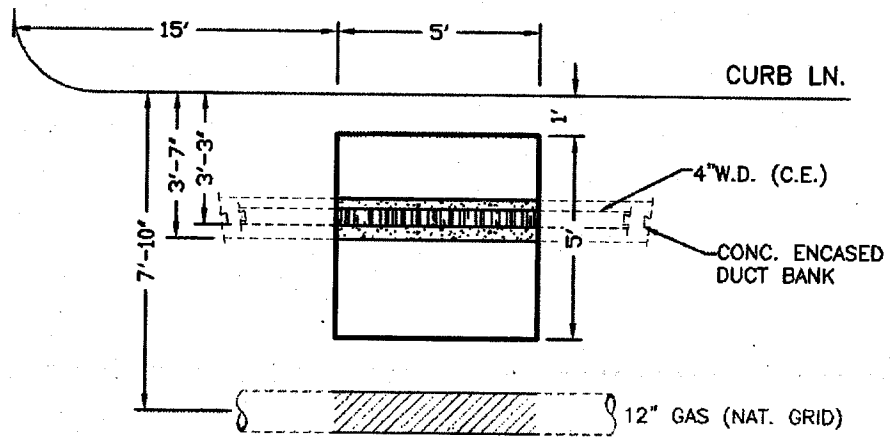
1' SNC EAST NEW YORK AVE

DATE OF EXCAVATION: 11/28/18

CONTRACT SHEET NO: 10 OF 21



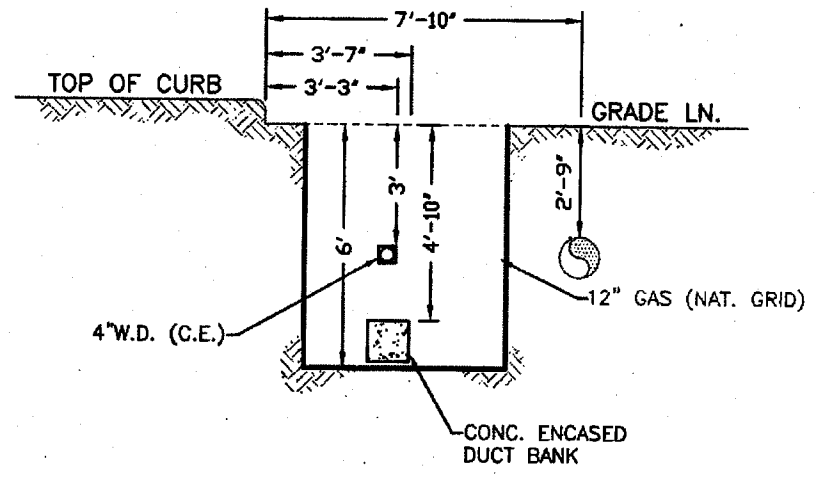
DEAN ST



EAST NEW YORK AVE
PLAN

N.T.S.

CET
100.1, 300



PROFILE - LOOKING EAST

N.T.S.



JOB NO: BED776

TEST PIT # 30

PREPARED BY: R. TENNEY

DATE: 11/29/18

CHECKED BY: D. AGUGLIARO

DATE: 11/29/18

JOB NAME: TRUNK WM IN EAST NEW YORK

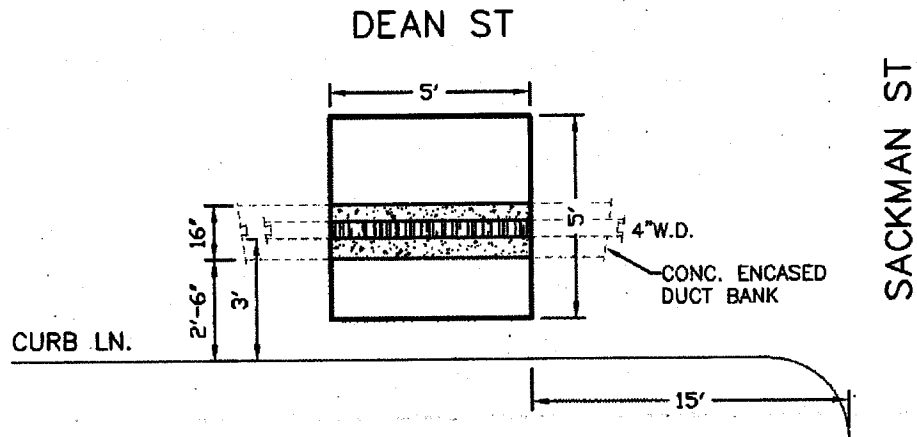
LOCATION: 15' WWC SACKMAN ST

PURPOSE: LOCATE UNDERGROUND ELECTRIC FACILITIES

1' NSC DEAN ST

DATE OF EXCAVATION: 11/13/18

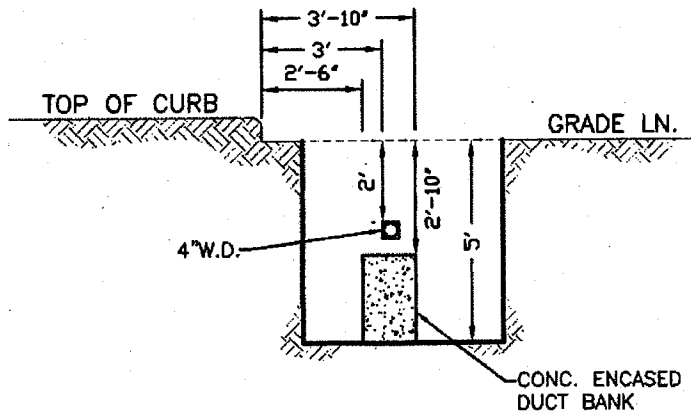
CONTRACT SHEET NO: 10 OF 21



PLAN

N.T.S.

CET
100.2, 304 A, 305, 401 402.1, 402.V1, 501



PROFILE - LOOKING WEST

N.T.S.



JOB NO: BED776

TEST PIT # 45

PREPARED BY: R. TENNEY

DATE: 12/11/18

CHECKED BY: D. AGUGLIARO

DATE: 12/11/18

JOB NAME: TRUNK WM IN EAST NEW YORK

LOCATION: 1' WEC FANCHON PL

PURPOSE: LOCATE UNDERGROUND ELECTRIC FACILITIES

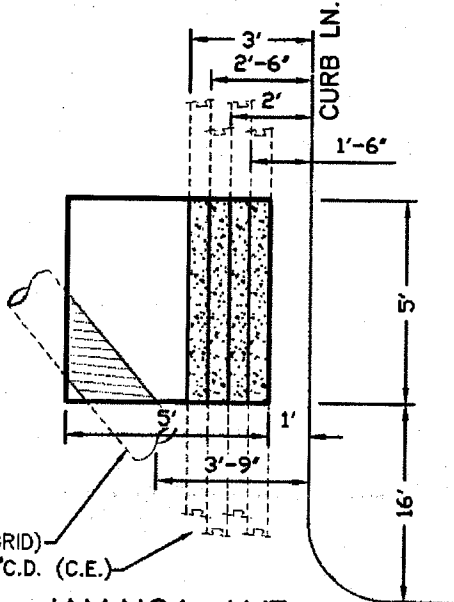
16' NNC JAMAICA AVE

DATE OF EXCAVATION: 11/28/18

CONTRACT SHEET NO: 15 OF 21



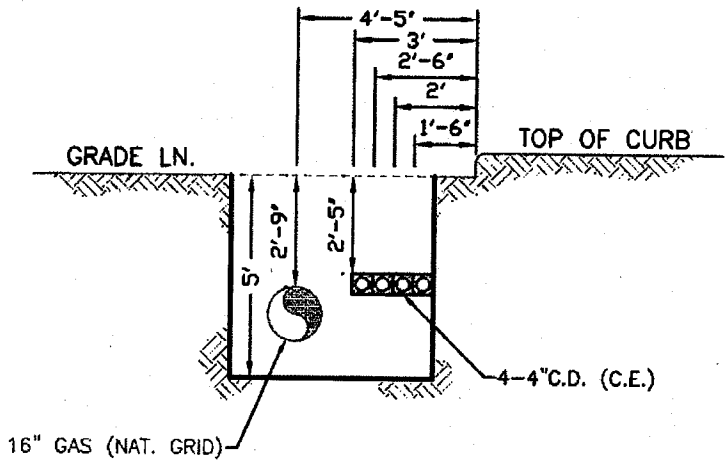
FANCHON PL



JAMAICA AVE
PLAN

N.T.S.

CET



PROFILE - LOOKING NORTH

N.T.S.

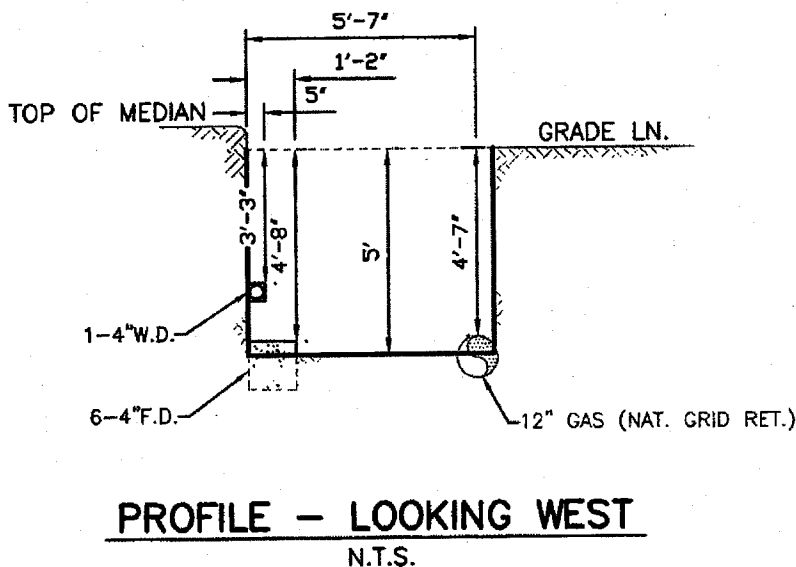
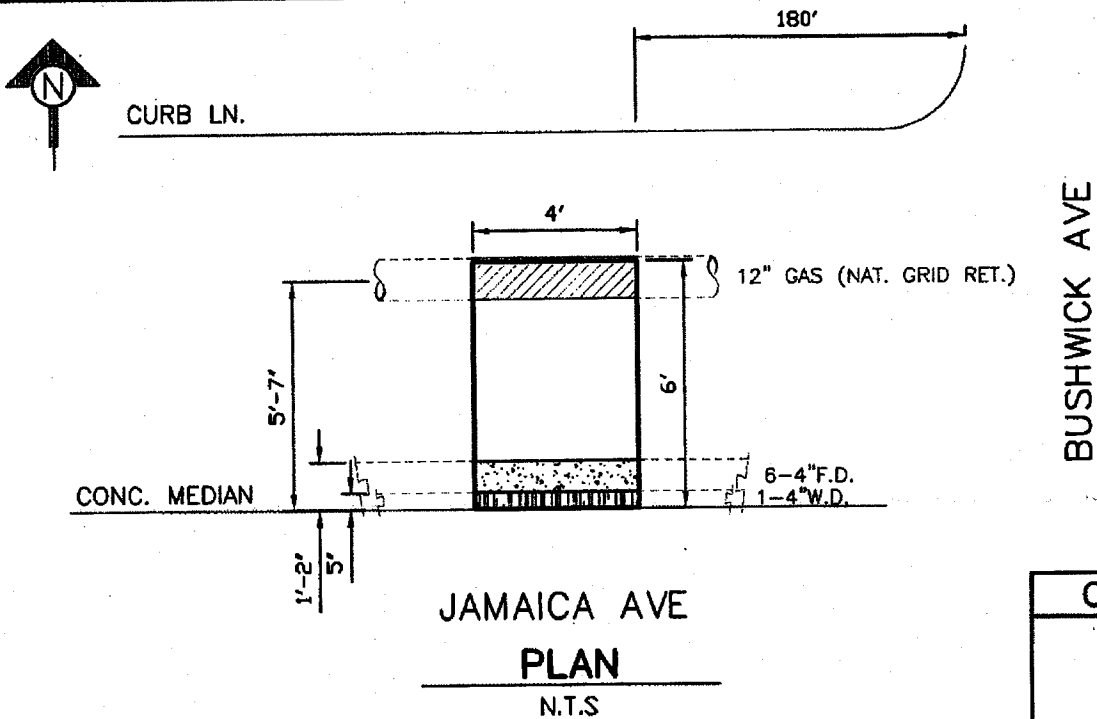


JOB NO: BED776
 PREPARED BY: R. TENNEY
 CHECKED BY: D. AGUGLIARO

TEST PIT # 48
 DATE: 3/19/19
 DATE: 3/19/19

JOB NAME: TRUNK WM IN EAST NEW YORK
 PURPOSE: LOCATE UNDERGROUND ELECTRIC FACILITIES
 DATE OF EXCAVATION: 1/11/19

LOCATION: 180' WWC BUSHWICK AVE
SC OF MEDIAN JAMAICA AVE
 CONTRACT SHEET NO: 16 OF 21





JOB NO.: BED776

TEST PIT #: 1

JOB: 48" TRUNK W.M. & 20", 8" DIST.
W.M. REPL. IN EAST NEW YORK AVENUE
7 JAMAICA AVENUE

TP DATE: 09-20-18

INSPECTOR: KWS

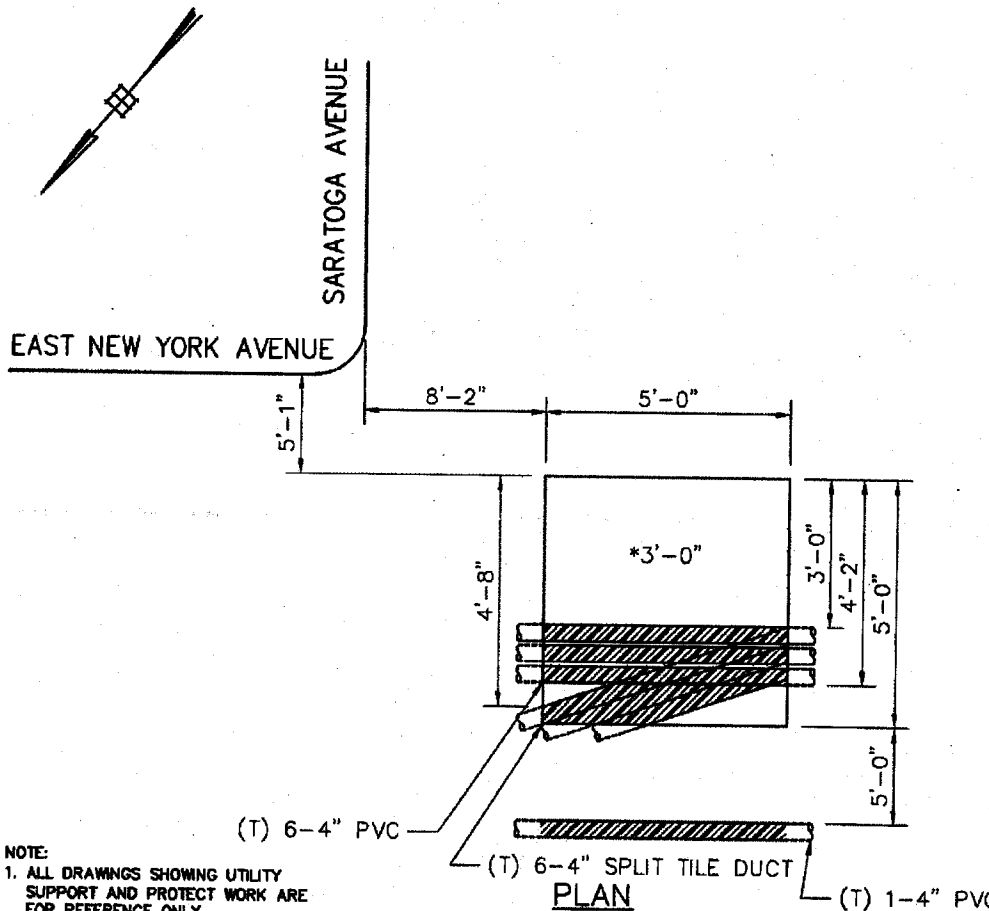
LOCATION: INTERSECTION OF EAST NEW YORK AVENUE AND SARATOGA AVENUE

PURPOSE: LOCATE EXISTING UNDERGROUND FACILITIES

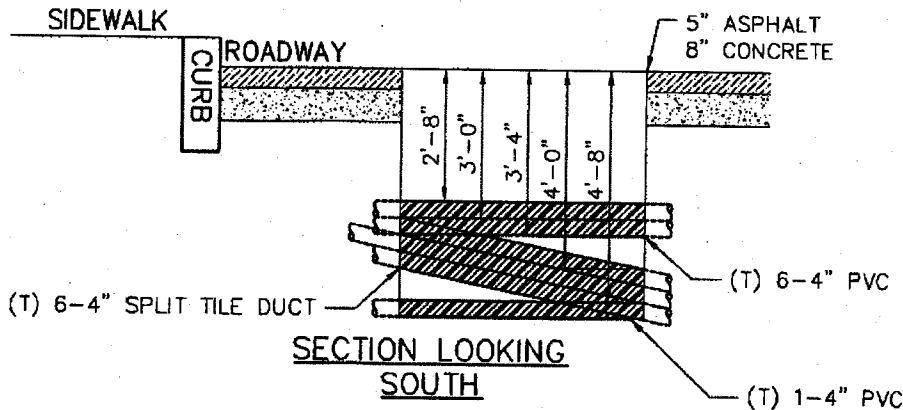
DIMENSION: 5'-0"X5'-0"X2'-8"

VOLUME: 2.5 CY

SHEET NO. 1 OF 34

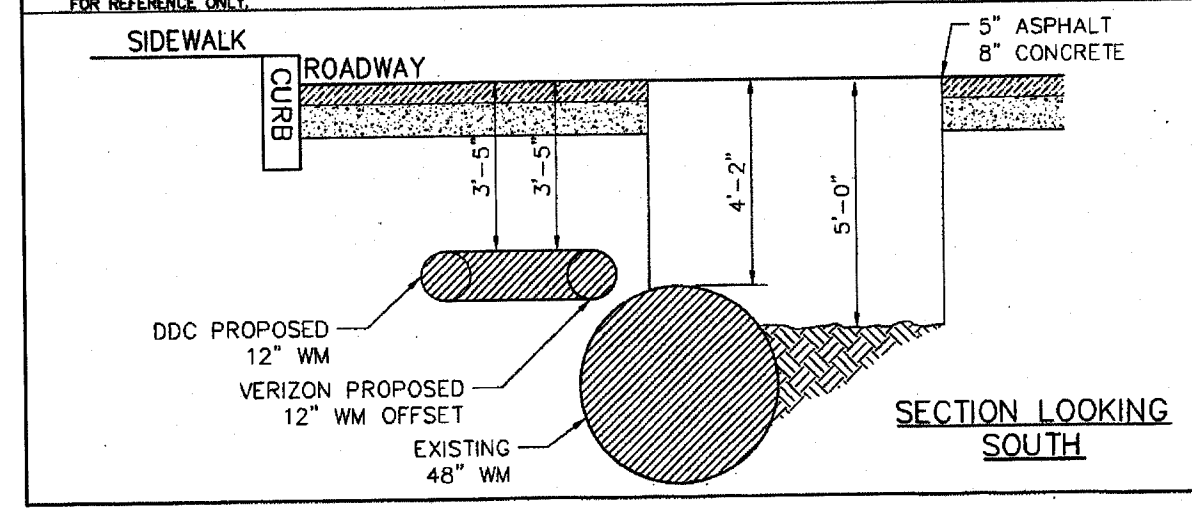
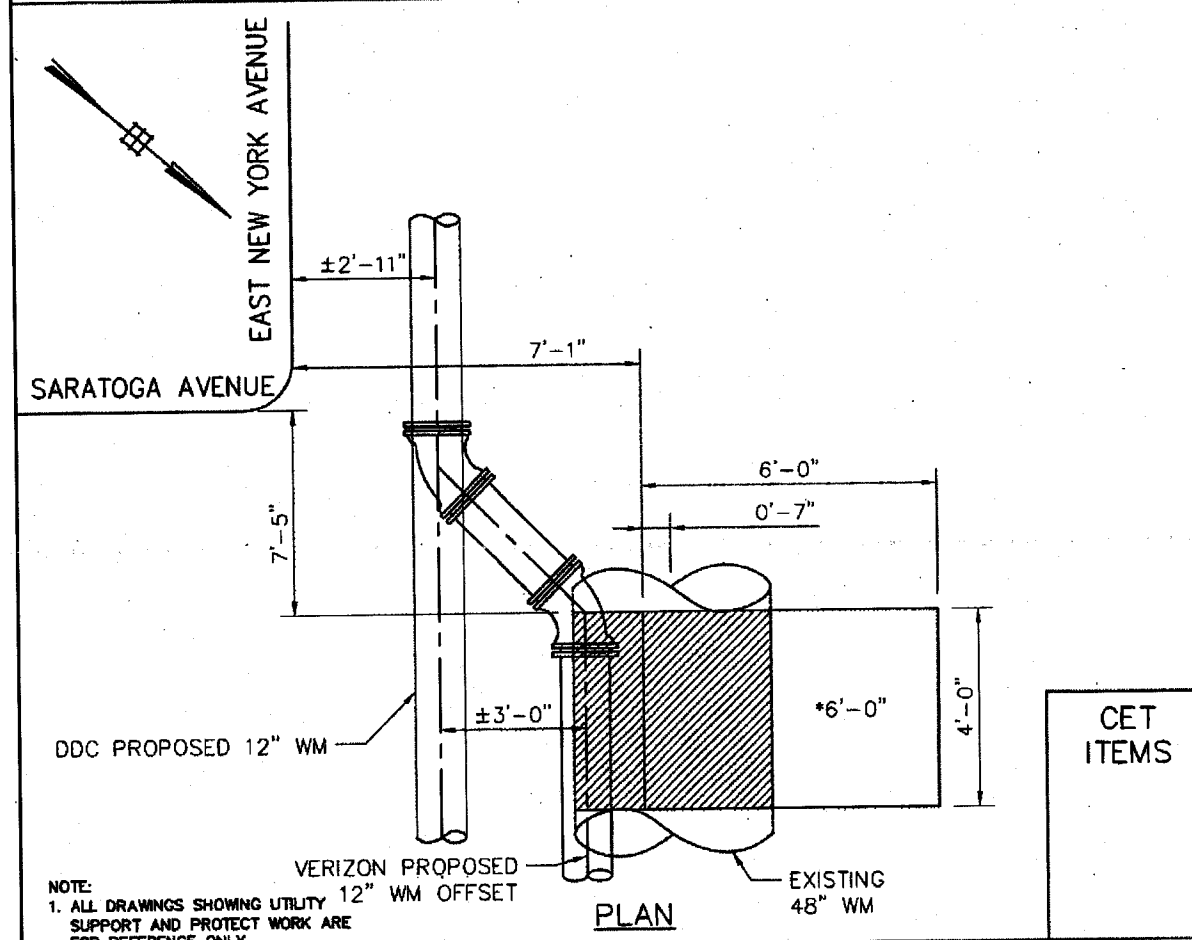


- CET ITEMS**
- CET 108.1
 - CET 401
 - CET 402T.2A
 - CET 402T.V2A



verizon	JOB NO.: <u>BED776</u>	TEST PIT #: <u>1A</u>
	JOB: <u>48" TRUNK W.M. & 20", 8" DIST. W.M. REPL. IN EAST NEW YORK AVENUE / JAMAICA AVENUE</u>	TP DATE: <u>09-24-18</u> INSPECTOR: <u>KWS</u>

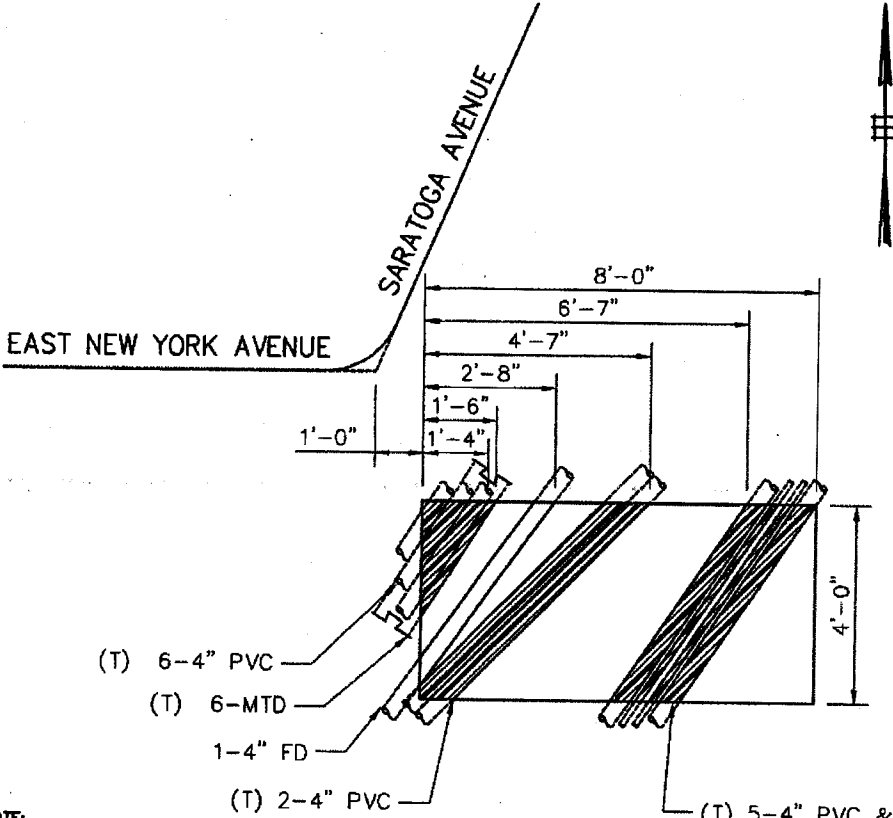
LOCATION: INT. OF SARATOGA AVENUE AND EAST NEW YORK AVENUE
 PURPOSE: LOCATE EXISTING UNDERGROUND FACILITIES
 DIMENSION: 6'-0" X 4'-0" X 5'-0" VOLUME: 4.4 CY SHEET NO. 2 OF 34





JOB NO.: BED776 TEST PIT # 2
 JOB: 48" TRUNK W.M. & 20", 8" DIST. W.M. REPL. IN EAST NEW YORK AVENUE / JAMAICA AVENUE TP DATE: 09-27-18
 INSPECTOR: KWS

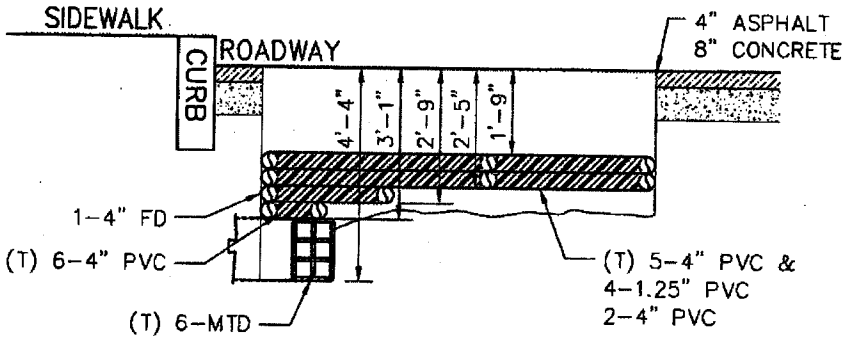
LOCATION: INT. OF EAST NEW YORK AVENUE AND SARATOGA AVENUE
 PURPOSE: LOCATE EXISTING UNDERGROUND FACILITIES
 DIMENSION: 8'-0" X 4'-0" X 2'-11" VOLUME: 3.5 CY SHEET NO. 3 OF 34



NOTE:
 1. ALL DRAWINGS SHOWING UTILITY SUPPORT AND PROTECT WORK ARE FOR REFERENCE ONLY.

CET ITEMS	
CET 109.3	
CET III.3	
CET 304A	
CET 305	
CET 401	
CET 402T.2A	
CET 402T.V2A	

PLAN



SECTION LOOKING NORTH



JOB NO.: BED776

TEST PIT # 3

JOB: 48" TRUNK W.M. & 20", 8" DIST.
W.M. REPL. IN EAST NEW YORK AVENUE
/ JAMAICA AVENUE

TP DATE: 09-20-18

INSPECTOR: KWS

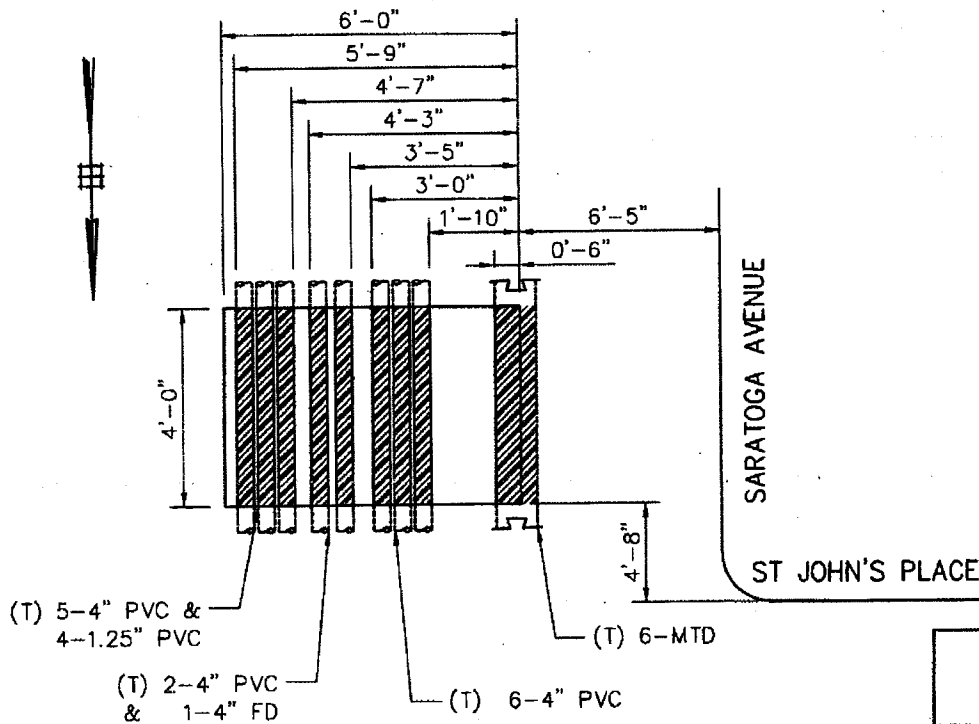
LOCATION: W/S OF SARATOGA AVENUE, S/O ST JOHN'S PLACE

PURPOSE: LOCATE EXISTING UNDERGROUND FACILITIES

DIMENSION: 6'-0" X 4'-0" X 3'-2"

VOLUME: 2.8 CY

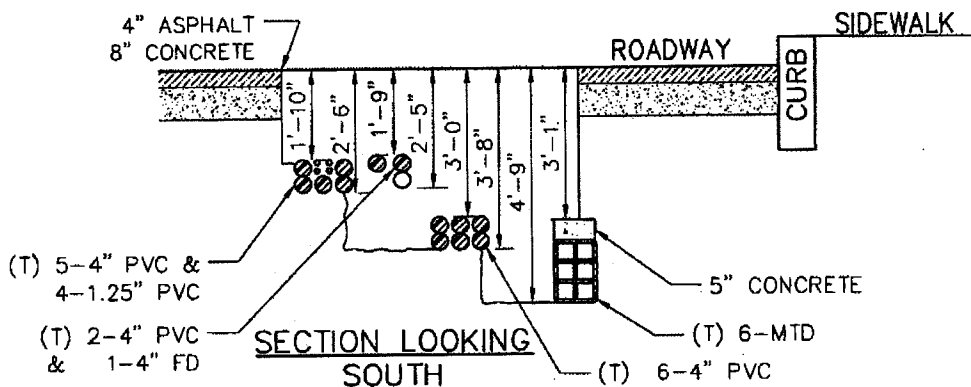
SHEET NO. 4 OF 34



NOTE:
 1. ALL DRAWINGS SHOWING UTILITY
 SUPPORT AND PROTECT WORK ARE
 FOR REFERENCE ONLY.

PLAN

CET ITEMS
CET 401
CET 402T.2A
CET 402T.V2A
CET 304A
CET 305



SECTION LOOKING SOUTH



JOB NO.: BED776

TEST PIT # 4

JOB: 48" TRUNK W.M. & 20", 8" DIST.
W.M. REPL. IN EAST NEW YORK AVENUE
7 JAMAICA AVENUE

TP DATE: 09-20-18

INSPECTOR: KWS

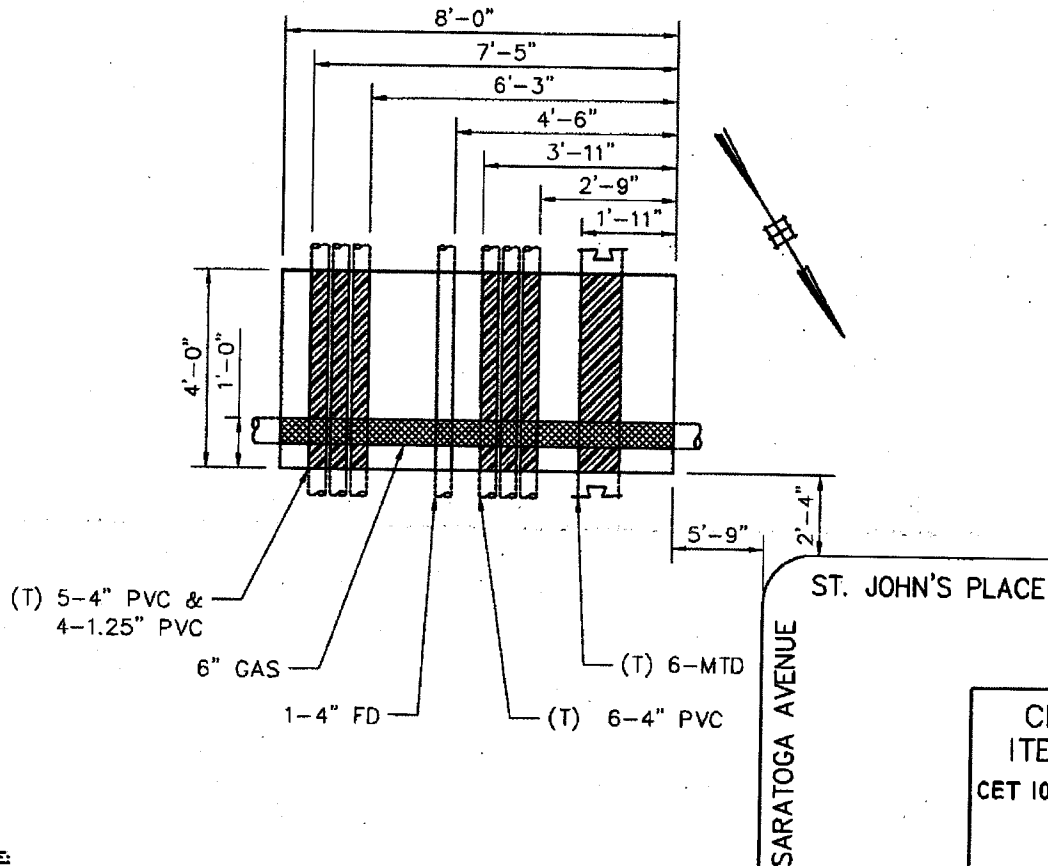
LOCATION: INT. OF ST JOHN'S PLACE AND SARATOGA AVENUE

PURPOSE: LOCATE EXISTING UNDERGROUND FACILITIES

DIMENSION: 8'-0" X 4'-0" X 3'-9"

VOLUME: 4.4 CY

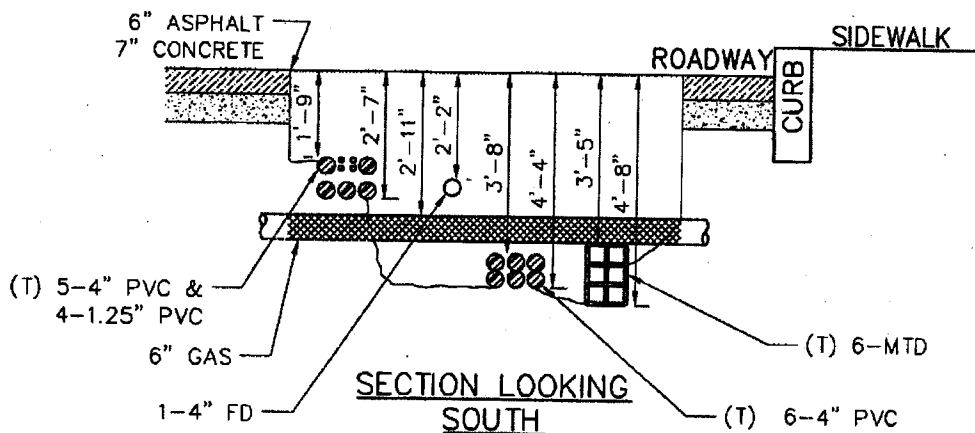
SHEET NO. 5 OF 34



NOTE:
 1. ALL DRAWINGS SHOWING UTILITY
 SUPPORT AND PROTECT WORK ARE
 FOR REFERENCE ONLY.

PLAN

CET
 ITEMS
 CET 108.2



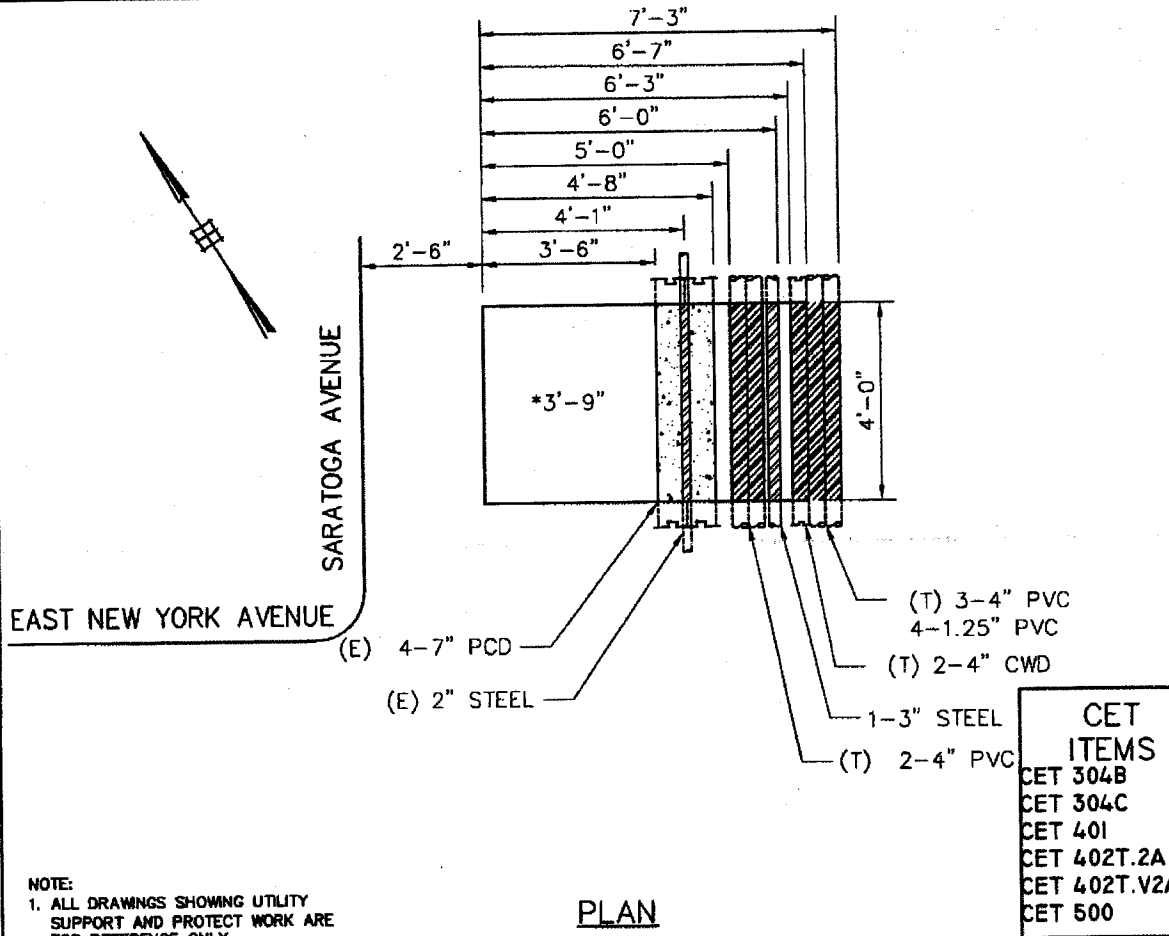
SECTION LOOKING
 SOUTH

verizon	JOB NO.: <u>BED776</u>	TEST PIT #: <u>5</u>
	JOB: <u>48" TRUNK W.M. & 20", 8" DIST.</u> <u>W.M. REPL. IN EAST NEW YORK AVENUE</u> <u>JAMAICA AVENUE</u>	TP DATE: <u>09-25-18</u>

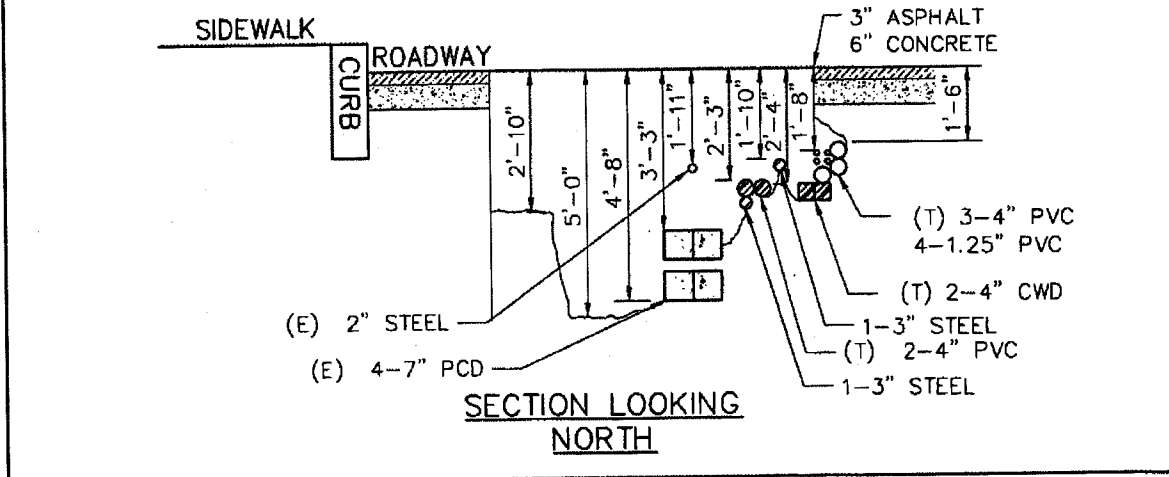
LOCATION: W/S OF SARATOGA AVENUE, N/O EAST NEW YORK AVENUE

PURPOSE: LOCATE EXISTING UNDERGROUND FACILITIES

DIMENSION: 6'-7"X4'-0"X2'-10" VOLUME: 2.8 CY SHEET NO. 6 OF 34



NOTE:
1. ALL DRAWINGS SHOWING UTILITY SUPPORT AND PROTECT WORK ARE FOR REFERENCE ONLY.





JOB NO.: BED776

TEST PIT #6

JOB: 48" TRUNK W.M. & 20", 8" DIST.
W.M. REPL. IN EAST NEW YORK AVENUE
/ JAMAICA AVENUE

TP DATE: 09-25-18

INSPECTOR: PM

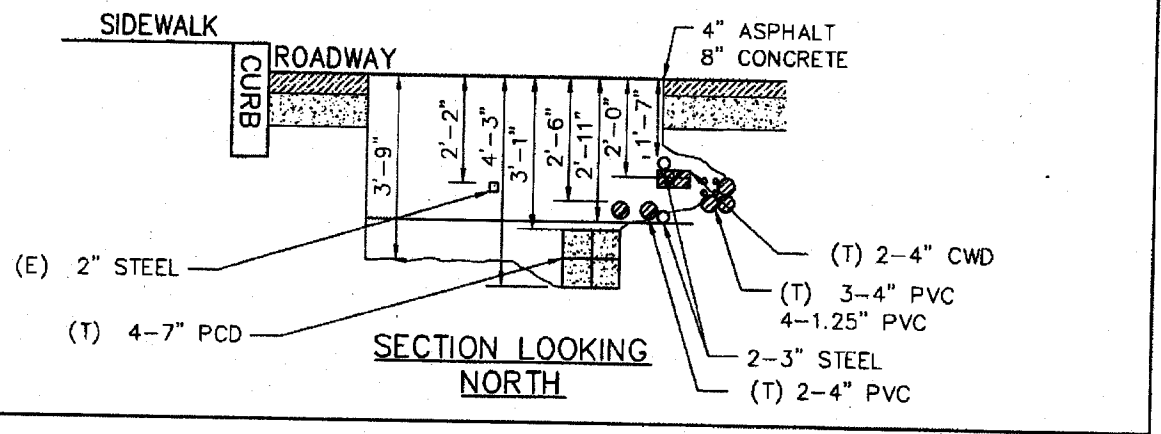
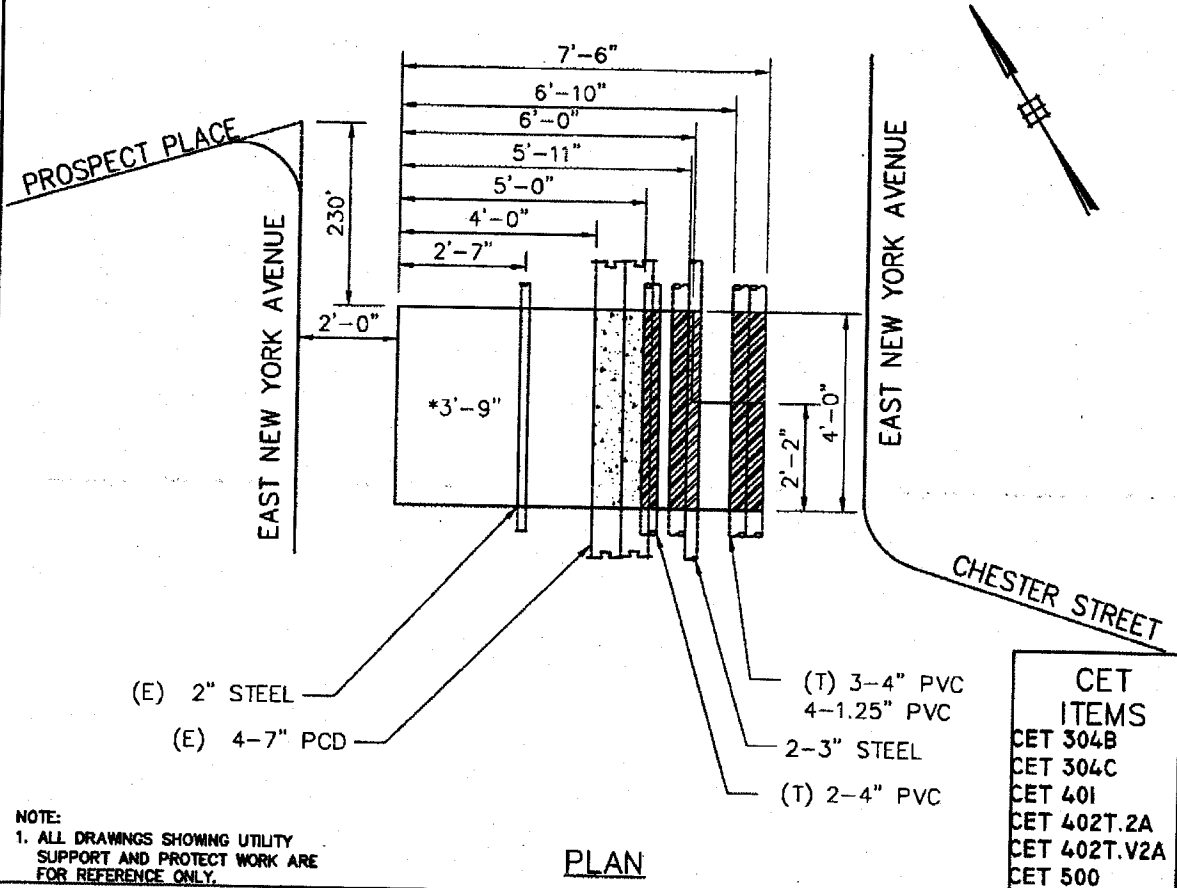
LOCATION: W/S OF EAST NEW YORK AVENUE, S/O PROSPECT PLACE

PURPOSE: LOCATE EXISTING UNDERGROUND FACILITIES

DIMENSION: 6'-0" X 4'-0" X 3'-0"
2'-2" X 1'-6" X 2'-0"

VOLUME: 2.9 CY

SHEET NO. 7 OF 34





JOB NO.: BED776

TEST PIT #:7

JOB: 48" TRUNK W.M. & 20", 8" DIST.
W.M. REPL. IN EAST NEW YORK AVENUE
7 JAMAICA AVENUE

TP DATE: 09-25-18

INSPECTOR: PM

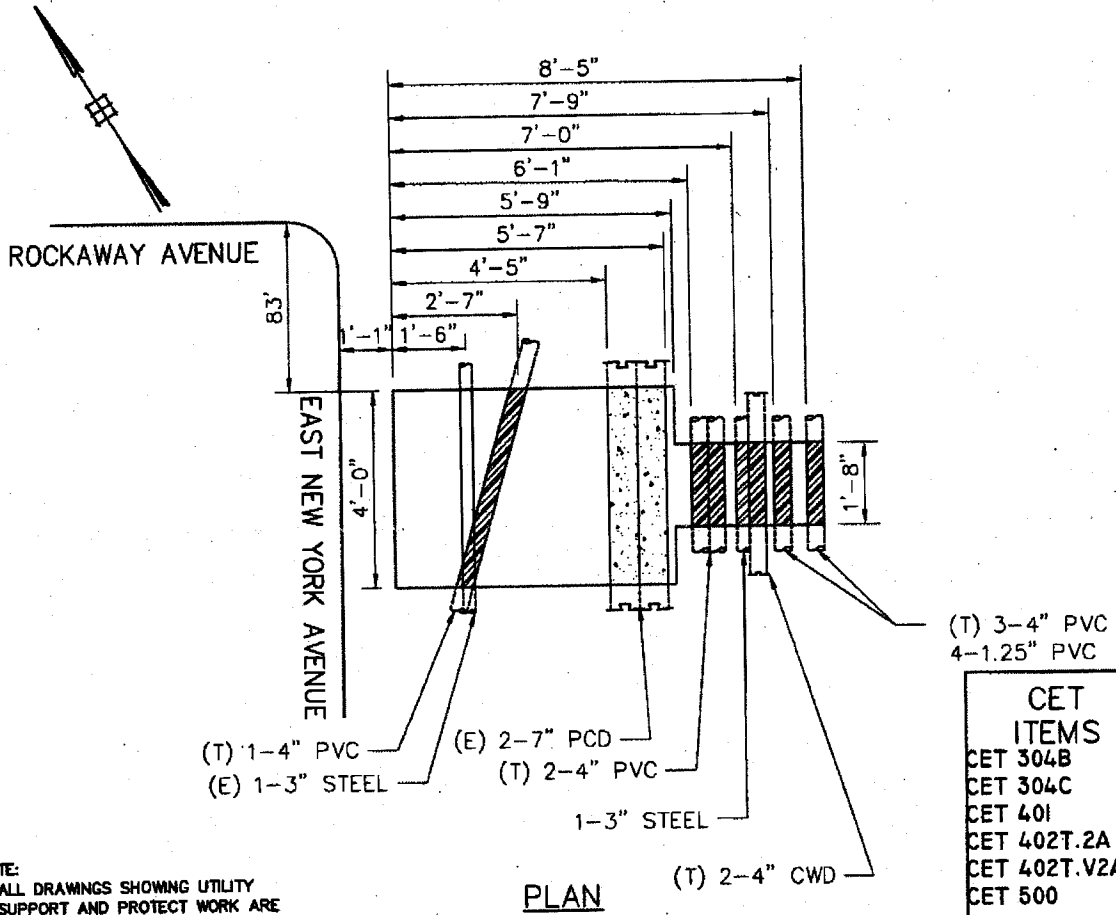
LOCATION: W/S OF EAST NEW YORK AVENUE, S/O ROCKAWAY AVENUE

PURPOSE: LOCATE EXISTING UNDERGROUND FACILITIES

DIMENSION: 5'-9" X 4'-0" X 3'-4"
3'-0" X 1'-8" X 2'-3"

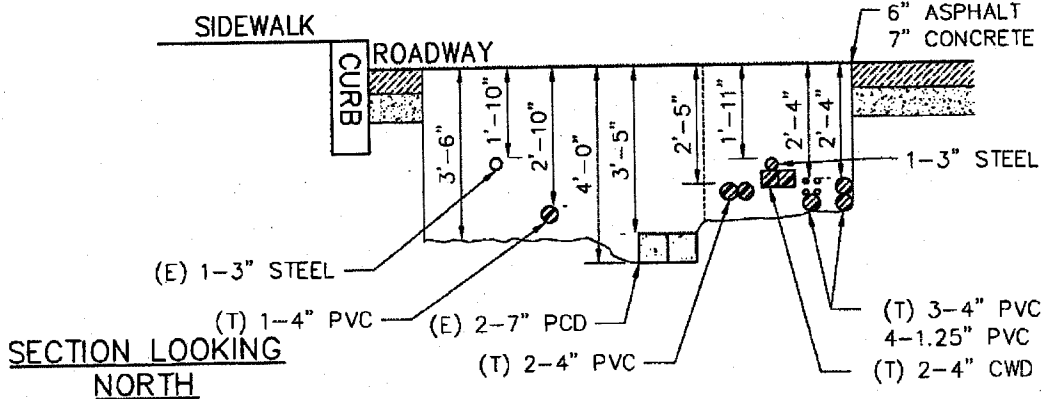
VOLUME: 3.3 CY

SHEET NO. 8 OF 34



NOTE:
 1. ALL DRAWINGS SHOWING UTILITY
 SUPPORT AND PROTECT WORK ARE
 FOR REFERENCE ONLY.

CET ITEMS	
CET 304B	
CET 304C	
CET 40I	
CET 402T.2A	
CET 402T.V2A	
CET 500	

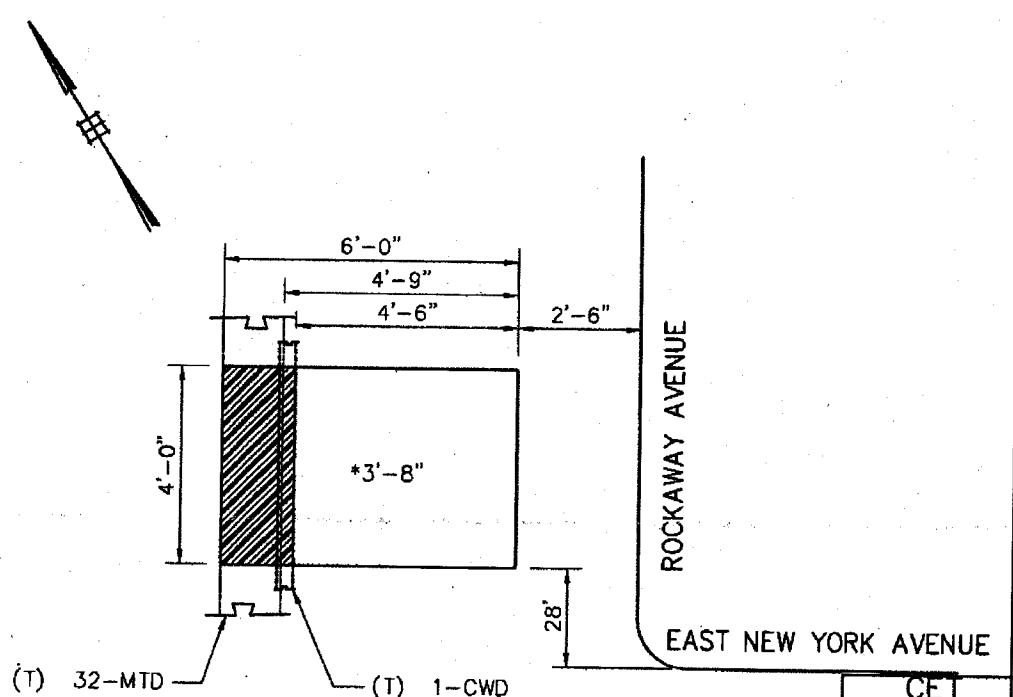


verizon	JOB NO.: <u>BED776</u>	TEST PIT # <u>8</u>
	JOB: <u>48" TRUNK W.M. & 20", 8" DIST.</u> <u>W.M. REPL. IN EAST NEW YORK AVENUE</u> <u>/ JAMAICA AVENUE</u>	TP DATE: <u>09-26-18</u>

LOCATION: E/S OF ROCKAWAY AVENUE, N/O EAST NEW YORK AVENUE

PURPOSE: LOCATE EXISTING UNDERGROUND FACILITIES

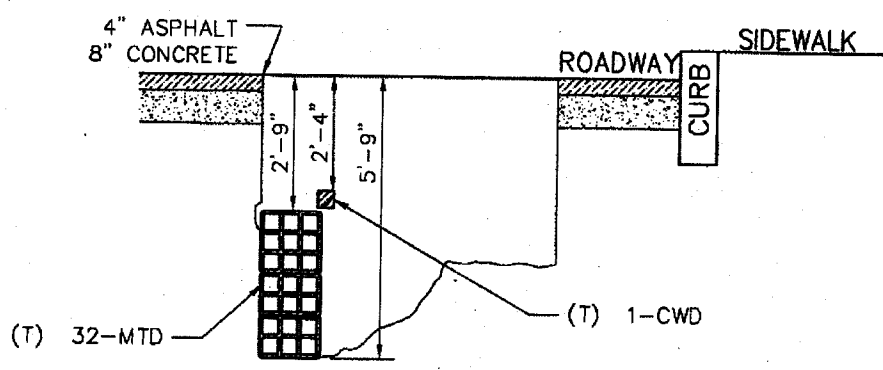
DIMENSION: 6'-0"X4'-0"X4'-1" VOLUME: 3.6 CY SHEET NO. 9 OF 34



- CET
ITEMS
CET 108.3
CET 304A
CET 305
CET 401
CET 402T.2A
CET 402T.V2A
CET 500

NOTE:
1. ALL DRAWINGS SHOWING UTILITY
SUPPORT AND PROTECT WORK ARE
FOR REFERENCE ONLY.

PLAN



SECTION LOOKING
NORTH



JOB NO.: BED776

TEST PIT #: 9

JOB: 48" TRUNK W.M. & 20", 8" DIST.
W.M. REPL. IN EAST NEW YORK AVENUE
/ JAMAICA AVENUE

TP DATE: 09-26-18

INSPECTOR: KWS

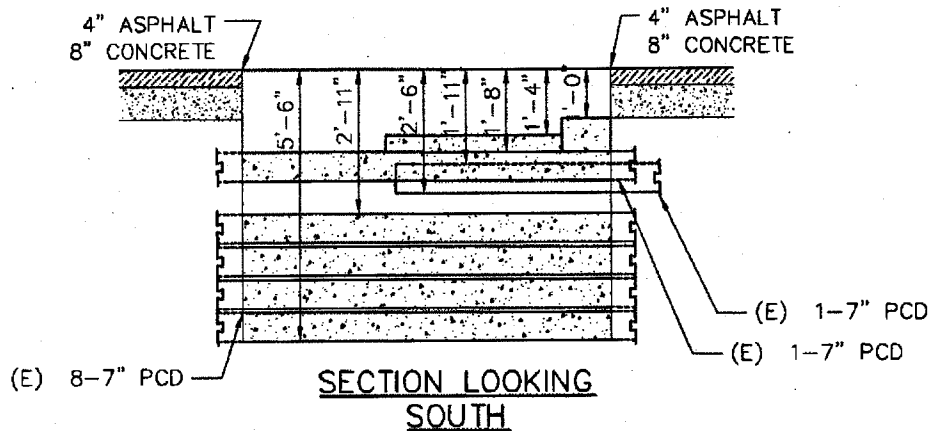
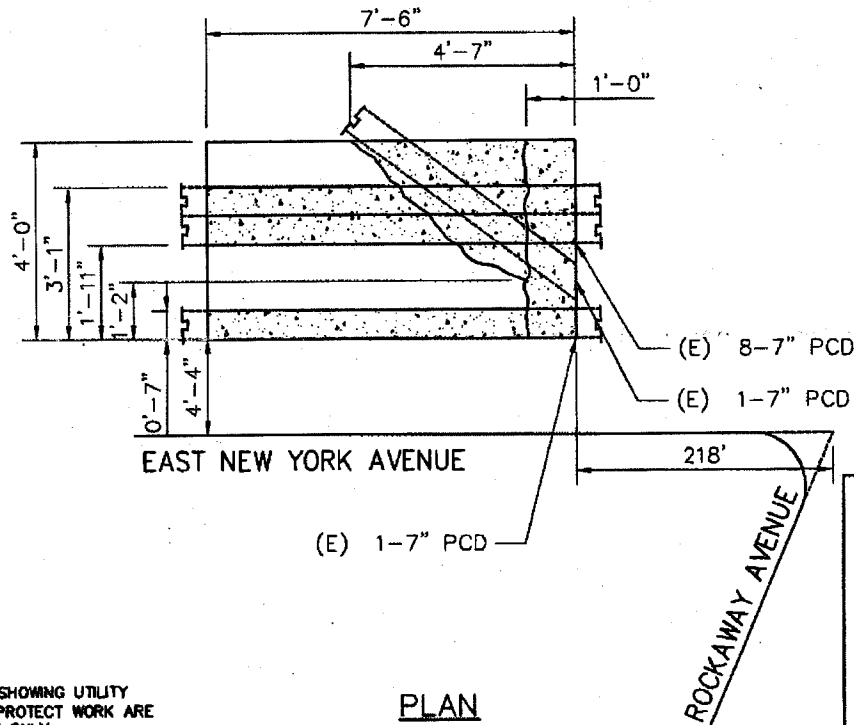
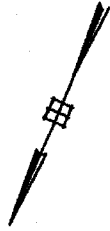
LOCATION: N/S OF EAST NEW YORK AVENUE, E/O ROCKAWAY AVENUE

PURPOSE: LOCATE EXISTING UNDERGROUND FACILITIES

DIMENSION: 7'-6" X 4'-0" X 3'-2"

VOLUME: 3.5 CY

SHEET NO. 10 OF 34





JOB NO.: BED776

TEST PIT # 9A

JOB: 48" TRUNK W.M. & 20", 8" DIST.
W.M. REPL. IN EAST NEW YORK AVENUE
/ JAMAICA AVENUE

TP DATE: 10-08-18

INSPECTOR: BL

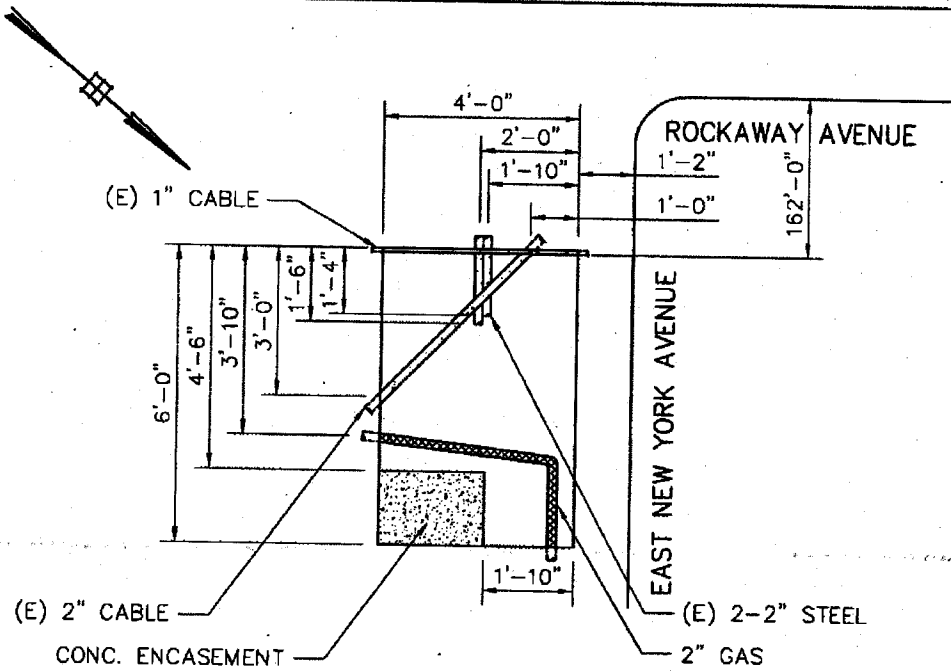
LOCATION: N/S OF EAST NEW YORK AVENUE, E/O ROCKAWAY AVENUE

PURPOSE: LOCATE EXISTING UNDERGROUND FACILITIES

DIMENSION: 6'-0" X 4'-0" X 3'-9"

VOLUME: 3.3 CY

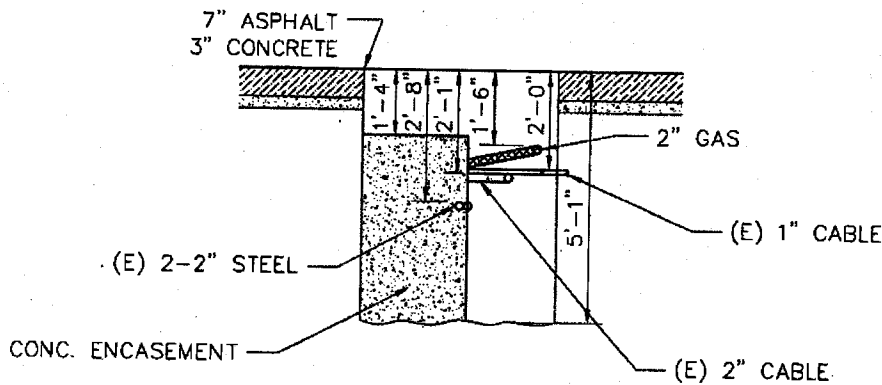
SHEET NO. 11 OF 34



NOTE:
 1. ALL DRAWINGS SHOWING UTILITY
 SUPPORT AND PROTECT WORK ARE
 FOR REFERENCE ONLY.

PLAN

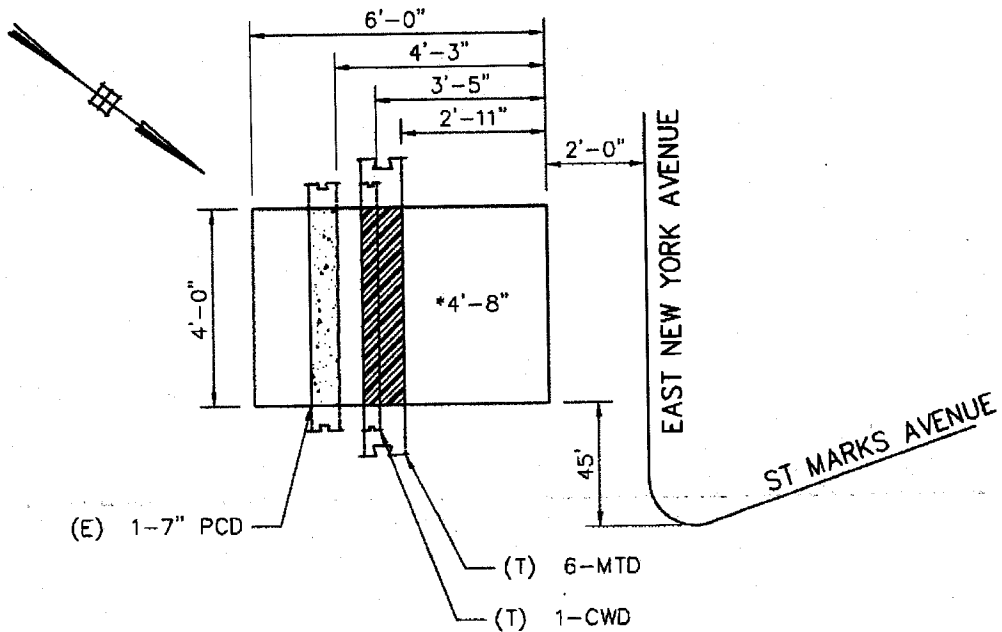
CET
 ITEMS
 CET 109.3
 CET III.3
 CET 401
 CET 402T.2A
 CET 402T.V2A



SECTION LOOKING
 SOUTH

verizon	JOB NO.: <u>BED776</u>	TEST PIT # <u>10</u>
	JOB: <u>48" TRUNK W.M. & 20", 8" DIST.</u>	TP DATE: <u>09-26-18</u>
	<u>W.M. REPL. IN EAST NEW YORK AVENUE</u> <u>7 JAMAICA AVENUE</u>	INSPECTOR: <u>KWS</u>

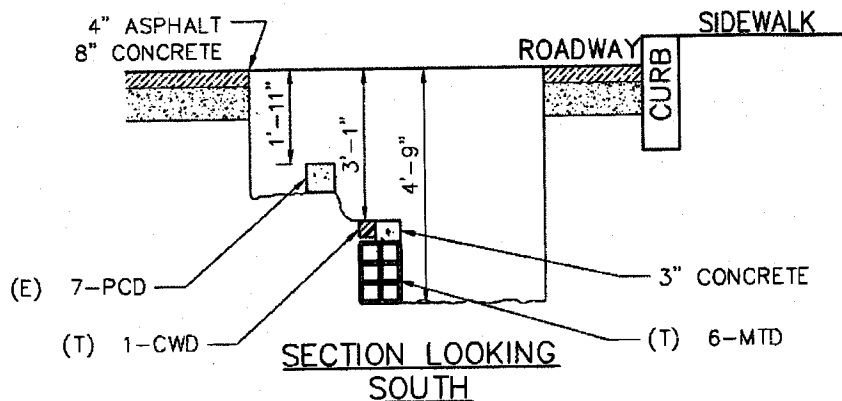
LOCATION: N/S OF EAST NEW YORK AVENUE, W/O ST MARK'S AVENUE
 PURPOSE: LOCATE EXISTING UNDERGROUND FACILITIES
 DIMENSION: 6'-0"X4'-0"X3'-10" VOLUME: 3.4 CY SHEET NO. 12 OF 34



CET ITEMS
CET 100.2
CET 401
CET 402T.2A
CET 402T.V2A

NOTE:
 1. ALL DRAWINGS SHOWING UTILITY SUPPORT AND PROTECT WORK ARE FOR REFERENCE ONLY.

PLAN



SECTION LOOKING SOUTH



JOB NO.: BED776

TEST PIT # 11

JOB: 48" TRUNK W.M. & 20", 8" DIST.
W.M. REPL. IN EAST NEW YORK AVENUE
/ JAMAICA AVENUE

TP DATE: 09-26-18

INSPECTOR: KWS

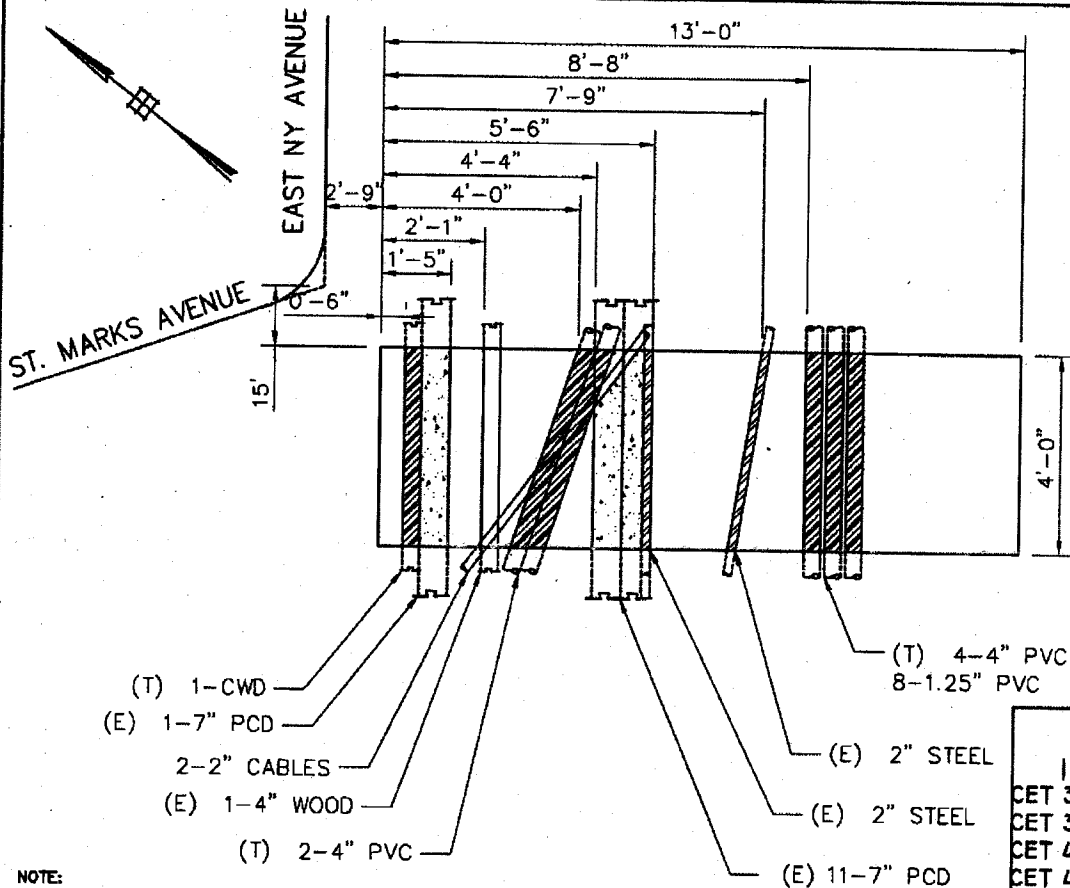
LOCATION: W/S OF EAST NEW YORK AVENUE, N/O ST MARKS AVENUE

PURPOSE: LOCATE EXISTING UNDERGROUND FACILITIES

DIMENSION: 13'-0" X 4'-0" X 3'-9"

VOLUME: 7.2 CY

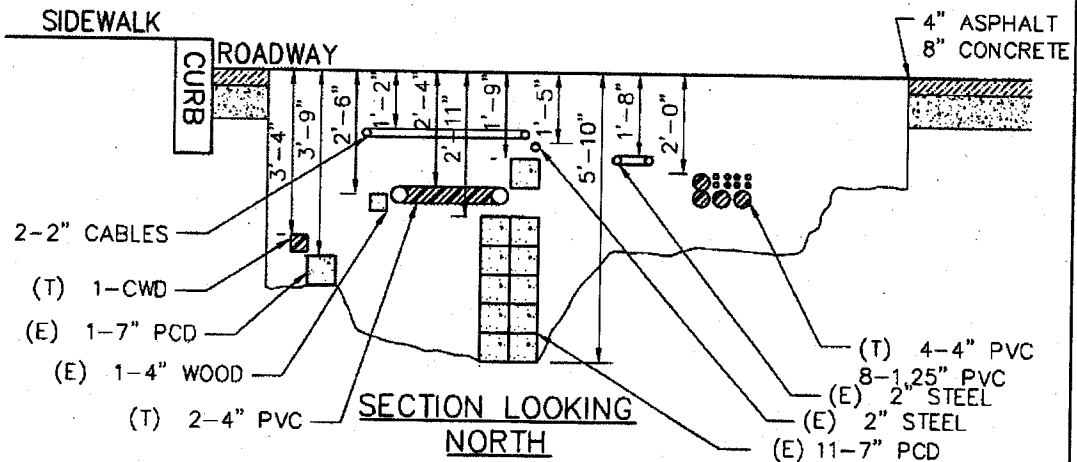
SHEET NO. 13 OF 34



NOTE:
 1. ALL DRAWINGS SHOWING UTILITY
 SUPPORT AND PROTECT WORK ARE
 FOR REFERENCE ONLY.

PLAN

CET ITEMS	
CET 304B	
CET 304C	
CET 401	
CET 402T.2A	
CET 402T.V2A	
CET 500	



SECTION LOOKING
 NORTH



JOB NO.: BED776

TEST PIT #:12

JOB: 48" TRUNK W.M. & 20", 8" DIST.
W.M. REPL. IN EAST NEW YORK AVENUE
JAMAICA AVENUE

TP DATE: 10-02-18

INSPECTOR: BL

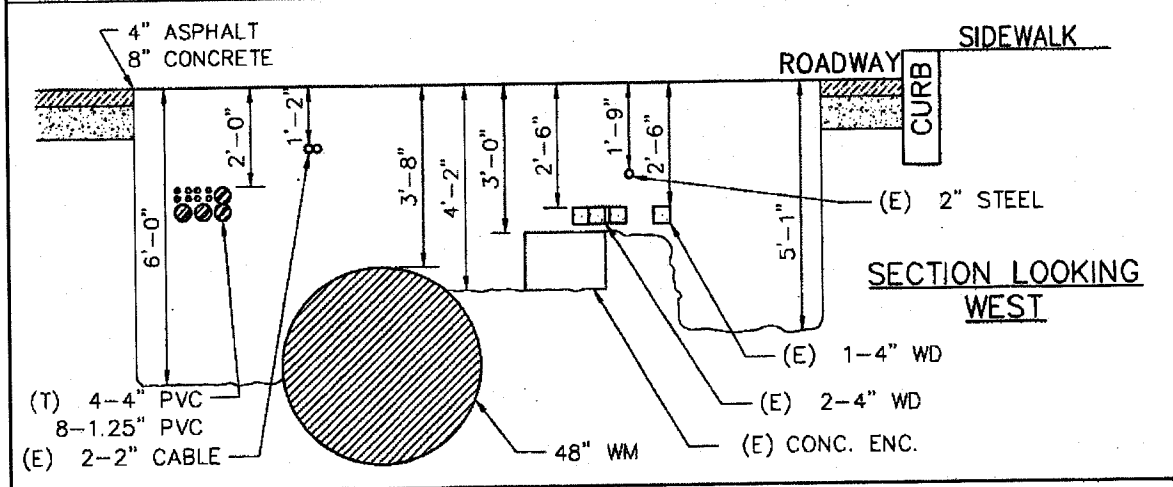
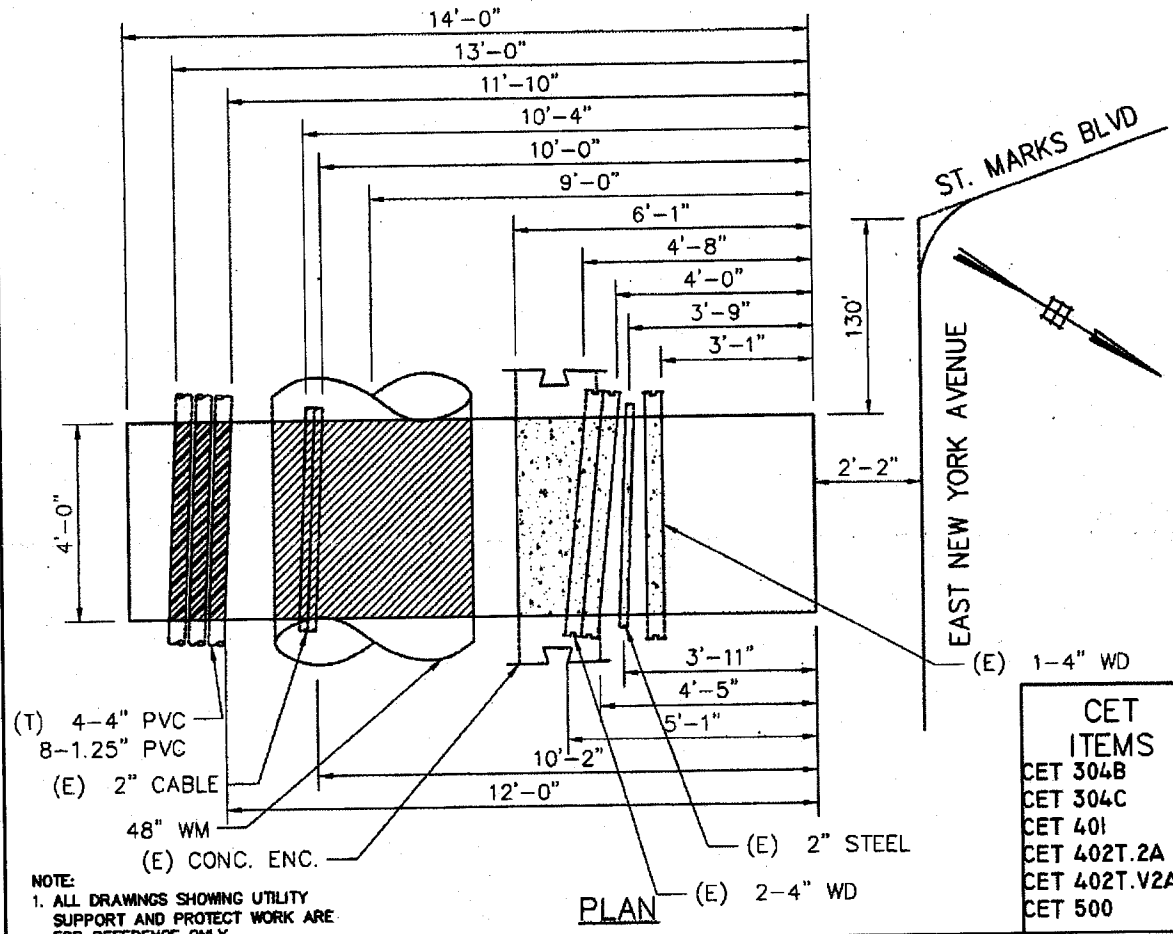
LOCATION: N/S OF EAST NEW YORK AVENUE, E/O ST MARKS AVENUE

PURPOSE: LOCATE EXISTING UNDERGROUND FACILITIES

DIMENSION: 14'-0"X4'-0"X4'-5"

VOLUME: 9.1 CY

SHEET NO. 14 OF 34





JOB NO.: BED776

TEST PIT #:13

JOB: 48" TRUNK W.M. & 20", 8" DIST.
W.M. REPL. IN EAST NEW YORK AVENUE
/ JAMAICA AVENUE

TP DATE: 09-27-18

INSPECTOR: BJL

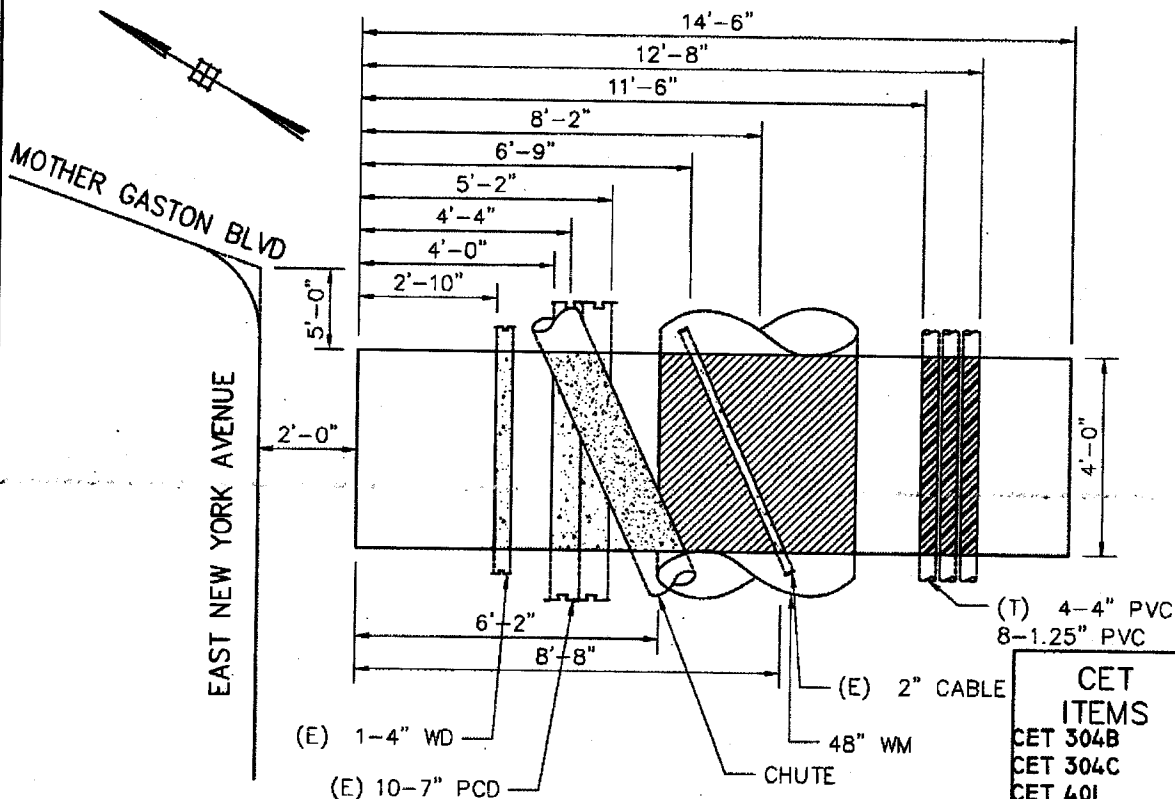
LOCATION: N/S OF EAST NEW YORK AVENUE, W/O MOTHER GASTON BOULEVARD

PURPOSE: LOCATE EXISTING UNDERGROUND FACILITIES

DIMENSION: 14'-6" X 4'-0" X 3'-9"

VOLUME: 8.1 CY

SHEET NO. 15 OF 34



(T) 4-4" PVC
8-1.25" PVC

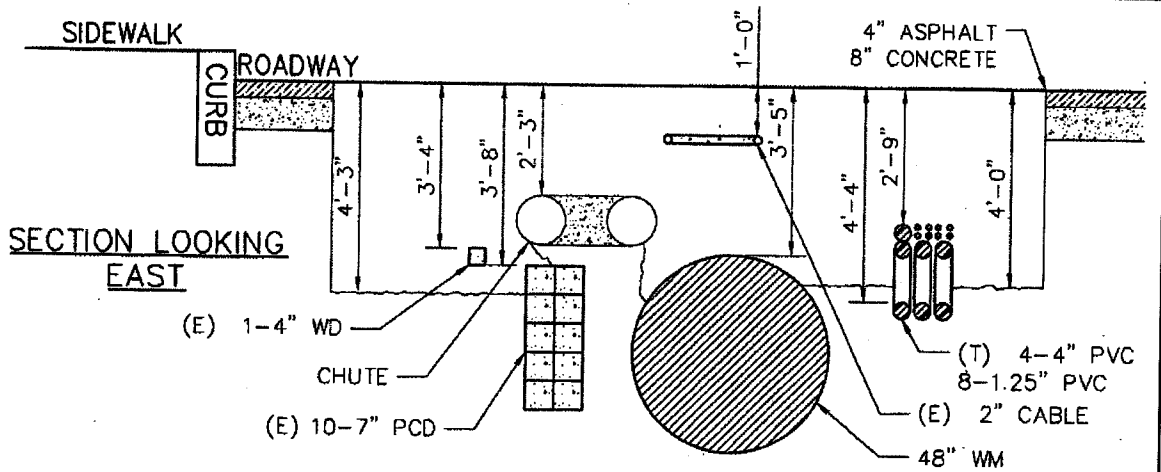
(E) 1-4" WD
(E) 10-7" PCD

(E) 2" CABLE
48" WM

- CET ITEMS**
- CET 304B
 - CET 304C
 - CET 40I
 - CET 402T.2A
 - CET 402T.V2A
 - CET 500

NOTE:
1. ALL DRAWINGS SHOWING UTILITY
SUPPORT AND PROTECT WORK ARE
FOR REFERENCE ONLY.

PLAN



SIDEWALK
ROADWAY
CURB
SECTION LOOKING EAST

(E) 1-4" WD
CHUTE
(E) 10-7" PCD

(T) 4-4" PVC
8-1.25" PVC
(E) 2" CABLE
48" WM



JOB NO.: BED776

TEST PIT # 14

JOB: 48" TRUNK W.M. & 20", 8" DIST.
W.M. REPL. IN EAST NEW YORK AVENUE
7 JAMAICA AVENUE

TP DATE: 09-27-18

INSPECTOR: BJL

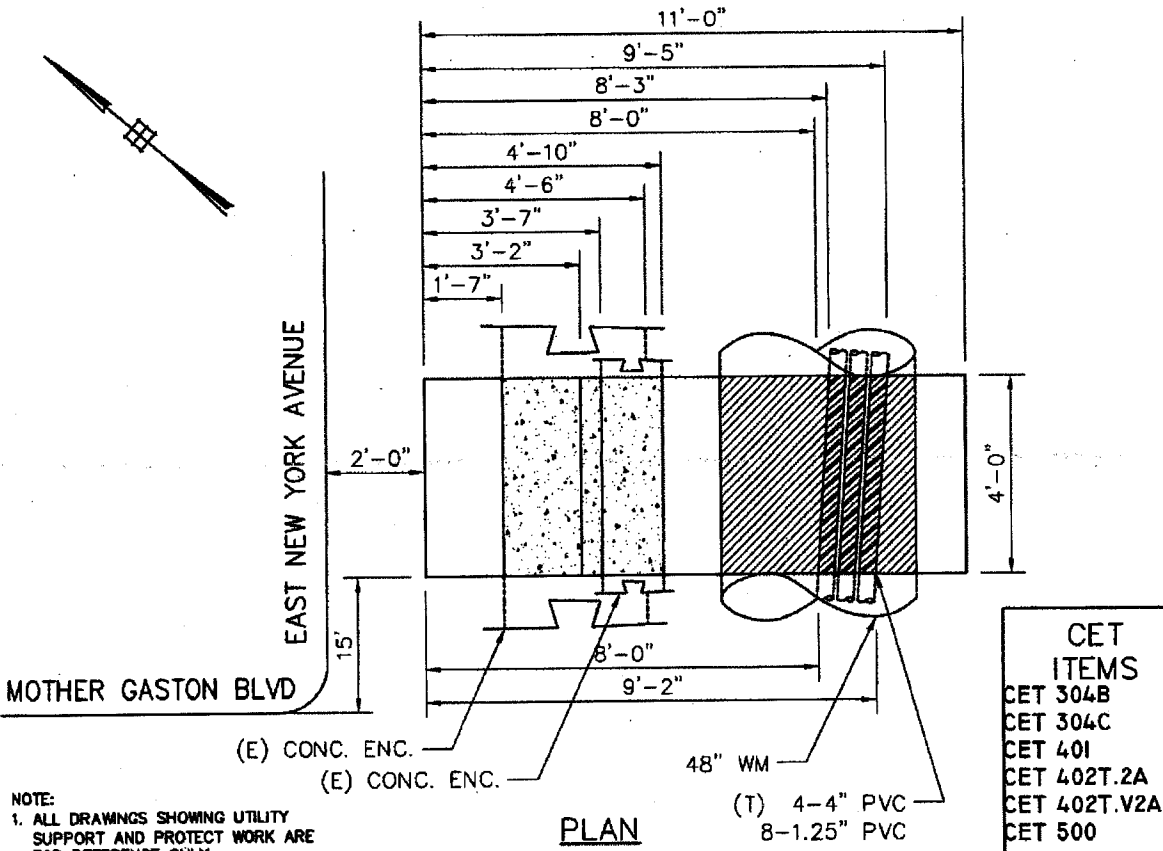
LOCATION: W/S OF EAST NEW YORK AVENUE, N/O MOTHER GASTON BOULEVARD

PURPOSE: LOCATE EXISTING UNDERGROUND FACILITIES

DIMENSION: 11'-0" X 4'-0" X 4'-2"

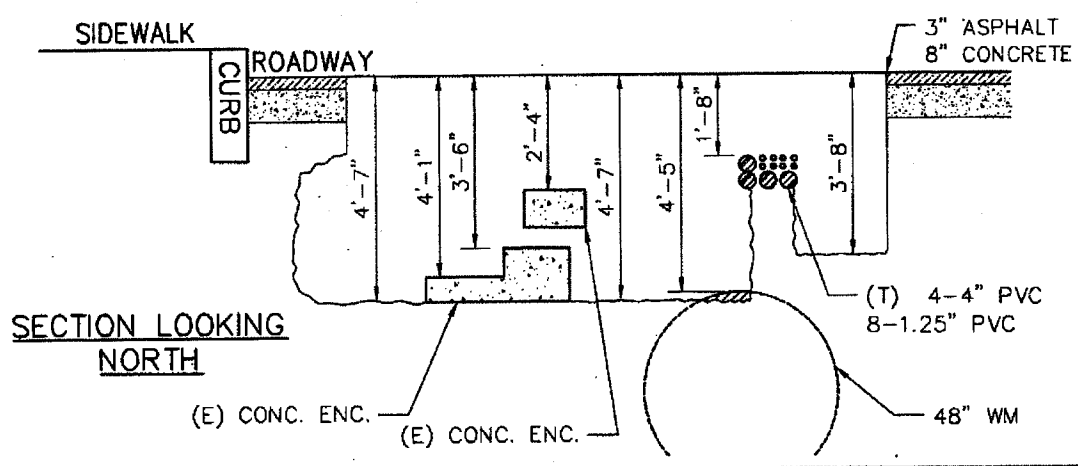
VOLUME: 6.8 CY

SHEET NO. 16 OF 34



- CET ITEMS**
- CET 304B
 - CET 304C
 - CET 401
 - CET 402T.2A
 - CET 402T.V2A
 - CET 500

NOTE:
 1. ALL DRAWINGS SHOWING UTILITY SUPPORT AND PROTECT WORK ARE FOR REFERENCE ONLY.





JOB NO.: BED776

TEST PIT #15

JOB: 48" TRUNK W.M. & 20", 8" DIST.
W.M. REPL. IN EAST NEW YORK AVENUE
/ JAMAICA AVENUE

TP DATE: 10-02-18

INSPECTOR: BJL

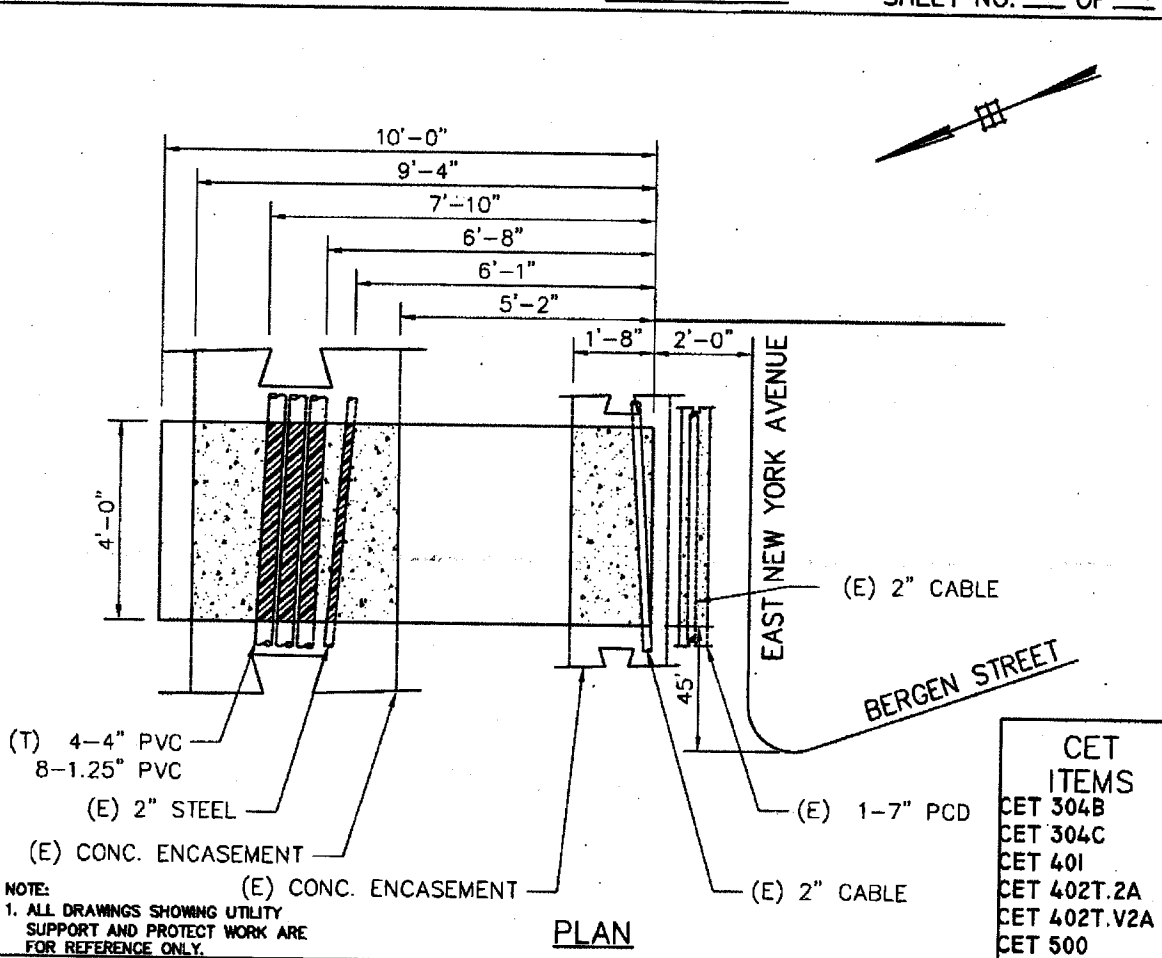
LOCATION: S/S OF EAST NEW YORK AVENUE, E/O BERGEN STREET

PURPOSE: LOCATE EXISTING UNDERGROUND FACILITIES

DIMENSION: 10'-0" X 4'-0" X 4'-9"

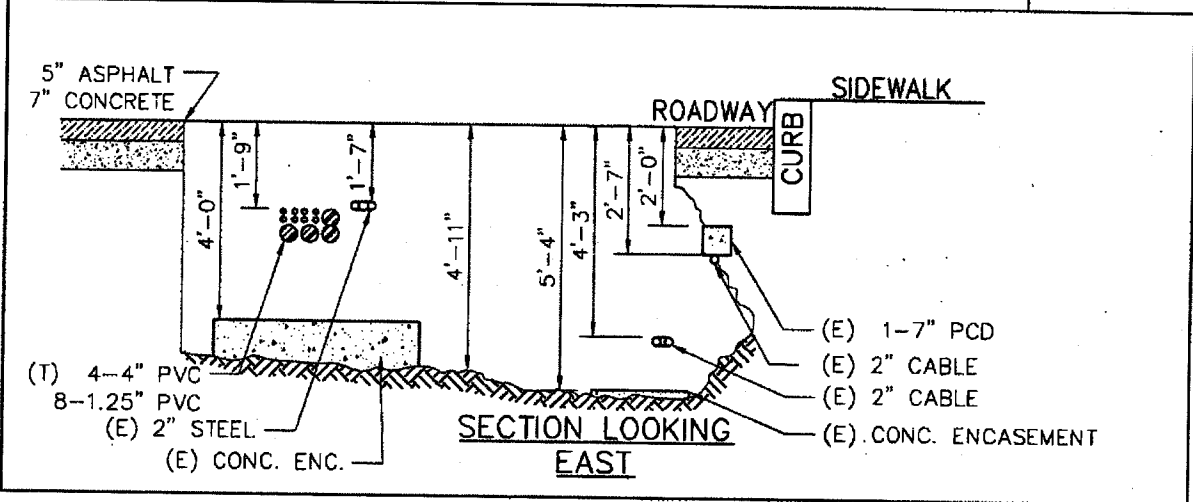
VOLUME: 7.0 CY

SHEET NO. 17 OF 34



NOTE:
 1. ALL DRAWINGS SHOWING UTILITY
 SUPPORT AND PROTECT WORK ARE
 FOR REFERENCE ONLY.

CET ITEMS	
CET 304B	
CET 304C	
CET 401	
CET 402T.2A	
CET 402T.V2A	
CET 500	





JOB NO.: BED776

TEST PIT #16

JOB: 48" TRUNK W.M. & 20", 8" DIST.
W.M. REPL. IN EAST NEW YORK AVENUE
/ JAMAICA AVENUE

TP DATE: 01-22-18

INSPECTOR: BJL

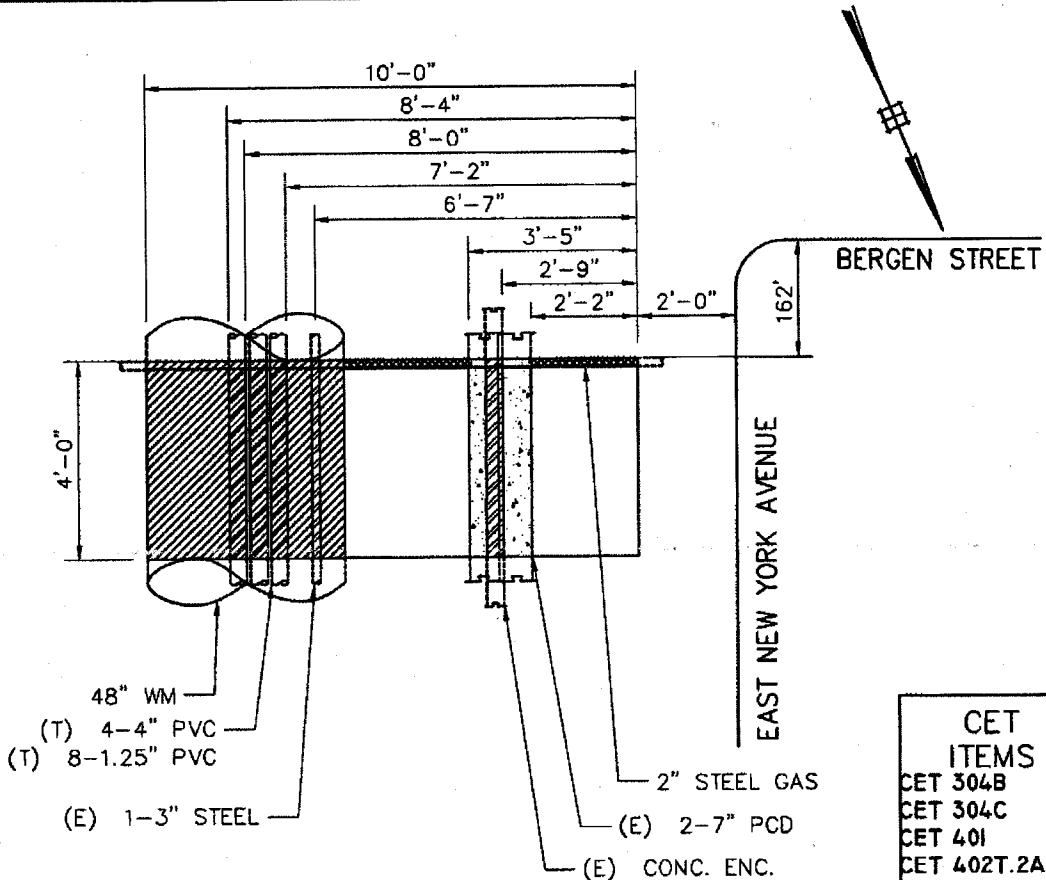
LOCATION: W/S OF EAST NEW YORK AVENUE, N/O BERGEN STREET

PURPOSE: LOCATE EXISTING UNDERGROUND FACILITIES

DIMENSION: 10'-0" X 4'-0" X 4'-1"

VOLUME: 6.0 CY

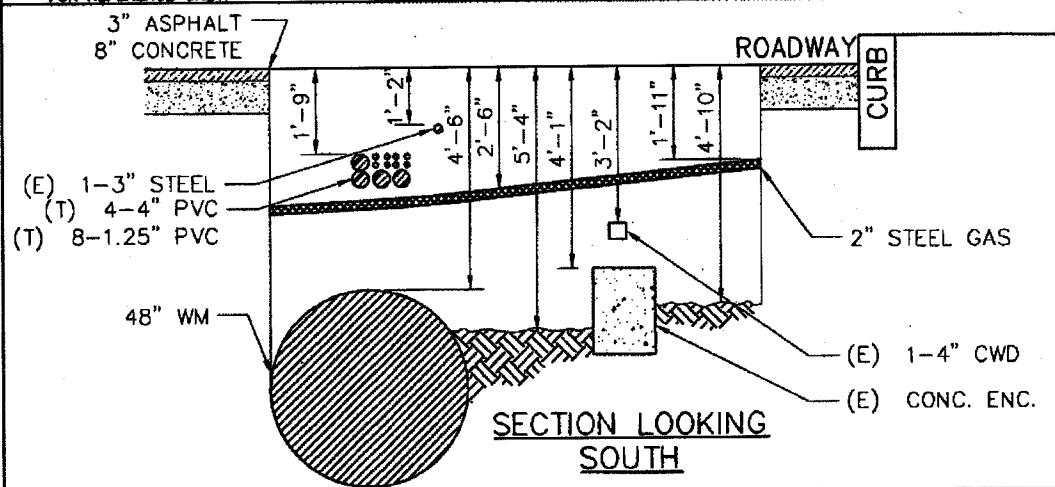
SHEET NO. 18 OF 34



- CET ITEMS**
- CET 304B
 - CET 304C
 - CET 40I
 - CET 402T.2A
 - CET 402T.V2A
 - CET 500

NOTE:
 1. ALL DRAWINGS SHOWING UTILITY SUPPORT AND PROTECT WORK ARE FOR REFERENCE ONLY.

PLAN



SECTION LOOKING SOUTH



JOB NO.: BED776

TEST PIT #: 17

JOB: 48" TRUNK W.M. & 20", 8" DIST.
W.M. REPL. IN EAST NEW YORK AVENUE
JAMAICA AVENUE

TP DATE: 10-03-18

INSPECTOR: BJL

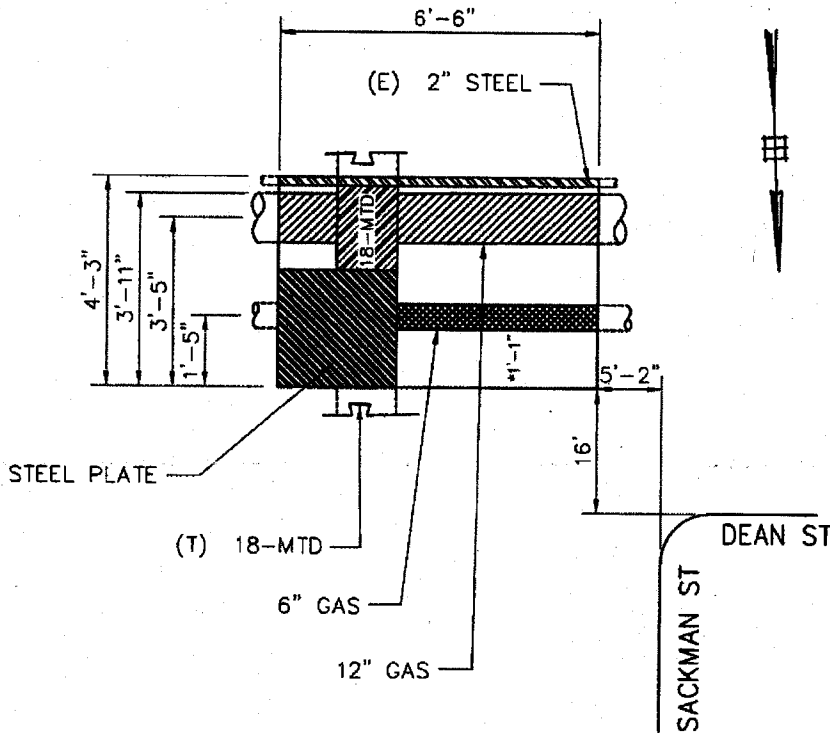
LOCATION: INT. OF SACKMAN STREET AND DEAN STREET

PURPOSE: LOCATE EXISTING UNDERGROUND FACILITIES

DIMENSION: 6'-6" X 4'-3" X 2'-11"

VOLUME: 3.0 CY

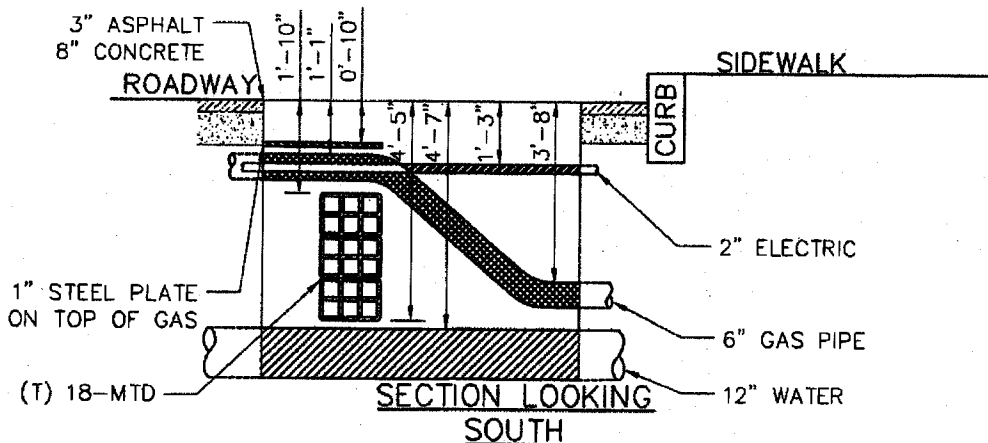
SHEET NO. 19 OF 34



CET
 ITEMS
 CET 108.3

NOTE:
 1. ALL DRAWINGS SHOWING UTILITY
 SUPPORT AND PROTECT WORK ARE
 FOR REFERENCE ONLY.

PLAN





JOB NO.: BED776

TEST PIT #:18

JOB: 48" TRUNK W.M. & 20", 8" DIST.
W.M. REPL. IN EAST NEW YORK AVENUE
7 JAMAICA AVENUE

TP DATE: 10-24-18

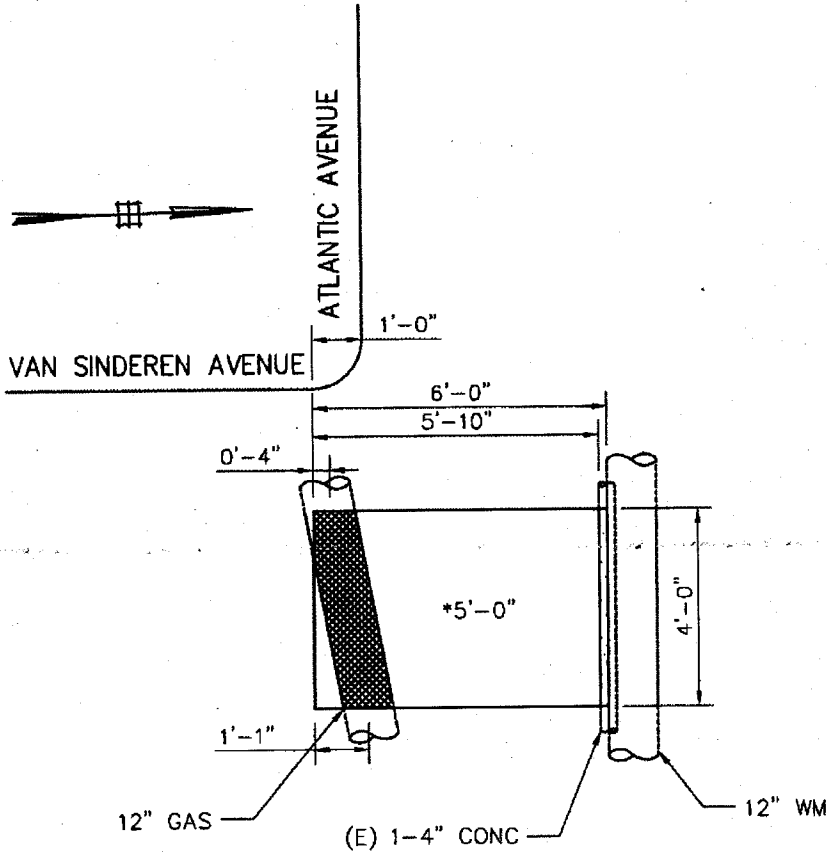
INSPECTOR: KWS

LOCATION: INT. OF VAN SINDEREN AVENUE AND ATLANTIC AVENUE

PURPOSE: LOCATE EXISTING UNDERGROUND FACILITIES

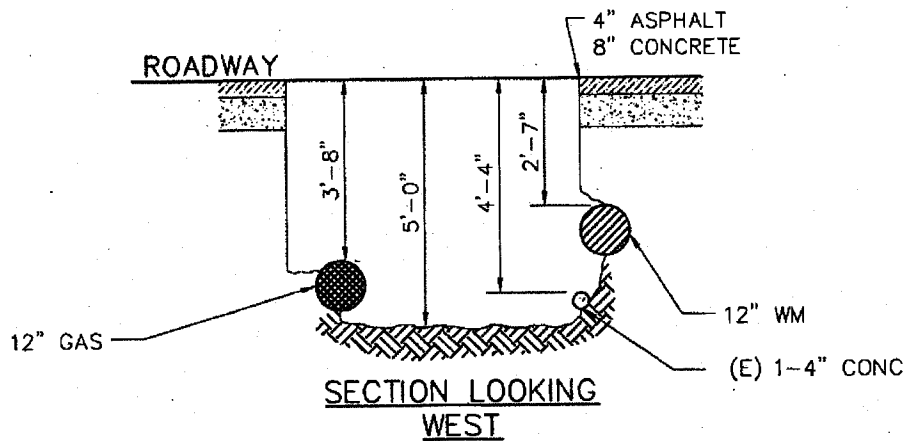
DIMENSION: 6'-0"X4'-0"X4'-8" , VOLUME: 4.2 CY

SHEET NO. 20 OF 34




NOTE:
 1. ALL DRAWINGS SHOWING UTILITY
 SUPPORT AND PROTECT WORK ARE
 FOR REFERENCE ONLY.

PLAN



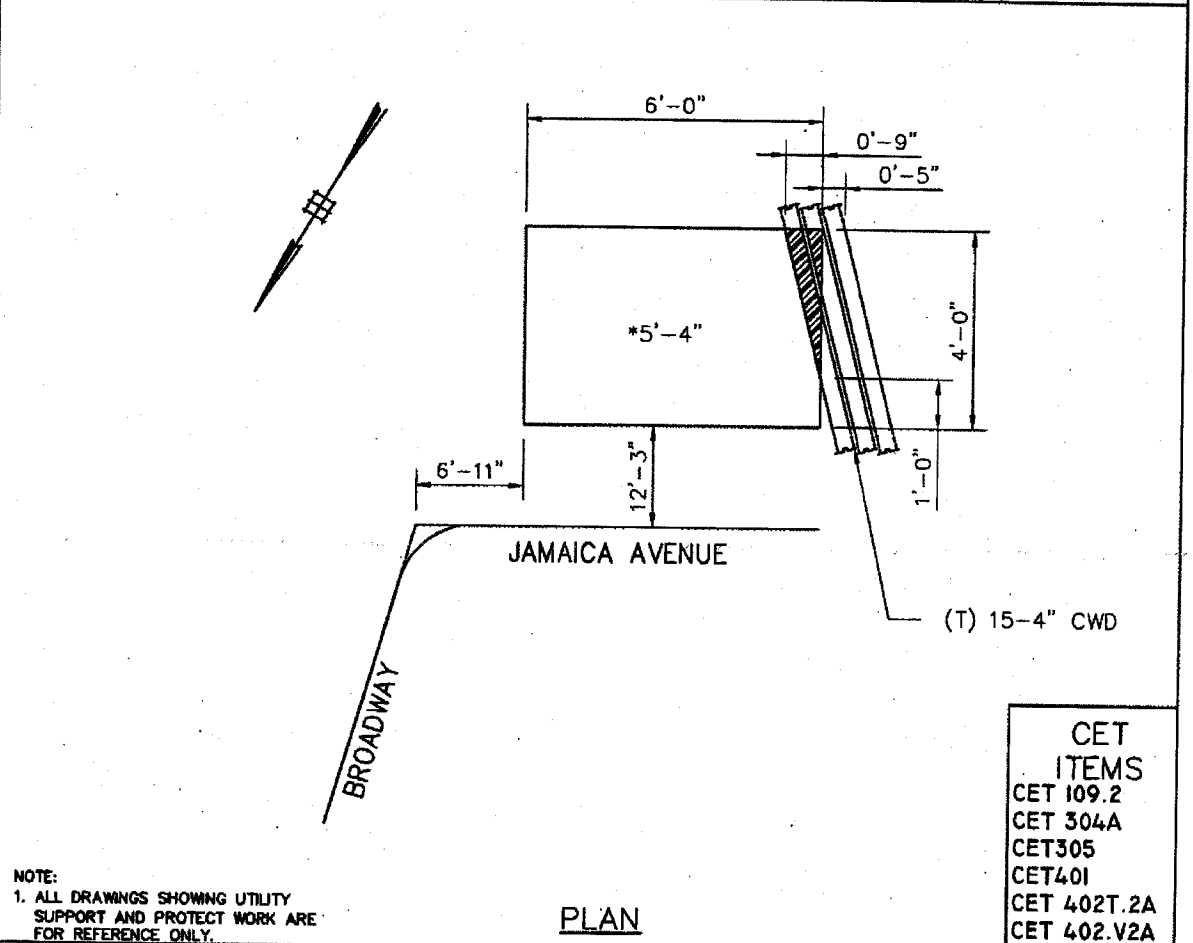
SECTION LOOKING
 WEST

	JOB NO.: <u>BED776</u>	TEST PIT #: <u>23</u>
	JOB: <u>48" TRUNK W.M. & 20", 8" DIST.</u> <u>W.M. REPL. IN EAST NEW YORK AVENUE</u> <u>/ JAMAICA AVENUE</u>	TP DATE: <u>10-24-18</u>

LOCATION: S/S OF JAMAICA AVENUE, W/O BROADWAY

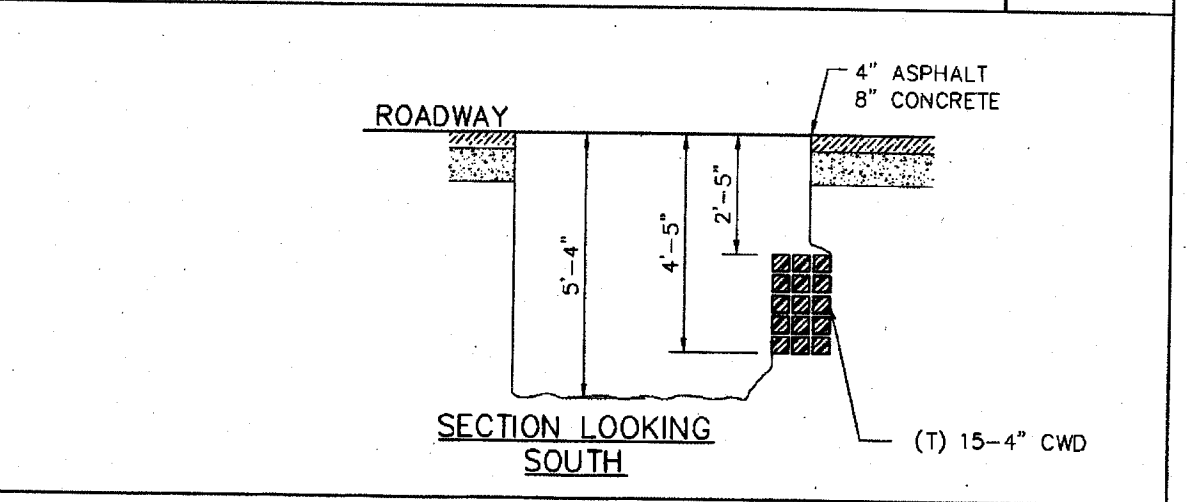
PURPOSE: LOCATE EXISTING UNDERGROUND FACILITIES

DIMENSION: 6'-0" X 4'-0" X 5'-4" VOLUME: 4.7 CY SHEET NO. 21 OF 34



NOTE:
1. ALL DRAWINGS SHOWING UTILITY SUPPORT AND PROTECT WORK ARE FOR REFERENCE ONLY.

PLAN



SECTION LOOKING SOUTH



JOB NO.: BED776

TEST PIT # 24

JOB: 48" TRUNK W.M. & 20", 8" DIST.
W.M. REPL. IN EAST NEW YORK AVENUE
/ JAMAICA AVENUE

TP DATE: 10-29-18

INSPECTOR: BJL

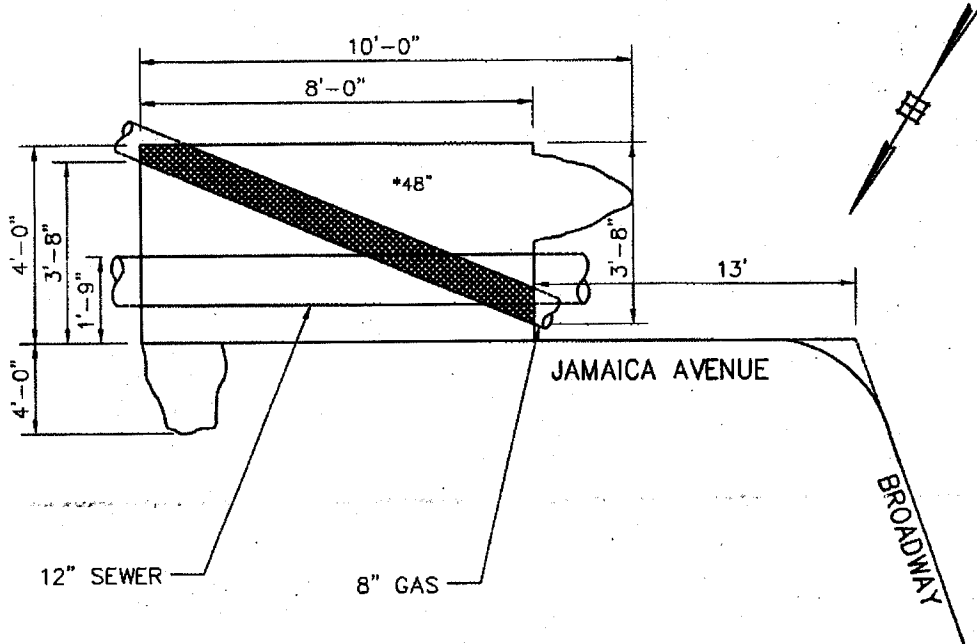
LOCATION: N/S OF JAMAICA AVENUE, E/O BROADWAY

PURPOSE: LOCATE EXISTING UNDERGROUND FACILITIES

DIMENSION: 8'-0" X 4'-0" X 4'-0"

VOLUME: 4.7 CY

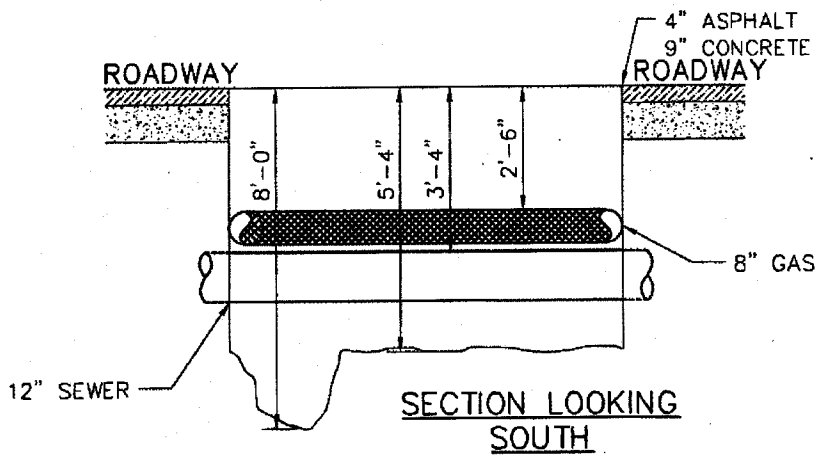
SHEET NO. 22 OF 34



CET
ITEMS

NOTE:
1. ALL DRAWINGS SHOWING UTILITY
SUPPORT AND PROTECT WORK ARE
FOR REFERENCE ONLY.

PLAN



SECTION LOOKING SOUTH



JOB NO.: BED776

TEST PIT #: 25

JOB: 48" TRUNK W.M. & 20", 8" DIST.
W.M. REPL. IN EAST NEW YORK AVENUE
7 JAMAICA AVENUE

TP DATE: 10-29-18

INSPECTOR: BJL

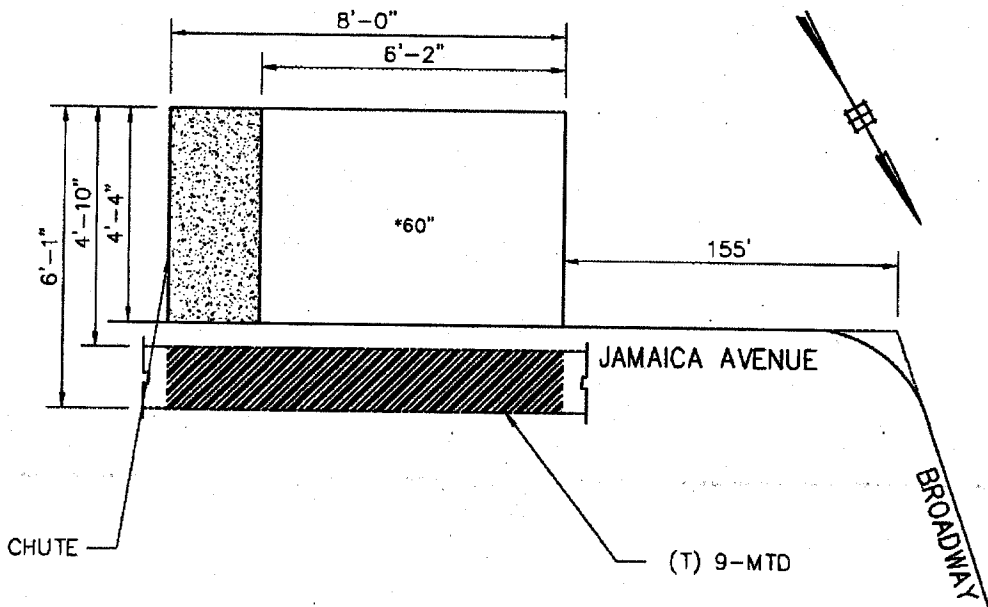
LOCATION: N/S OF JAMAICA AVENUE, E/O BROADWAY

PURPOSE: LOCATE EXISTING UNDERGROUND FACILITIES

DIMENSION: 8'-0"X4'-4"X4'-0"

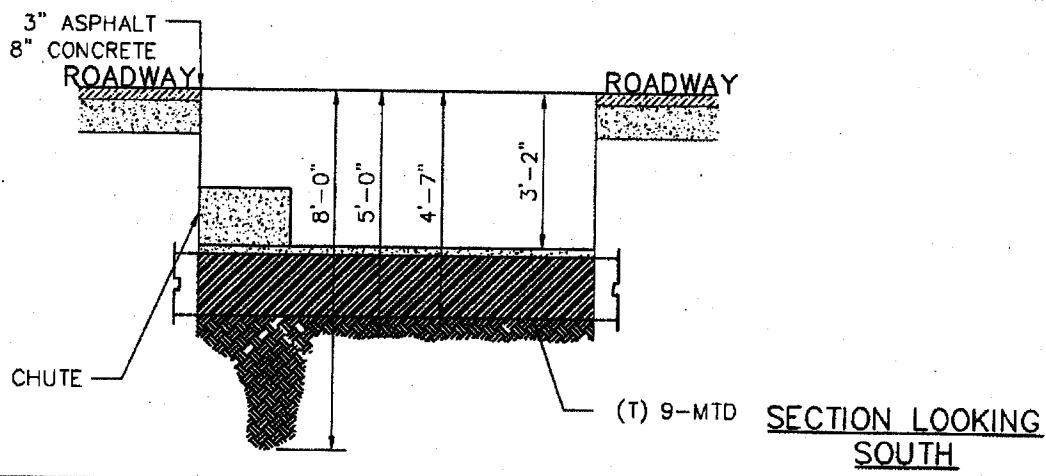
VOLUME: 5.1 CY

SHEET NO. 23 OF 34



NOTE:
1. ALL DRAWINGS SHOWING UTILITY
SUPPORT AND PROTECT WORK ARE
FOR REFERENCE ONLY.

PLAN



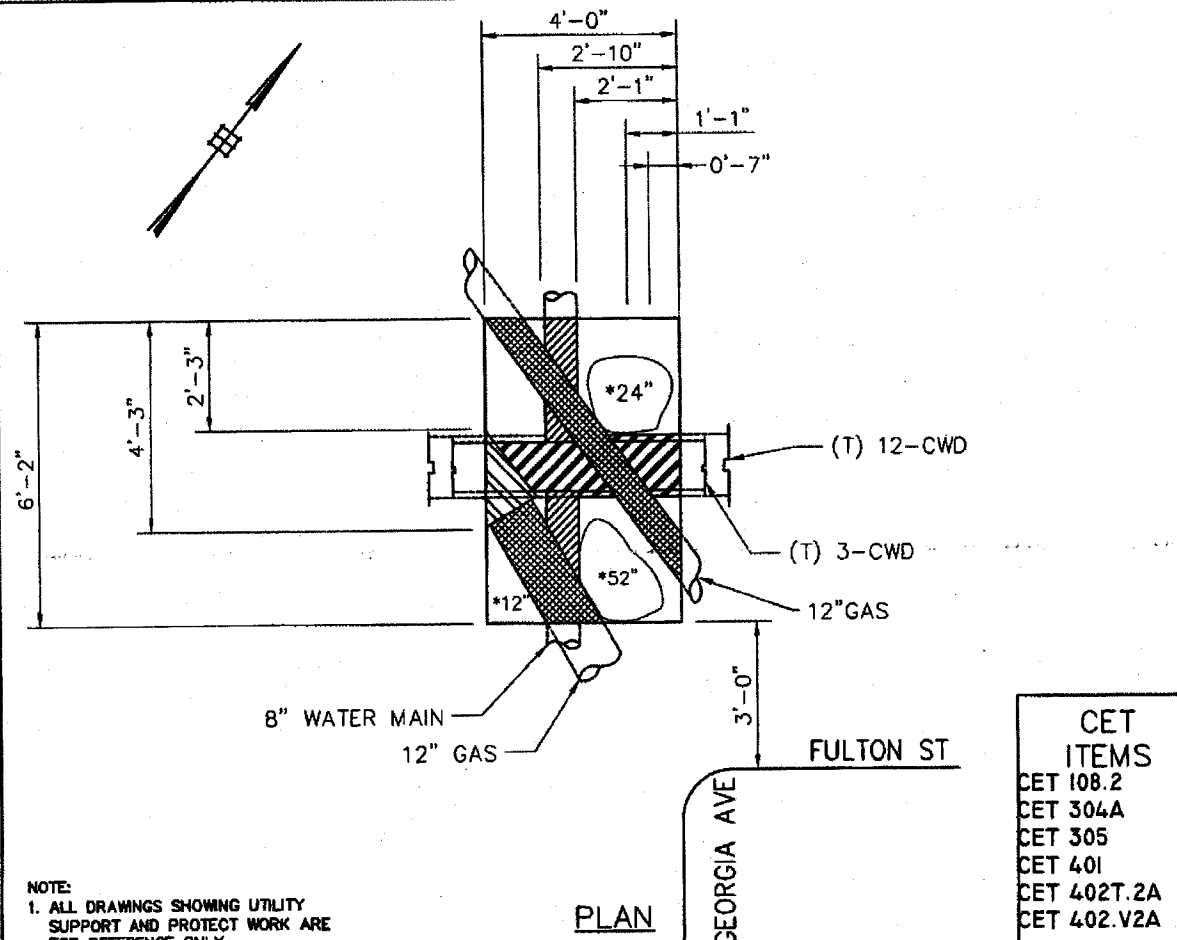
SECTION LOOKING SOUTH

verizon	JOB NO.: <u>BED776</u>	TEST PIT # <u>26</u>
	JOB: <u>48" TRUNK W.M. & 20", 8" DIST.</u> <u>W.M. REPL. IN EAST NEW YORK AVENUE</u> <u>JAMAICA AVENUE</u>	TP DATE: <u>10-05-18</u> INSPECTOR: <u>BJL/KM</u>

LOCATION: INT. OF FULTON STREET AND GEORGIA AVENUE

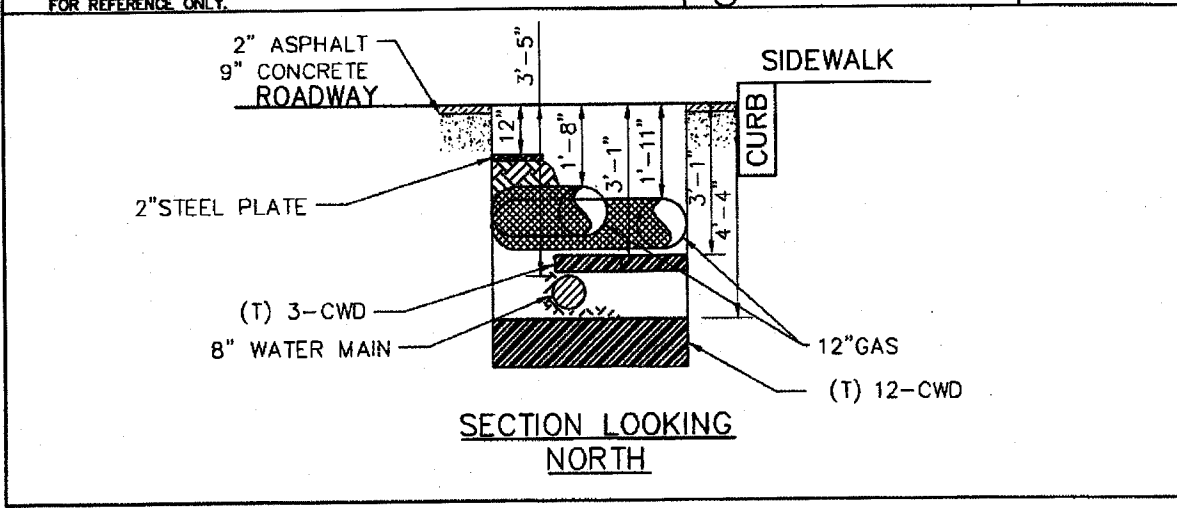
PURPOSE: LOCATE EXISTING UNDERGROUND FACILITIES

DIMENSION: 6'-2"X4'-0"X3'-2" VOLUME: 2.9 CY SHEET NO. 24 OF 34



CET ITEMS
CET 108.2
CET 304A
CET 305
CET 401
CET 402T.2A
CET 402.V2A

NOTE:
1. ALL DRAWINGS SHOWING UTILITY
SUPPORT AND PROTECT WORK ARE
FOR REFERENCE ONLY.





JOB NO.: BED776

TEST PIT # 27

JOB: 48" TRUNK W.M. & 20", 8" DIST.
W.M. REPL. IN EAST NEW YORK AVENUE
7 JAMAICA AVENUE

TP DATE: 10-09-18

INSPECTOR: KWS

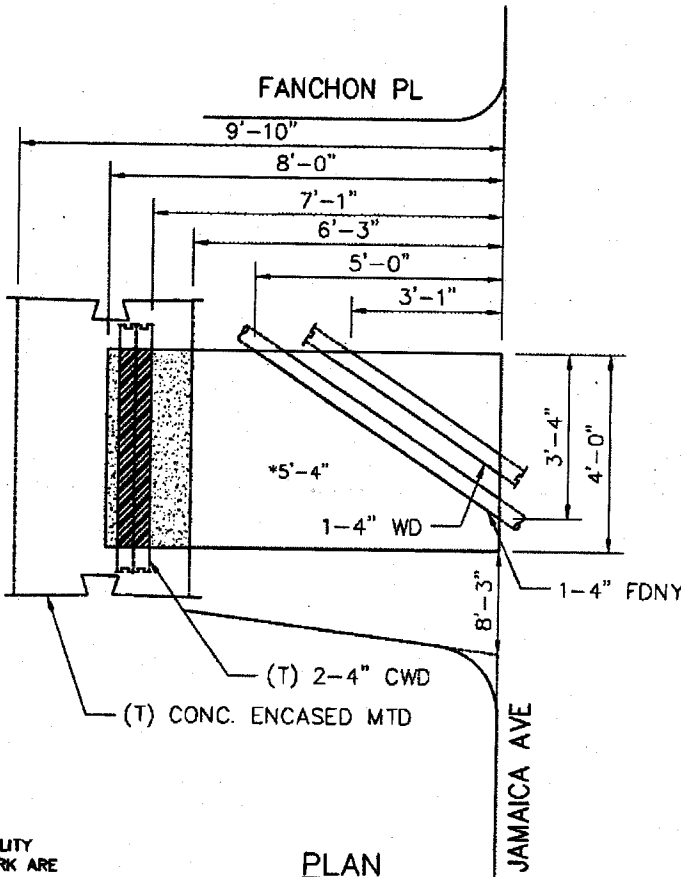
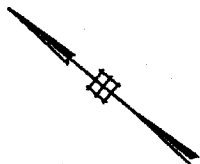
LOCATION: INT. OF FANCHON PLACE AND JAMAICA AVENUE

PURPOSE: LOCATE EXISTING UNDERGROUND FACILITIES

DIMENSION: 8'-0" X 4'-0" X 4'-1"

VOLUME: 4.8 CY

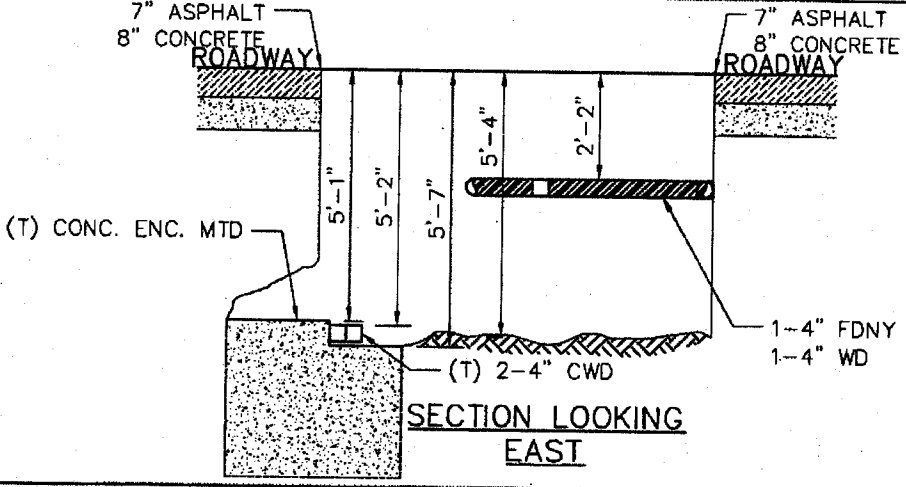
SHEET NO. 25 OF 34



CET
 ITEMS
 CET 225A

NOTE:
 1. ALL DRAWINGS SHOWING UTILITY
 SUPPORT AND PROTECT WORK ARE
 FOR REFERENCE ONLY.

PLAN



SECTION LOOKING
 EAST



JOB NO.: BED776

TEST PIT # 28

JOB: 48" TRUNK W.M. & 20", 8" DIST.
W.M. REPL. IN EAST NEW YORK AVENUE
JAMAICA AVENUE

TP DATE: 10-03-18

INSPECTOR: BJL

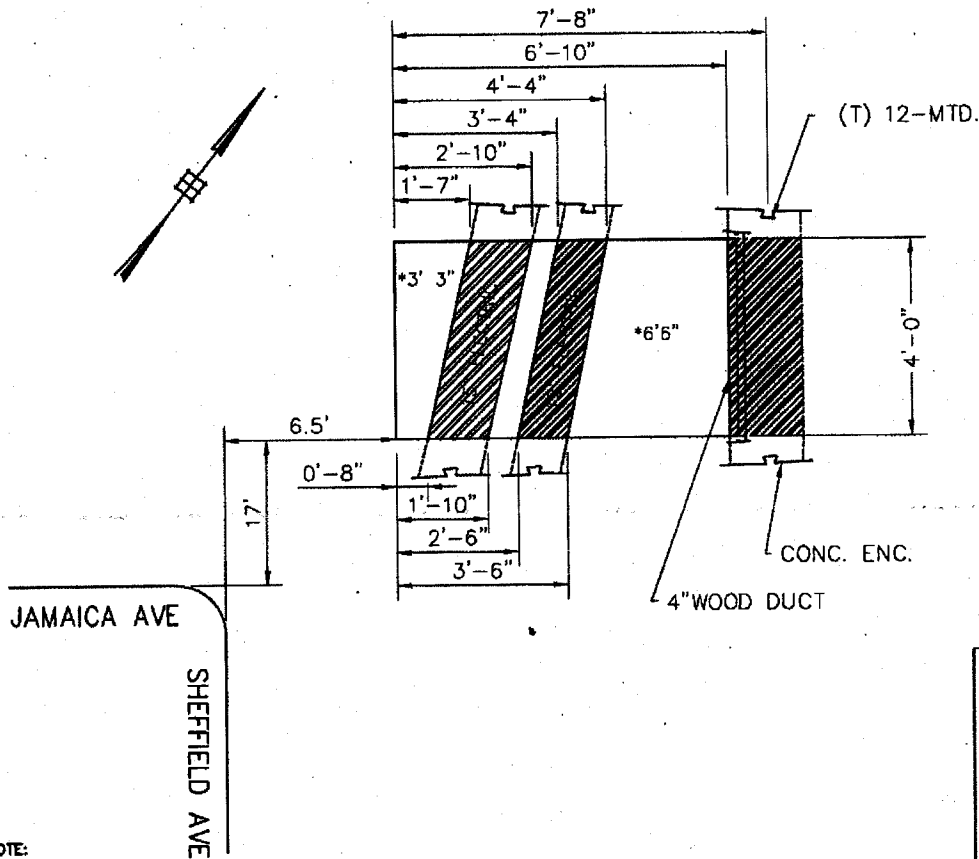
LOCATION: INT. OF JAMAICA AVENUE AND SHEFFIELD AVENUE

PURPOSE: LOCATE EXISTING UNDERGROUND FACILITIES

DIMENSION: 7'-0" X 4'-0" X 4'-5"

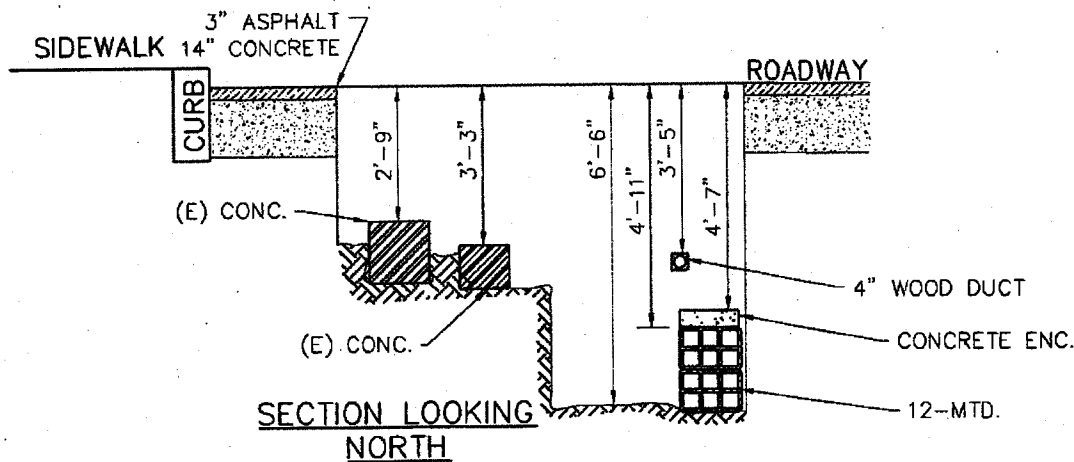
VOLUME: 4.6 CY

SHEET NO. 26 OF 34



NOTE:
 1. ALL DRAWINGS SHOWING UTILITY
 SUPPORT AND PROTECT WORK ARE
 FOR REFERENCE ONLY.

PLAN



SECTION LOOKING
 NORTH



JOB NO.: BED776

TEST PIT #: 28A

JOB: 48" TRUNK W.M. & 20", 8" DIST.
W.M. REPL. IN EAST NEW YORK AVENUE
JAMAICA AVENUE

TP DATE: 11-15-18

INSPECTOR: BJL

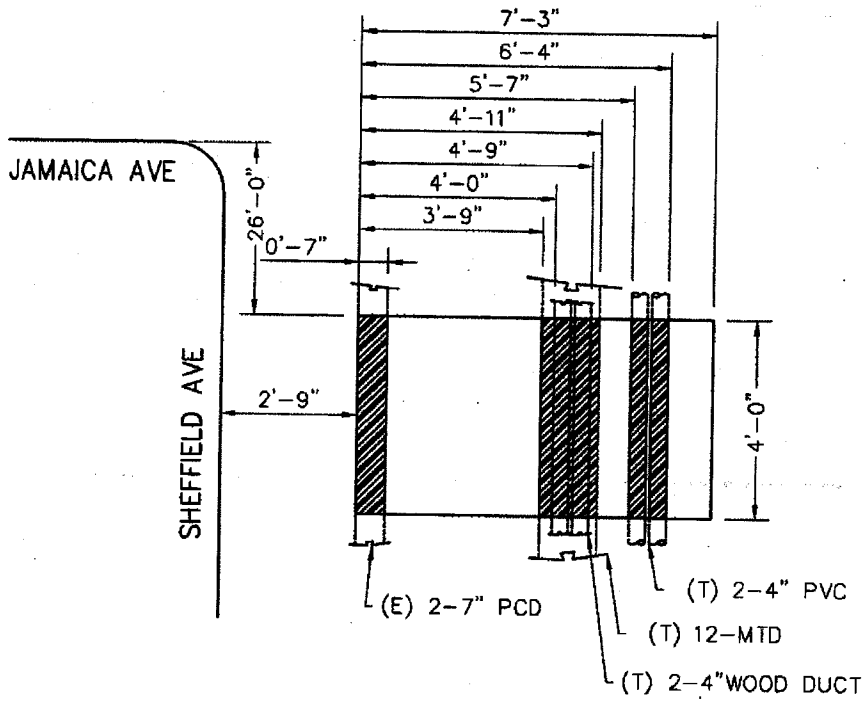
LOCATION: W/S OF SHEFFIELD AVENUE, S/O JAMAICA AVENUE

PURPOSE: LOCATE EXISTING UNDERGROUND FACILITIES

DIMENSION: 7'-3" X 4'-0" X 3'-4"

VOLUME: 3.6 CY

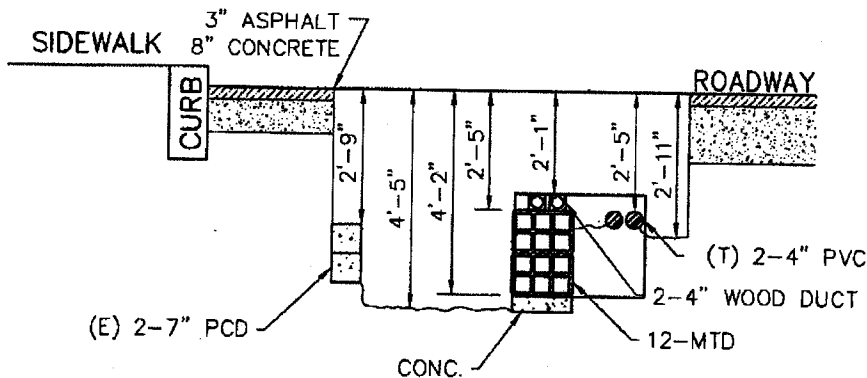
SHEET NO. 27 OF 34



NOTE:
 1. ALL DRAWINGS SHOWING UTILITY
 SUPPORT AND PROTECT WORK ARE
 FOR REFERENCE ONLY.

PLAN

CET ITEMS
CET 100.3
CET 304A
CET 305
CET 401
CET 402T.2A
CET 402T.V2A



SECTION LOOKING
 NORTH



JOB NO.: BED776

TEST PIT # 29

JOB: 48" TRUNK W.M. & 20", 8" DIST.
 W.M. REPL. IN EAST NEW YORK AVENUE
 / JAMAICA AVENUE

TP DATE: 10-03-18

INSPECTOR: BJL

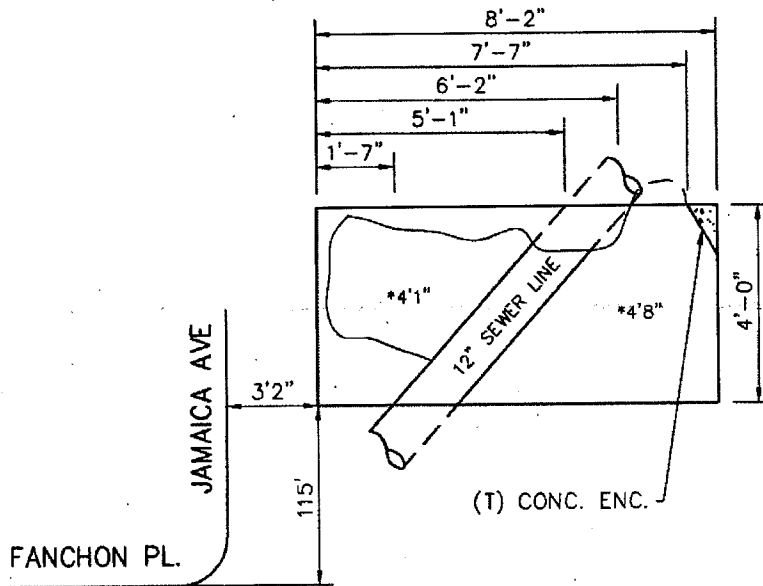
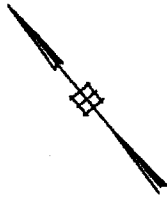
LOCATION: W/S OF JAMAICA AVENUE, N/O FANCHON PLACE

PURPOSE: LOCATE EXISTING UNDERGROUND FACILITIES

DIMENSION: 8'-2" X 4'-0" X 4'-3"

VOLUME: 5.1 CY

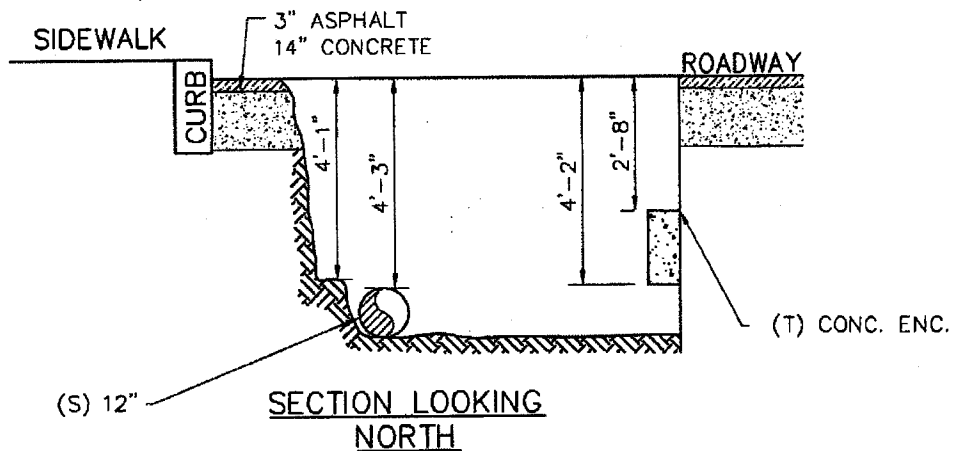
SHEET NO. 28 OF 34



- CET
 ITEMS
 CET304A
 CET305
 CET 401
 CET 402T.2A
 CET 402T.V2A

NOTE:
 1. ALL DRAWINGS SHOWING UTILITY
 SUPPORT AND PROTECT WORK ARE
 FOR REFERENCE ONLY.

PLAN





JOB NO.: BED776

TEST PIT #: 30

JOB: 48" TRUNK W.M. & 20", 8" DIST.
W.M. REPL. IN EAST NEW YORK AVENUE
/ JAMAICA AVENUE

TP DATE: 10-03-18

INSPECTOR: BJL

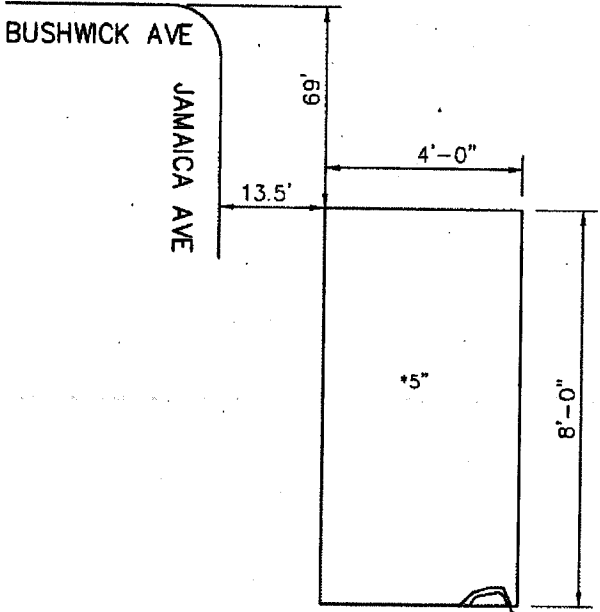
LOCATION: W/S OF JAMAICA AVENUE, S/O BUSHWICK AVENUE

PURPOSE: LOCATE EXISTING UNDERGROUND FACILITIES

DIMENSION: 8'-0" X 4'-0" X 5'-0"

VOLUME: 5.9 CY

SHEET NO. 29 OF 34

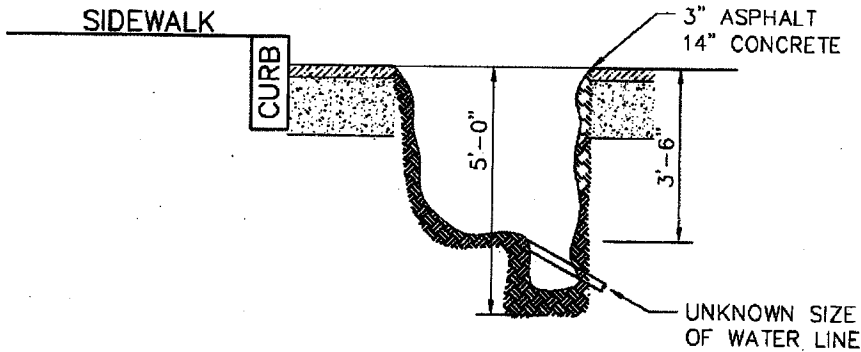


UNKNOWN SIZE OF WATER LINE

CET
ITEMS

NOTE:
1. ALL DRAWINGS SHOWING UTILITY
SUPPORT AND PROTECT WORK ARE
FOR REFERENCE ONLY.

PLAN

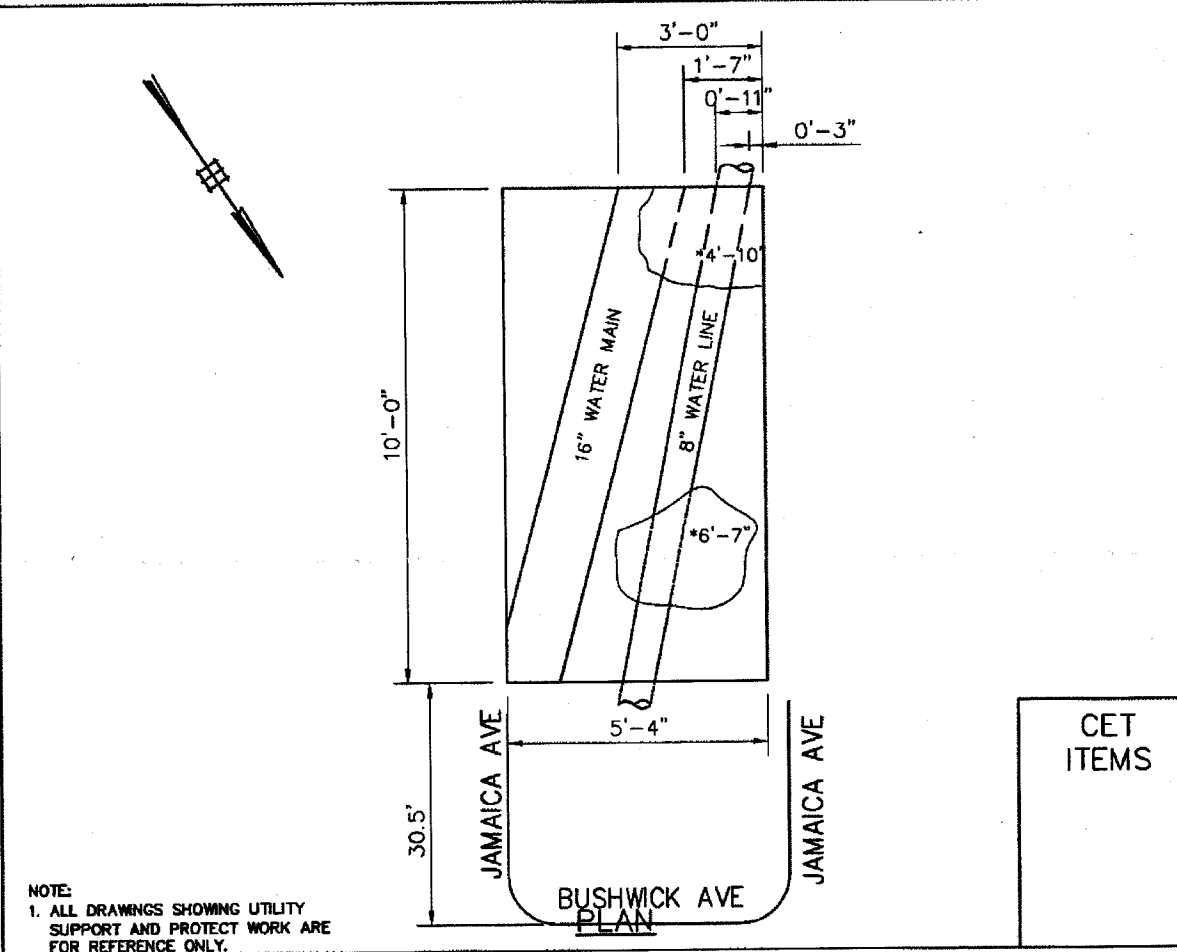


UNKNOWN SIZE OF WATER LINE

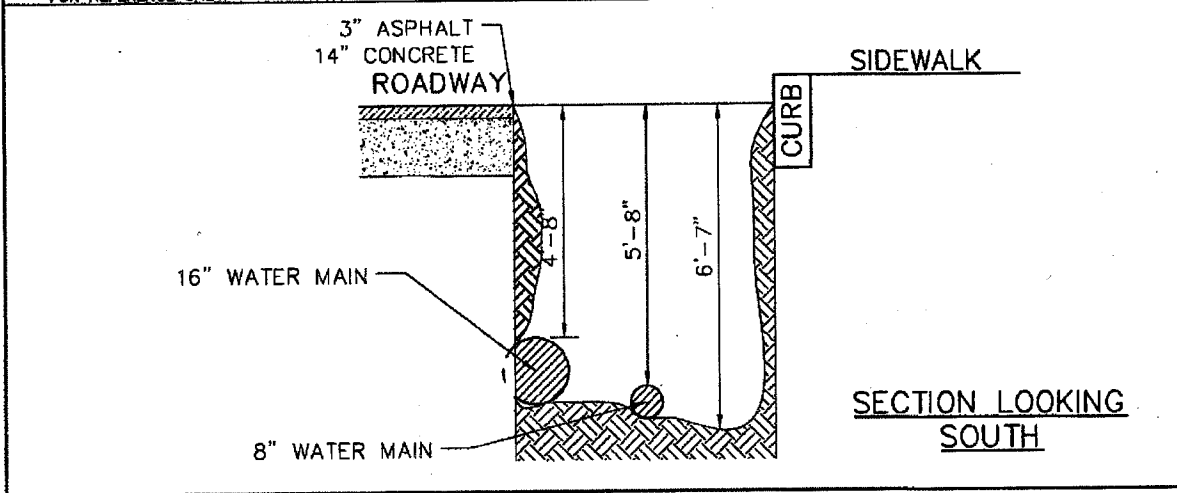
SECTION LOOKING
NORTH

verizon [✓]	JOB NO.: <u>BED776</u>	TEST PIT #: <u>31</u>
	JOB: <u>48" TRUNK W.M. & 20", 8" DIST.</u>	TP DATE: <u>10-05-18</u>
	<u>W.M. REPL. IN EAST NEW YORK AVENUE</u> <u>7 JAMAICA AVENUE</u>	INSPECTOR: <u>BJL</u>

LOCATION: S/S OF JAMAICA AVENUE, W/O BUSHWICK AVENUE
 PURPOSE: LOCATE EXISTING UNDERGROUND FACILITIES
 DIMENSION: 10'-0" X 5'-4" X 5'-3" VOLUME: 10.4 CY SHEET NO. 30 OF 34



NOTE:
 1. ALL DRAWINGS SHOWING UTILITY
 SUPPORT AND PROTECT WORK ARE
 FOR REFERENCE ONLY.





JOB NO.: BED776

TEST PIT # 32

JOB: 48" TRUNK W.M. & 20", 8" DIST.
 W.M. REPL. IN EAST NEW YORK AVENUE
 / JAMAICA AVENUE

TP DATE: 10-05-18

INSPECTOR: BJL

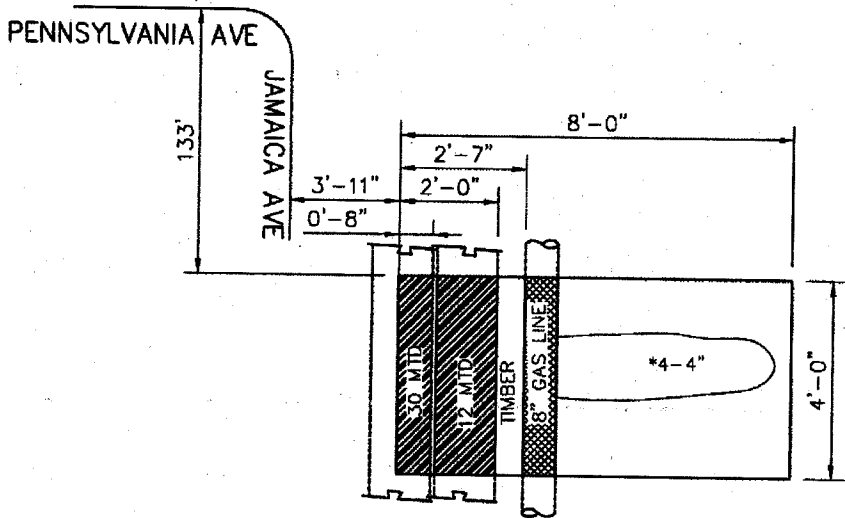
LOCATION: E/S OF JAMAICA AVENUE, N/O PENNSYLVANIA AVENUE

PURPOSE: LOCATE EXISTING UNDERGROUND FACILITIES

DIMENSION: 8'-0" X 4'-0" X 3'-3"

VOLUME: 3.9 CY

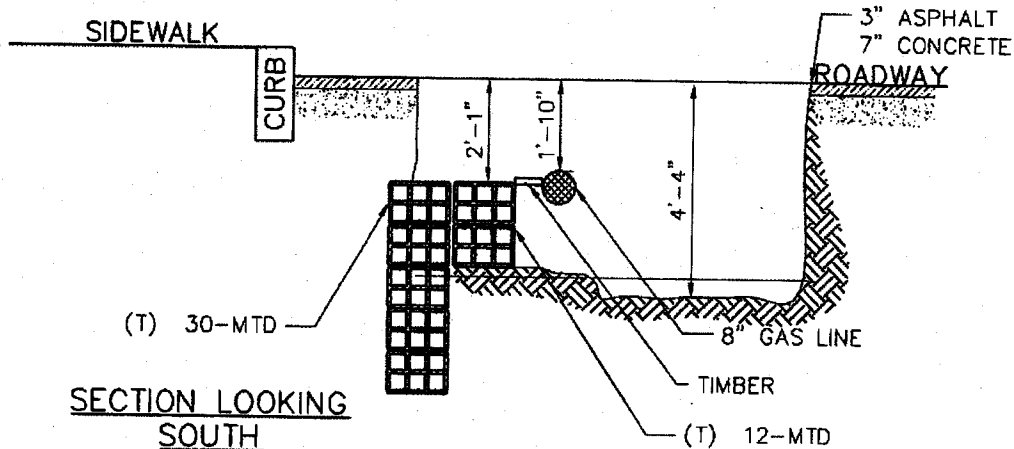
SHEET NO. 31 OF 34




CET ITEMS
CET 304A
CET 305
CET 401
CET 402T.2A
CET 402T.V2A
CET 500

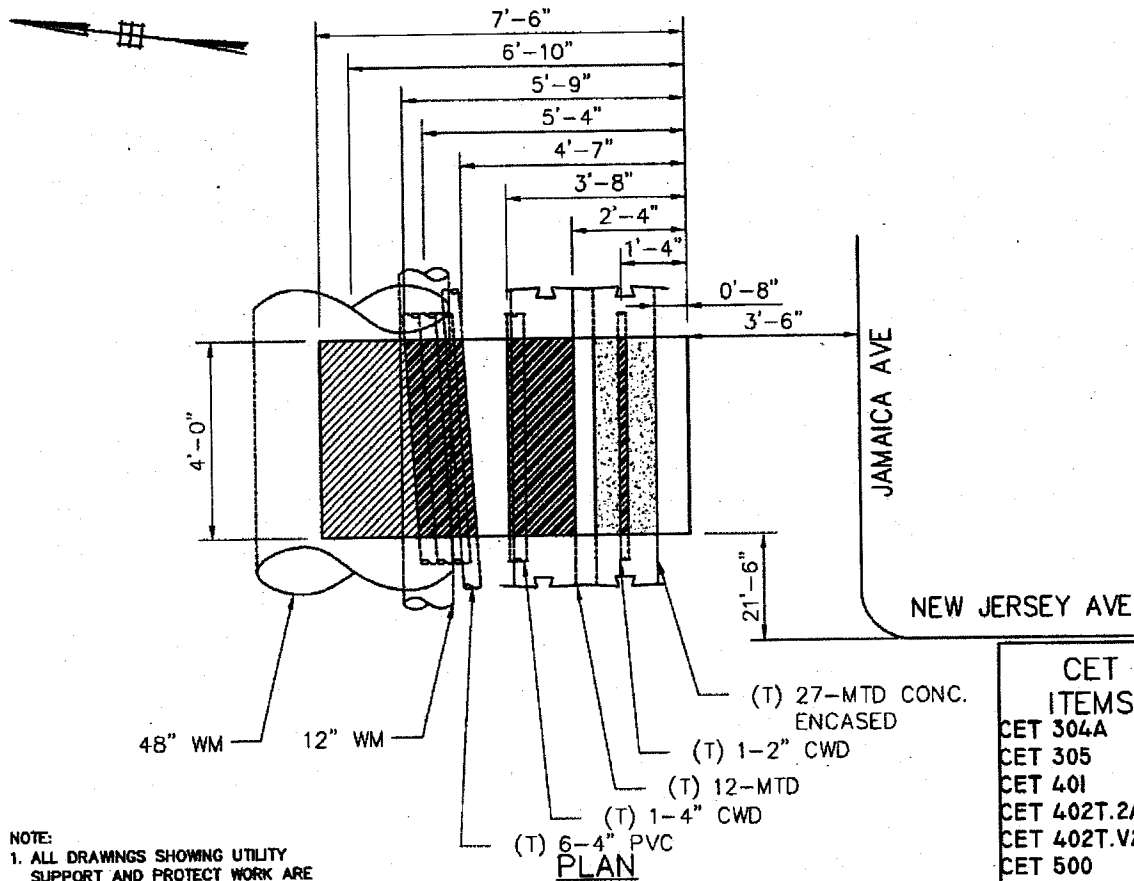
NOTE:
 1. ALL DRAWINGS SHOWING UTILITY
 SUPPORT AND PROTECT WORK ARE
 FOR REFERENCE ONLY.

PLAN

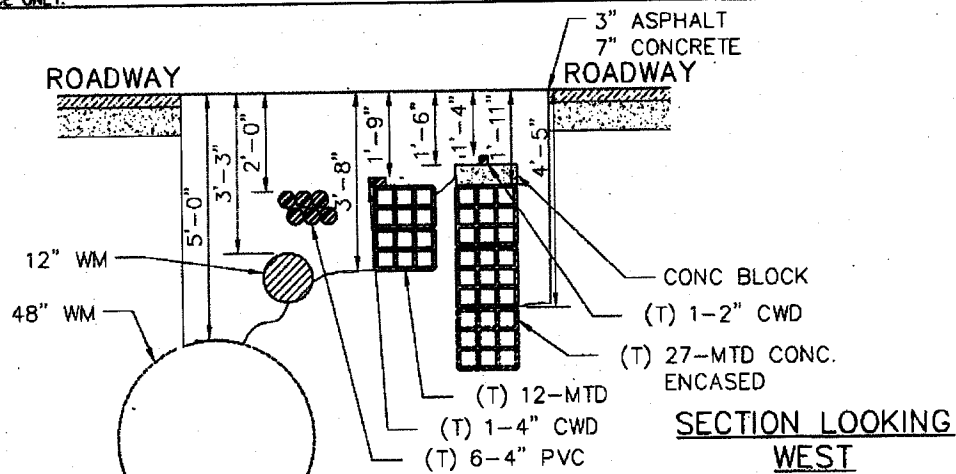


SECTION LOOKING SOUTH

	JOB NO.: <u>BED776</u>	TEST PIT #: <u>33</u>	
	JOB: <u>48" TRUNK W.M. & 20", 8" DIST.</u> <u>W.M. REPL. IN EAST NEW YORK AVENUE</u> <u>7 JAMAICA AVENUE</u>	TP DATE: <u>10-09-18</u>	INSPECTOR: <u>KWS</u>
LOCATION: <u>S/S OF JAMAICA AVENUE, E/O NEW JERSEY AVENUE</u>			
PURPOSE: <u>LOCATE EXISTING UNDERGROUND FACILITIES</u>			
DIMENSION: <u>7'-6" X 4'-0" X 3'-4"</u>		VOLUME: <u>3.7 CY</u>	SHEET NO. <u>32</u> OF <u>34</u>



CET ITEMS	
CET 304A	
CET 305	
CET 401	
CET 402T.2A	
CET 402T.V2A	
CET 500	





JOB NO.: BED776

TEST PIT #: 33A

JOB: 48" TRUNK W.M. & 20", 8" DIST.
W.M. REPL. IN EAST NEW YORK AVENUE
/ JAMAICA AVENUE

TP DATE: 11-16-18

INSPECTOR: BJL

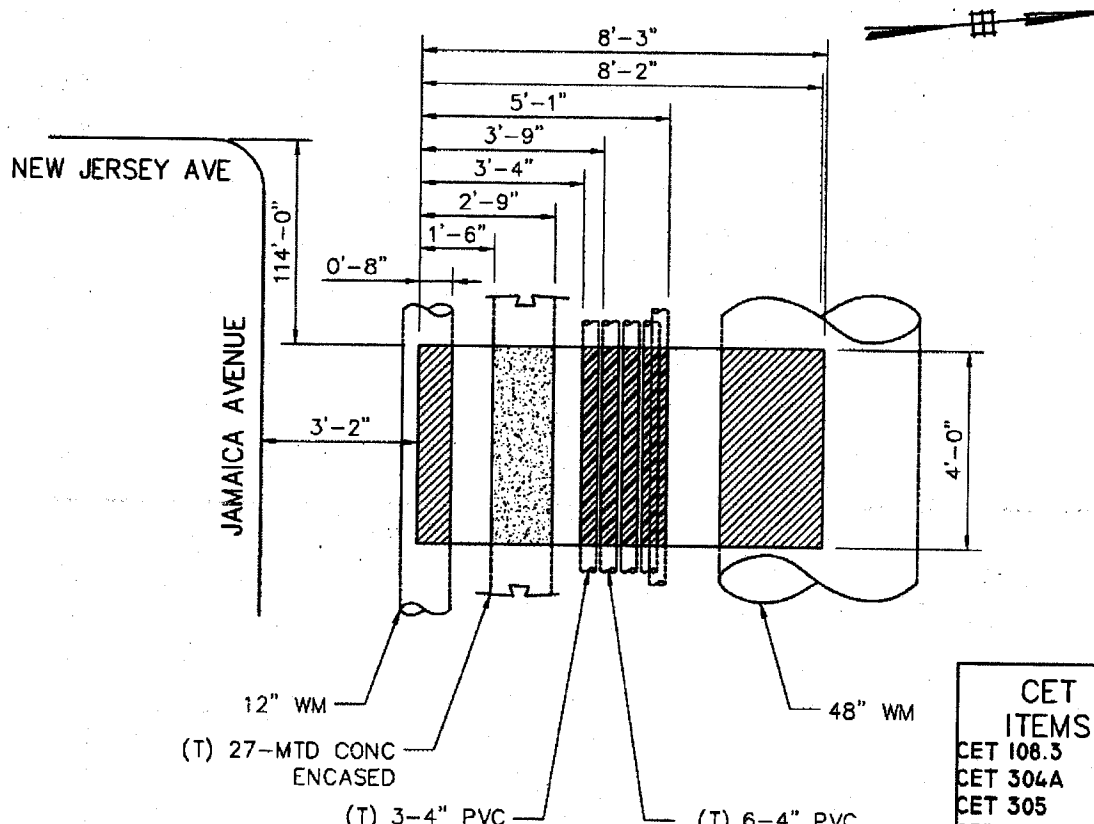
LOCATION: S/S OF JAMAICA AVENUE, E/O NEW JERSEY AVENUE

PURPOSE: LOCATE EXISTING UNDERGROUND FACILITIES

DIMENSION: 8'-3" X 4'-0" X 5'-2"

VOLUME: 6.3 CY

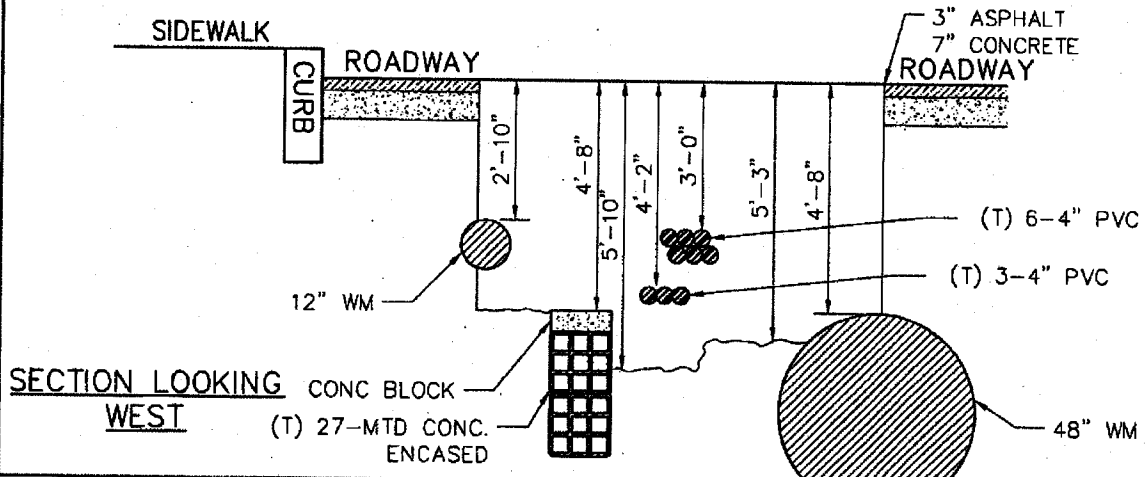
SHEET NO. 33 OF 34



NOTE:
1. ALL DRAWINGS SHOWING UTILITY
SUPPORT AND PROTECT WORK ARE
FOR REFERENCE ONLY.

PLAN

CET ITEMS	
CET	108.3
CET	304A
CET	305
CET	401
CET	402T.2A
CET	402T.V2A



SECTION LOOKING
WEST



JOB NO.: BED776

TEST PIT # 34

JOB: 48" TRUNK W.M. & 20", 8" DIST.
W.M. REPL. IN EAST NEW YORK AVENUE
/ JAMAICA AVENUE

TP DATE: 10-09-18

INSPECTOR: KWS

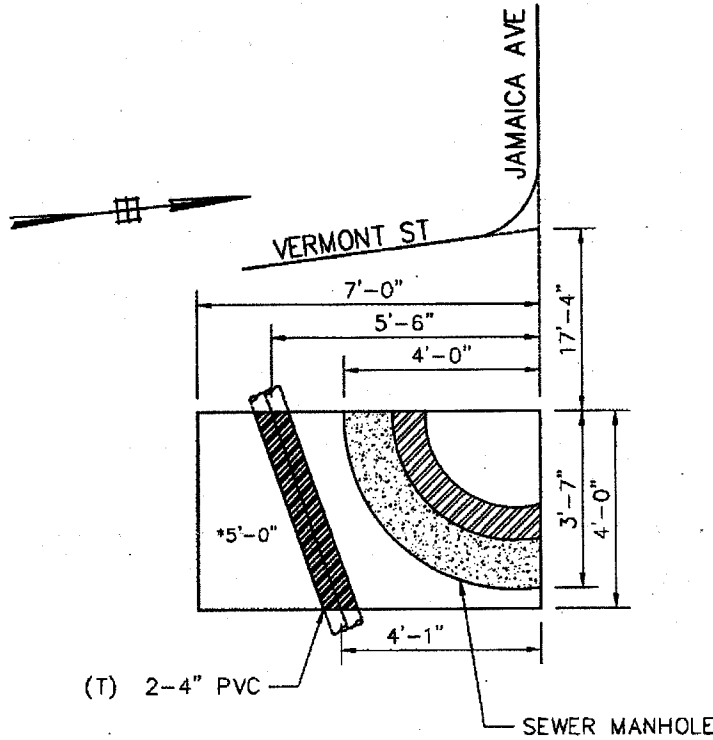
LOCATION: INT. OF VERMONT STREET AND JAMAICA AVENUE

PURPOSE: LOCATE EXISTING UNDERGROUND FACILITIES

DIMENSION: 7'-0"X4'-0"X2'-7"

VOLUME: 2.7 CY

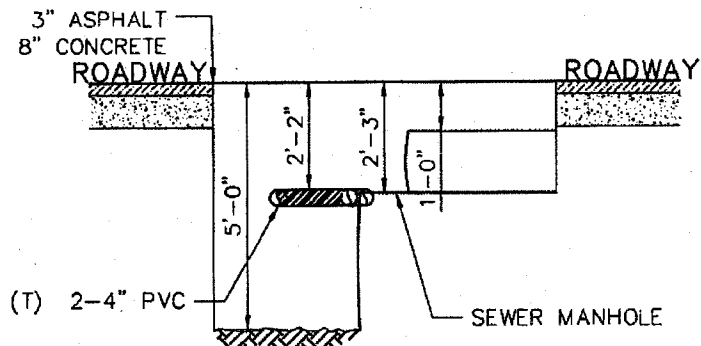
SHEET NO. 34 OF 34



- CET
 ITEMS
 CET 304A
 CET 305
 CET 401
 CET 402T.2A
 CET 500

NOTE:
 1. ALL DRAWINGS SHOWING UTILITY
 SUPPORT AND PROTECT WORK ARE
 FOR REFERENCE ONLY.

PLAN



SECTION LOOKING
 WEST

UI-PAGES

SECTION UI

END OF SECTION UI PAGES

**THIS SECTION UI CONSIST OF ONE HUNRED FIFTEEN (115) PAGES
INCLUDING THIS PAGE AND FORTY-THREE (43) SHEETS OF UTILITY
DRAWINGS.**

(NO TEXT ON THIS PAGE)



CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF INFRASTRUCTURE

ADDENDA CONTROL SHEET

BID OPENING DATE: FEBRUARY 6, 2020

PROJECT NO.: BED776

DESCRIPTION: 48" TRUNK WATER MAIN AND 20", 12", 8" DISTRIBUTION WATER MAIN REPLACEMENT IN EAST NEW YORK AVENUE BOROUGH OF BROOKLYN.

Addendum		Addendum Contains:					General Counsel Approval
No.	Date	Revised Bid Date/Time	Revised Bid Schedule	Questions & Responses	Additional Amendments	Drawings (number)	
1	1/15/2020	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> (0)	<i>a. m. 01/15/2020</i>
2		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)	
3		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)	
4		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)	
5		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)	
6		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)	
7		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)	
8		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)	
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)	
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)	
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)	
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)	

The Table above is a guide. Refer to the referenced Addendum for specific information.

ATTACH TO CONTRACT DOCUMENTS
THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
INFRASTRUCTURE DIVISION
BUREAU OF DESIGN

PROJECT ID: BED776
**48" TRUNK WATER MAIN AND 20", 12", 8" DISTRIBUTION
WATER MAIN REPLACEMENT IN EAST NEW YORK AVENUE**
Together With All Work Incidental Thereto
BOROUGH OF BROOKLYN
CITY OF NEW YORK
ADDENDUM NO. 1

DATED: January 15, 2020

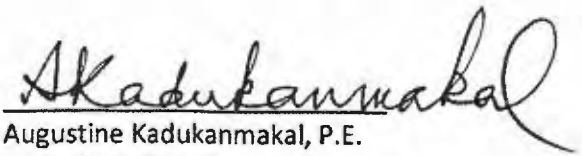
THIS ADDENDUM IS HEREBY MADE A PART OF THE CONTRACT DOCUMENTS

1. Please be advised that the LABORATORY ANALYTICAL RESULTS for the HAZMAT PHASE II REPORT has been uploaded to NYCDDC, Bid documents online website.
2. Refer to Volume 3 of 3, SW-Pages, Pages SW-23 to SW-24
Delete Pages SW-23 to SW-24, in their entirety;
Substitute with attached revised Pages SW-23R to SW 24-R

END OF ADDENDUM NO. 1

By signing in the space provided below, the bidder acknowledges receipt of this
Addendum consisting of one (1) page and Two (2) pages of attachments.

THIS ADDENDUM MUST BE SIGNED BY ALL BIDDERS AND ATTACHED TO THEIR BID


Augustine Kadukanmakal, P.E.
Executive Director

CACTUS INDUSTRIES INC

Name of Bidder

By: 

CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF INFRASTRUCTURE

ADDENDA CONTROL SHEET

BID OPENING DATE: February 6, 2020

PROJECT NO.: BED776

DESCRIPTION: 48" TRUNK WATER MAIN AND 20", 12", 8" DISTRIBUTION WATER
MAIN REPLACEMENT IN EAST NEW YORK AVENUE
BOROUGH OF BROOKLYN

Addendum		Addendum Contains:					General Counsel Approval
No.	Date	Revised Bid Date/Time	Revised Bid Schedule	Questions & Responses	Additional Amendments	Drawings (number)	
1	1/10/2020	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> (0)	<i>A.M. 1/30/2020.</i>
2	1/30/2020	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> (11)	
3		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)	
4		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)	
5		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)	
6		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)	
7		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)	
8		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)	
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)	
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)	
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)	
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)	

The Table above is a guide. Refer to the referenced Addendum for specific information.

ATTACH TO CONTRACT DOCUMENTS
THE CITY OF NEW YORK

DEPARTMENT OF DESIGN AND CONSTRUCTION
INFRASTRUCTURE DIVISION
BUREAU OF DESIGN

PROJECT ID: BED776

48" TRUNK WATER MAIN AND 20", 12", 8" DISTRIBUTION
WATER MAIN REPLACEMENT IN EAST NEW YORK AVENUE
TOGETHER WITH ALL WORK INCIDENTAL THERETO

BOROUGH OF BROOKLYN
CITY OF NEW YORK

ADDENDUM NO. 2

DATED: January 30, 2020

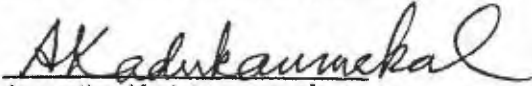
THIS ADDENDUM IS HEREBY MADE A PART OF THE CONTRACT DOCUMENTS

1. **Refer** to the Bid and Contract Documents, VOLUME 1 OF 3, BID SCHEDULE, Pages B-3 through B-47;
Delete pages B-3 through B-47 in their entirety;
Substitute with attached revised B-3 [Revision #1] through B-47 [Revision #1];
NOTE: ITEM NO. 6.42D was added.
[Number of attachments 45]
2. **Refer** to the Bid Documents, Contract Drawing sheets 3 of 76 (3/102), 7 of 76 (7/102), 9 of 76 (9/102), 10 of 76 (10/102), 11A of 76 (12/102), 14 of 76 (15/102), 15 of 76 (16/102), 23 of 76 (25/102), HP1 of HP1 (32/102);
Substitute with the attached drawings showing changes on each drawing as bubble.
[Number of attachments 9]
3. **Refer** to the Bid Documents; Contract Drawing sheets 6 of 76 (6/102) and 24 of 76 (26/102);
Delete the drawings in their entirety;
Substitute with the new revised Contract Drawing sheets 6R of 76 (6/102) and 24R of 76 (26/102).
[Number of attachments 2]
4. **Refer** to the Bid Documents, VOLUME 1 OF 3, SECTION UI; page UI-70
Delete page UI-70 in its entirety;
Substitute with the legible copy of page UI-70.
[Number of attachments 1]
5. For additional information see the attached pages of "Questions Submitted by Bidders and DDC's Responses".
[Number of attachments 7]

END OF ADDENDUM NO. 2

By signing in the space provided below, the bidder acknowledges receipt of this
Addendum along with all the attachments as mentioned above.

THIS ADDENDUM MUST BE SIGNED BY ALL BIDDERS AND ATTACHED TO THEIR BID


Augustine Kadukanmakal, P.E.
Executive Director

CAC INDUSTRIES INC

Name of Bidder

By: 

QUESTIONS SUBMITTED BY BIDDERS AND DDC'S RESPONSES

Question 1:

The traffic stipulations for this project are often overlapping and contradictory. For example, East New York Avenue between Grafton Street and Lincoln Place is the same block as East New York Avenue between Grafton Street and Legion Street, but two completely different stipulations are given. This same type of contradiction is repeated at other locations throughout the project. We cannot estimate the cost of performing work in these areas if the work hours are not clear. Please clarify the working hours at all locations where the stipulations are contradictory.

DDC's Response:

For the block on East New York Avenue between Grafton Street and Lincoln Place, follow the stipulation provided for East New York Avenue between Grafton Street and Lincoln Place. Also, refer to response to Question 13 herein.

Question 2:

No stipulations were included for most of the side streets. For example, there are no stipulations for combined sewer work in Pitkin Ave as shown on Sheet 6. Please provide stipulations.

DDC's Response:

For Pitkin Avenue, follow stipulation provided for East New York Avenue between Grafton Street and Legion Street.

Question 3:

The stipulations for East New York Avenue between Grafton Street and Lincoln Place state "The contractor shall fully close the roadway from the month of June to August..." Does this mean that work can be performed only during June to August, or does it mean that the roadway can be closed during that time but work can proceed without a closure at other times? If work can only proceed from June to August then please clarify if the requirement for no TWM shutdowns during summer will be waived.

DDC's Response:

For this specific location, work can only be performed during the months of June to August. As such, TWM shutdowns are permitted during this period, for this location only.

Question 4:

On Sheet 3 under "Special Notes" Note 1 indicates that no trunk main shutdowns shall be planned for the summer. Note 3 then indicates specific locations where no shutdowns will be given during the summer. Please confirm that Note 1 applies to all other locations within the project limits.

DDC's Response:

Note no.1 on the special note stand as it is. Note No.3 is an exception to Special Note No.1. As such, shutdowns during summer may take place in the locations set forth in Note No.3.

Question 5:

Due to the complexity of this project and since much of the estimating work cannot take place until the traffic stipulations are clarified we request the bid date be postponed for a period equal to the time it takes to correct the stipulations.

DDC's Response:

Traffic Stipulations have been clarified through this ADDENDUM NO.2. The bid date will not be postponed.

Question 6:

According to the OCMC Traffic Stipulations pages 2 of 23 and 3 of 23 dated August 13, 2019:

East New York Ave between Grafton Street & Lincoln Place

Work Hours will be 7am to 6pm Monday to Friday etc.....

East New York Ave between Grafton Street & Legion St

Work Hours will be 9am to 2pm Monday to Friday when school is in session and 9am to 4pm when school is not in session etc....

This stretch of East New York Ave is the same location. Which stipulations should be utilized?

This same problem occurs on East New York Ave between Lincoln Place & Saratoga Ave and

East New York Ave between Legion St & Saratoga Ave

DDC's Response:

1. For the block on East New York Avenue between Grafton Street and Lincoln Place, follow the stipulation provided for East New York Avenue between Grafton Street and Lincoln Place.
2. For the block on East New York between Lincoln and Saratoga Avenue, follow the stipulation provided for East New York Avenue between Legion Street and Saratoga Avenue.

Question 7:

On Sheet 3 under "Special Notes" Note 1 indicates that no trunk main shutdowns shall be planned for the summer. Note 3 then indicates specific locations where no shutdowns will be given during the summer. Please confirm that Note 1 applies to all other locations within the project limits.

DDC's Response:

Refer to response to Question no. 4, herein this addendum

Question 8:

In reference to any work that may or will require any type of Railroad flagger, GO (General Order), when fouling of LIRR track or NYCT Track includes any contract work within 15 FT or Above LIRR or NYCT

- a. *What are the allowable work hours for General Order (GO) during weekdays?*
- b. *What are the allowable work hours for General Order (GO) during weeknights?*
- c. *What are the allowable work hours for General Order (GO) during weekend?*

DDC's Response:

Allowable work hours are to be followed as per OCMC stipulations.

Question 9:

Please provide the force account details for any railroad flaggers, inspectors, work trains, flat cars and/ or anything else that we may need during our construction. Who is going to provide Railroad or NYCT flagger when fouling of LIRR track or NYCT Track includes any contract work within 15 FT or Above LIRR or NYCT?

DDC's Response:

DDC is in the process of establishing force accounts with NYCTA and LIRR. The cost of any NYCTA and LIRR flaggers, if needed, will be borne by the City of New York.

Question 10:

Has DDC coordinated with MTA / LIRR to set up the Force Account yet? Is the Force account already set up? This is a very long process and it will certainly cause long delays on this project if DDC has not taken the initiative to set up the Force Account yet, or if it is still in the process

DDC's Response:

Refer to Question 9 above.

Question 11:

In Sheet 4 of 76 of the bid drawings, Note 43 states that the Contractor must provide temporary quarters near the job site for the NYCT inspectors containing a desk and telephone. Is the DDC field office under item no. 6.40D with an additional desk satisfactory for this requirement?

DDC's Response:

No. Contractor to make such arrangements to accommodate NYCT inspectors separately.

Question 12:

Numerous traffic stipulations Monday to Friday 9AM - 5PM represent off shift hours per union collective bargaining agreements. Is the City aware of this extra cost?

DDC's Response:

OCMC stipulations provide allowable working hours for the contractor to plan their work. All costs associated with compliance with OCMC stipulations are the responsibility of the contractor and must be included in the bid.

Question 13:

There is a conflict in the OCMC Traffic Stipulations regarding the work hours. We request clarification for the following areas:

- 1. East New York Avenue- Between Grafton Street/Pitkin Avenue and Legion Street/Lincoln Place, the work hours are shown to be both 9AM to 4PM Monday to Friday/Saturday 7AM to 6PM, and 7AM to 6PM Monday to Friday and Saturday. That means there are two different sets of work hours for the same street location. Please clarify as to which work hours are correct.*
- 2. East New York Avenue - Between Saratoga Avenue and Legion Street/Lincoln Place, the work hours are shown to be both 9AM to 5PM Monday to Friday, and 9AM to 4PM Monday to Friday/Saturday 7AM to 6PM. That means there are two different sets of work hours for the same street location between Saratoga Avenue and Legion Street/Lincoln Place. Please clarify as to which work hours are correct.*
- 3. East New York Avenue- From Saratoga Avenue to St. Johns Place to Strauss Street, the work hours are shown to be both 9AM to 5PM Monday to Friday, and 9AM to 4PM Monday to Friday/Saturday 7AM to 6PM. That means there are two different sets of work hours for the same street location. Please clarify as to which work hours are correct.*
- 4. East New York Avenue - From St. Johns Place to Strauss Street to Amboy Street/Sterling Place, the work hours are shown to be both 9AM to 5PM Monday to Friday, and 9AM to 4PM Monday to Friday/Saturday 7AM to 6PM. That means there are two different sets of work hours for the same street location. Please clarify as to which work hours are correct.*
- 5. East New York Avenue- Between Mother Gaston Boulevard/Bergen Street and Christopher Avenue, the work hours are shown to be both 9AM to 5PM Monday to Friday, and*

9AM to 4PM Monday to Friday/Saturday 7AM to 6PM. That means there are two different sets of work hours for the same street location. Please clarify as to which work hours are correct.

6. East New York Avenue- Between Chester Street and Rockaway Avenue, the work hours are shown to be both 9AM to 5PM Monday to Friday, and 9AM to 4PM Monday to Friday/Saturday 7AM to 6PM. That means there are two different sets of work hours for the same street location. Please clarify as to which work hours are correct.

DDC's Response:

1. For the block on East New York Avenue between Grafton Street and Legion Street, follow the stipulation provided for East New York Avenue between Grafton and Legion Street.
2. For the block on East New York Avenue between Saratoga Avenue and Legion Street/Lincoln Place, follow the stipulation provided for East New York Avenue between Legion Street and Saratoga Avenue.
3. For the block on East New York Avenue between Saratoga Avenue and St Johns Place, follow the stipulation provided for East New York Avenue between Saratoga Avenue and Saratoga Avenue.
4. For the block on East New York Avenue between Saratoga Avenue (Station 21+80±) to Strauss Street, follow the stipulation provided for East New York Avenue between Saratoga Avenue and Strauss Street. For the block on East New York Avenue between Strauss Street and Amboy Street, follow the stipulation provided for East New York Avenue between Strauss Street and Amboy Street.
5. For the block on East New York Avenue from Mother Gaston Boulevard (Station 48+50±) to Christopher Avenue (Station 54+50±), follow the stipulation provided for East New York Avenue between Mother Gaston Boulevard to Christopher Avenue.
6. For the block on East New York Avenue from Chester Street (Station 37+00±) to Rockaway Avenue (Station 40+00±), follow the stipulation provided for East New York Avenue between Chester Street and Rockaway Avenue.

Question 14:

There are no work hours for the following locations:

1. *The intersection of Atlantic Avenue and Hinsdale Street.*
2. *Herkimer Street between Williams Place and East New York Avenue.*
3. *Pitkin Avenue between Grafton Street and Legion Street.*
4. *Pitkin Avenue between Eastern Parkway and Howard Avenue.*
5. *St. Johns Place between Eastern Parkway and Saratoga Avenue.*
6. *Park Place between Thomas Boyland Street (Hopkinson Avenue) and East New York Avenue.*
7. *Chester Street between East New York Avenue and Pitkin Avenue.*
8. *Prospect Place between Eastern Parkway and Rockaway Avenue.*
9. *St. Marks Ave between East New York Avenue and Eastern Parkway.*
10. *Mother Gaston Boulevard between East New York Avenue and Bergen Street.*
11. *Intersection of Mother Gaston Boulevard and Bergen Street.*
12. *Bergen Street between Mother Gaston Boulevard and East New York Avenue.*
13. *Dean Street between Mother Gaston Boulevard and Sackman Street.*
14. *Dean Street between East New York Avenue and Sackman Street.*
15. *Williams Avenue between Atlantic Avenue and East New York Avenue.*

16. *Sheffield Avenue between Jamaica Avenue and Fulton Street.*
17. *Powell Street between East New York Avenue and Liberty Avenue.*
18. *Junius Street between East New York Avenue and Liberty Avenue.*
19. *Van Sinderen Avenue between East New York Avenue and Liberty Avenue.*

We request the work hours for these locations in a future addendum.

DDC's Response:

1. For the Intersection between Atlantic Avenue and Hinsdale Street, follow the stipulation provided for Atlantic Avenue between Hinsdale Avenue and Williams Avenue.
2. For the block on Herkimer Street between Williams Place and East New York Avenue, follow the stipulation provided for East New York Avenue between East New York Avenue between Williams Place and Herkimer Street.
3. For the block on Pitkin Avenue between Grafton Street and Legion Street, follow the stipulation provided for East New York Avenue between Grafton Street and Legion Street.
4. For the block on Pitkin Avenue between Eastern Parkway and Howards Avenue, follow the stipulation provided for Intersection of East New York Avenue and Pitkin Avenue.
5. For the block on St. Johns Place between Eastern Parkway and Saratoga Avenue, follow the stipulation provided for East New York Avenue between Saratoga Avenue and Saratoga Avenue.
6. For the block on Park Place between Thomas S Boyland Street and East New York Avenue, follow the stipulation provided for the Intersection of East New York and Park Place.
7. For the block on Chester Street between East New York Avenue and Pitkin Avenue, follow the stipulation provided for the Intersection of East New York Avenue and Chester Street.
8. For the block on Prospect Place between Eastern Parkway and Rockaway Avenue, follow the stipulation provided for the Intersection of East New York Avenue and Prospect Place.
9. For the block on St. Marks Avenue between East New York Avenue and Eastern Parkway, follow the stipulation provided for East New York Avenue between Rockaway Avenue and St. Marks Place.
10. For the block Mother Gaston Boulevard between East New York Avenue and Bergen Street, follow the stipulation provided for the Intersection of East New York Avenue and Mother Gaston Boulevard.
11. For the Intersection between Mother Gaston Boulevard and Bergen Street, follow the stipulation provided for East New York Avenue between Mother Gaston Boulevard and Bergen Street.
12. For the block on Bergen Street between Mother Gaston Boulevard and East New York Avenue, follow the stipulation provided for the Intersection of East New York Avenue and Bergen Street.
13. For the block on Dean Street between Mother Gaston Boulevard and Sackman Street, follow the stipulation provided for East New York Avenue between Sackman Street and Dean Street.
14. For the block on Dean Street between East New York Avenue and Sackman Street, follow the stipulation provided for East New York Avenue between Sackman Street and Dean Street.
15. For the block on Williams Avenue Street between East New York Avenue and Atlantic Avenue, follow the stipulation provided for the Williams Avenue between East New York Avenue and Atlantic Avenue.
16. For the block on Sheffield Avenue Street between Jamaica Avenue and Fulton Street, follow the stipulation provided for the Intersection of Jamaica Avenue and Sheffield Avenue.

17. For the block on Powell Street between East New York Avenue and Liberty Avenue, follow the stipulation provided for the Intersection of East New York Avenue and Powell Street.
18. For the block on Junius Street between East New York Avenue and Liberty Avenue, follow the stipulation provided for the Intersection of East New York Avenue and Junius Street.
19. For the block on Van Sinderen Avenue between East New York Avenue and Liberty Avenue, follow the stipulation provided for the Intersection of East New York Avenue and Van Sinderen Avenue.

Question 15:

What is the distance on Atlantic Avenue from Van Sinderen Avenue to Eastern Parkway for abandoning/filling the existing 48" main to the existing cap at Eastern Pkwy?

DDC's Response:

The distance of the existing 48" main to the existing cap at Eastern Pkwy is approximately 1603 L.F.

Question 16:

Please provide the as built drawings for:

1. Existing 48" Cap- Atlantic Ave & Eastern Pkwy
2. Existing 1942 48" Steel Main (lining)- East New York Ave- Junius St to Williams Pl

DDC's Response:

There are no as built drawings for the above locations.

Question 17:

What is type of existing 48" water main pipe to be removed as follows:

1. S/S East New York Ave- Christopher Ave to Junius St
2. N/S East New York Ave- Williams Pl to Herkimer St- Dual 1942
3. N/S East New York Ave- Herkimer St to Broadway- Dual 1868 & 1896
4. N/S Jamaica Ave- Broadway to Vermont St- 1868
5. S/S Jamaica Ave- Broadway to Vermont St- 1896

DDC's Response:

Types of pipe to be removed in seriatim:

1. Cast Iron Pipe
2. Steel Pipe
3. Cast Iron Pipe
4. Steel Pipe
5. Steel Pipe

Question 18:

What is type of existing 48" water main pipe to be abandoned and filled in as follows:

1. Atlantic Ave- Williams Pl to Eastern Pkwy

DDC's Response:

It's a steel pipe.

Question 19:

In Volume 3 of 3 of the bid specifications, page UI-70 (528 of 576), the CET item list for Altice is difficult to read and the quantities are illegible. We request a clearer copy of this page in a future addendum.

DDC's Response:

Please see article 4 of this ADDENDUM NO.2, page A2-1.

Question 20:

There is usually a pay item for photographic work (normally item 6.43 D) when highway work is combined with water main and sewer work, but there is no pay item for this in the bid item list.

Please clarify.

DDC's Response:

Please see article 1 of this ADDENDUM NO.2, page A2-1.

Question 21:

There are 2 "special manholes"

They are detailed on sheet # 24 but there is no scale and not enough dimension to do a takeoff. No inverts given, no existing ground elevation.

They are bid items: 51.21L001000V Special Manhole # 1

51.21L002000V Special Manhole # 2

Please provide drawing with proper scale or dimensions for all aspects.

Will the bid date for this project be postponed due to the fact that plans were not available for pickup?

DDC's Response:

Please see article 3 of this ADDENDUM NO.2, page A2-1 for details regarding special manholes. Bid date will not be postponed.

Question 22:

On drawing HP1 sheet 32 the match line at station at station 17-90 on the east side, identifies sheet HP2, which is not included in the package.

DDC's Response:

Please see article 2 of this ADDENDUM NO.2, page A2-1.

CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF INFRASTRUCTURE

ADDENDA CONTROL SHEET

BID OPENING DATE: February 12, 2020

PROJECT NO.: BED776

DESCRIPTION: 48" TRUNK WATER MAIN AND 20", 12", 8" DISTRIBUTION WATER
MAIN REPLACEMENT IN EAST NEW YORK AVENUE
BOROUGH OF BROOKLYN

Addendum		Addendum Contains:					General Counsel Approval
No.	Date	Revised Bid Date/Time	Revised Bid Schedule	Questions & Responses	Additional Amendments	Drawings (number)	
1	1/10/2020	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> (0)	
2	1/30/2020	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> (11)	
3	1/31/2020	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)	<i>A.M. 1/31/2020.</i>
4		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)	
5		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)	
6		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)	
7		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)	
8		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)	
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)	
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)	
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)	
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)	

The Table above is a guide. Refer to the referenced Addendum for specific information.

ATTACH TO CONTRACT DOCUMENTS
- THE CITY OF NEW YORK

DEPARTMENT OF DESIGN AND CONSTRUCTION
INFRASTRUCTURE DIVISION
BUREAU OF DESIGN

PROJECT ID: BED776

48" TRUNK WATER MAIN AND 20", 12", 8" DISTRIBUTION
WATER MAIN REPLACEMENT IN EAST NEW YORK AVENUE

TOGETHER WITH ALL WORK INCIDENTAL THERETO

BOROUGH OF BROOKLYN
CITY OF NEW YORK

ADDENDUM NO. 3

DATED: January 31, 2020

THIS ADDENDUM IS HEREBY MADE A PART OF THE CONTRACT DOCUMENTS

1. **Refer** to the Bid Opening for the contract scheduled for February 6, 2020, at 11:00 am is rescheduled to February 12, 2020 at 11:00 am.

END OF ADDENDUM NO. 3

By signing in the space provided below, the bidder acknowledges receipt of this Addendum.

THIS ADDENDUM MUST BE SIGNED BY ALL BIDDERS AND ATTACHED TO THEIR BID

CAE INDUSTRIES INC

Name of Bidder

Augustine Kadukanmakal
Augustine Kadukanmakal, P.E.
Executive Director

By: [Signature]

CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF INFRASTRUCTURE

ADDENDA CONTROL SHEET

BID OPENING DATE: February 12, 2020

PROJECT NO.: BED776

DESCRIPTION: 48" TRUNK WATER MAIN AND 20", 12", 8" DISTRIBUTION WATER
MAIN REPLACEMENT IN EAST NEW YORK AVENUE
BOROUGH OF BROOKLYN

Addendum		Addendum Contains:					General Counsel Approval
No.	Date	Revised Bid Date/Time	Revised Bid Schedule	Questions & Responses	Additional Amendments	Drawings (number)	
1	1/10/2020	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> (0)	
2	1/27/2020	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> (11)	
3	1/31/2020	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> (0)	
4	2/5/2020	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> (2)	<i>a.m. 02/05/2020</i>
5		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)	
6		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)	
7		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)	
8		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)	
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)	
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)	
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)	
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)	

The Table above is a guide. Refer to the referenced Addendum for specific information.

ATTACH TO CONTRACT DOCUMENTS
THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
INFRASTRUCTURE DIVISION
BUREAU OF DESIGN

PROJECT ID: BED776

48" TRUNK WATER MAIN AND 20", 12", 8" DISTRIBUTION
WATER MAIN REPLACEMENT IN EAST NEW YORK AVENUE

TOGETHER WITH ALL WORK INCIDENTAL THERETO

BOROUGH OF BROOKLYN
CITY OF NEW YORK

ADDENDUM NO. 4

DATED: February 5, 2020

THIS ADDENDUM IS HEREBY MADE A PART OF THE CONTRACT DOCUMENTS

1. **Refer** to ADDENDUM 2 dated 1/30/2020, BID SCHEDULE, B-3 [Revision #1] through B-47 [Revision #1]; **Delete** pages B-3 [Revision #1] through B-47 [Revision #1]; in their entirety; **Substitute** with attached revised B-3 [Revision #2] through B-47 [Revision #2].
NOTE: ITEM NO. 51.21S0C1042R was deleted.
[Number of attachments 45]
2. **Refer** to Bid Documents, Contract Drawings sheets 22 OF 76 (24/102) and 11A OF 76 (12/102); **Substitute** with the attached drawings showing changes on each drawing as bubble.
[Number of attachments 2]
3. For additional information see the attached pages of "Questions Submitted by Bidders and DDC's Responses".
[Number of attachments 5]

END OF ADDENDUM NO. 4

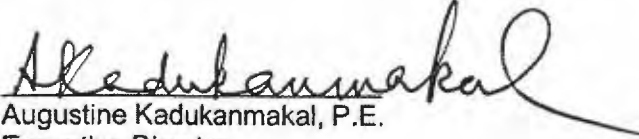
By signing in the space provided below, the bidder acknowledges receipt of this
Addendum along with all the attachments as mentioned above.

THIS ADDENDUM MUST BE SIGNED BY ALL BIDDERS AND ATTACHED TO THEIR BID

CAC Industries Inc

Name of Bidder

By: 


Augustine Kadukanmakal, P.E.
Executive Director

QUESTIONS SUBMITTED BY BIDDERS AND DDC'S RESPONSES

Question 1:

Are there CCTV inspection videos &/or inspection reports available for review prior to the bid opening of the sections of 48-inch riveted steel water main scheduled to receive "Structural Rehabilitation by Carbon Fiber (CFS) Lining" per Item 60.61CFS48RS?

DDC's Response:

There are no CCTV inspection videos or report available.

Question 2:

Please confirm the inner lining material(s) and the existing liner's condition in the existing 48" dia. riveted steel pipe subject to carbon fiber system (CFS) lining repairs near East NY and Atlantic Avenues.

DDC's Response:

The existing condition is unknown.

Question 3:

Please confirm the locations and extent of ground-water intrusion to be expected in the existing 48" dia. riveted steel pipe subject to carbon fiber system (CFS) lining repairs near East NY and Atlantic Avenues.

DDC's Response:

We have no existing record.

Question 4:

After reviewing the OCMC Traffic Stipulations (OCMC File No. BNEC-17-190 included in the reference tender / contract BED776), in areas subject to carbon fiber system (CFS) lining repairs located near East NY and Atlantic Avenues, the traffic restrictions and work shifts specified do not allow for around the clock operation. The preparation, installation and curing of the CFS liner in the 48" riveted steel water main will require ventilation and/or heating equipment to be operated 24hrs/day throughout the entire carbon fiber installation process to maintain the required pipe conditions for a successful FRP installation.

Please confirm if the traffic restrictions, new manhole entry locations (near each CFS end termination), and layout will allow for the ventilation and/or heating equipment to be operated continuously until the CFS liner installation is complete.

Please confirm if expanded work shifts than dictated in the OCMC Traffic Stipulation will be allowed in consideration that the associated ventilation and/or heating equipment will require continuous operation until completion.

DDC's Response:

The structural rehabilitation of the existing Steel Trunk Main using CFS liner is in the interior surface of the pipe. As such, the OCMC Traffic Stipulations only apply to the start and end points of the liner work (not to every single manhole).

Question 5:

Please confirm if there are any sound attenuation requirements near East NY and Atlantic Avenues subject to the CFS liner installation.

DDC's Response:

There are no sounds attenuation requirements near East New York and Atlantic Avenues subject to CFS liner work.

Question 6:

We hereby request a 2-week extension to the bid opening date of February 6, 2020.

DDC's Response:

Bid opening date has been extended. Please refer to ADDENDUM NO.3, DATED: January 31, 2020.

Question 7:

In Schedule A, page SA-1, it shows that Contractors must provide the safety personal of both a Project Safety Representative and a Dedicated, full-time Project Safety Manager. If a Dedicated, full-time Project Safety Manager is to be provided, why must a Project Safety Representative also be provided? Please clarify.

DDC's Response:

The Project Safety Manager may also serve as the Project Safety Representative.

Question 8:

Sheet 10 of the contract drawings indicates to see detail 1 on sheet 24 for the 48"x48"x48" Tee at the intersection of East New York Ave. and Bergen St. However, there is no such detail on any sheet for said Tee.

DDC's Response:

Refer to article 2 of the ADDENDUM NO.2, page A2-1, sheet 23 of 76 DATED: February 6, 2020.

Question 9:

Refer to the contract drawings. The following sheets show cross-sections, but the cross-sections are not detailed on sheet 22:

Sheet 11A cross-section G1-G1

Sheet 11A cross-section H-H

Sheet 15 cross-section X-X

Please provide these cross-sections.

DDC's Response:

Refer to article 2 of this ADDENDUM NO.4, page A4-1, sheet 11A of 76 (12/102).

For cross section X-X, refer to sheet 17 of the contract drawings.

Question 10:

Refer to contract sheet 22. This sheet details cross-section L-L. We cannot locate this section on the drawings. Please provide location.

DDC's Response:

Refer to article 2 of this ADDENDUM NO.4, page A4-1, sheet 22 of 76 (24/102).

Question 11:

Refer to contract drawings. Between stations 57+50 to 62+00 and stations 73+00 to 82+00, the new 20" water main appears to be located on top of the existing 48" trunk main. Since the depth required to install the new 20" water main is greater than the anticipated 4' cover on the

existing trunk main, is it the contracts intent to remove the trunk main at these locations or can the new 20" distribution main be offset to the side of the trunk main?

If the intent is to remove the trunk main, under what item will this be paid for?

DDC's Response:

Refer to note 8 and 11 on the sheet 11 of the contract drawing.

Question 12:

Refer to sheet 6 of the contract drawings. The existing 60" steel trunk main where the new 60" X 48" Tee is installed, appears to go under the existing 48" trunk main. What is the cover of the existing 60" trunk main?

DDC's Response:

Refer to the contract drawing sheet 6R of 76 "Note A".

Question 13:

Refer to contract sheet MPT1, note 6 in section "installation of water mains less than 20" in diameter". This note states that flagmen specified by the engineer will NOT be paid for separately. Since we cannot anticipate the number of flagmen the engineer might require and the typical sections do not show any flagmen, how can we calculate the cost of this work? Typically, this is paid for under item 6.52 on an hourly basis.

DDC's Response:

NOTE NO. 6 on Contract Drawing MPT1 stands valid. City will not pay for any flag persons. Crossing guards will be paid if they satisfy all the conditions of SECTION 6.52 CG.

Question 14:

Please confirm that flagpersons required to maintain traffic through the job site will be paid for under contract item 6.52CG.

DDC's Response:

Flag persons are not to be construed as crossing guards. Please also see answer to Question 13.

Question 15:

Refer to cross-section A-A on sheet 22 and plan sheet 6. The cross-section specifies a new 30" RCP sewer. The plan sheets specify a 15" ESVP sewer. Which is correct?

DDC's Response:

Refer to article 2 of this ADDENDUM NO.4, page A4-1, sheet 22 of 76 (24/102).

Question 16:

Refer to contract drawing HP1. The plans eastern match line shows the plan continuing on "sheet HP2". This drawing is not included in the documents. Please provide.

DDC's Response:

Refer to article 2 of the ADDENDUM NO.2, page A2-1, sheet HP1 of HP1 (32/102).

Question 17:

Refer to contract specification section: OCMC Traffic Stipulations. Please review and clarify this section.

a. *There are several locations which are duplicated but have different work hours.*

For example: on page 3, East New York Ave. between Lincoln Pl. and Saratoga Ave. is the same block as East New York between Legion St. and Saratoga Ave., yet they have different work hours.

b. There are no work hours listed for several street. For example: Herkimer St. between Williams Pl. and East New York Ave. Etc.

DDC's Response:

Refer to ADDENDUM NO.2 questions submitted by bidders and DDC's responses. See response to question 14.

Question 18:

Refer to contract specification page B-10, item 51.21S0C1042R. Please identify the location of this manhole

DDC's Response:

Please refer to article 1 of this ADDENDUM NO.4, page A4-1.

Question 19:

On Sheet 11A of 76 in the bid drawings, near the intersection of East New York Avenue and Van Sinderen Avenue, new 4" water mains and 4" valves are shown on the plans. However, there are no pay items for these in the bid item list. Please clarify as to which bid items the 4" water main and valve will be paid under.

DDC's Response:

The new 4-inch water main and valves will be paid under the following items:

1. Item 61.11TWC04 (Furnishing and Delivering 4-inch Wet Connection Tapping Valve Complete with Wedge Type Retainer Glands)
2. Item 61.12TWC04 (Setting 4-inch Wet Connection Tapping Valve Complete with Wedge Type Retainer Glands)
3. Item 64.13WC20 (Furnishing and Delivering and Installing Wet Connection Sleeve on 20-Inch Water Main Pipe With Various Outlets)

Question 20:

On Sheet 11A of 76, in regard to the existing 48" steel water main that needs to be rehabilitated using the carbon fiber system lining method, what is the duration of time we can keep the steel water main shut down?

DDC's Response:

Please refer to SPECIAL NOTES on sheet 3 of 76.

Question 21:

The traffic stipulations were already overly complicated and was worsened by the responses provided in Addendum No. 2. Can the OCMC stipulation sheet be amended, simplified/consolidated, and reissued?

DDC's Response:

OCMC stipulations will not be revised.

Question 22:

With respect to Volume 1, Section: Special Experience Requirements, the RFP indicates that "The requirements in this section apply to this contract where indicated by a blackened box". As the box for "OTHER: For Carbon Fiber System (CFS) special experience requirements, please

refer to section 60.61 – submittals & qualifications (60.61CFS.3 on SW pages, Book 3 of 3" is blackened, please confirm that Submittals are required with bid for Subsections A-E of 60.61CFS.3. Note that some of the experience requirements have been modified as per Addendum 1.

DDC's Response:

Please refer to VOLUME 1 OF 3, PAGE A-3 for documents to be completed and submitted with the bid.

Question 23:

Specific Pavement Provisions (E) (2) (a) states "The entire width of roadway and (6) six inches of existing roadway subgrade shall be removed.....

There is no provision in the Contract to replace the removed (6) six inches of existing roadway subgrade. Please advise.

DDC's Response:

Subsection (9) (E) (2) (a) explains in clarity regarding removal of the existing roadway and replacing it with the new top course and the and base course.

CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF INFRASTRUCTURE

ADDENDA CONTROL SHEET

BID OPENING DATE: February 12, 2020

PROJECT NO.: BED776

DESCRIPTION: 48" TRUNK WATER MAIN AND 20", 12", 8" DISTRIBUTION WATER
MAIN REPLACEMENT IN EAST NEW YORK AVENUE
BOROUGH OF BROOKLYN

Addendum		Addendum Contains:					General Counsel Approval
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2	1/30/2020	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> (11)	
3	1/31/2020	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> (0)	
4	2/5/2020	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> (2)	
5	2/7/2020	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)	<i>A.M. 2/7/2020</i>
6		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)	
7		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)	
8		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)	
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)	
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)	
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)	
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)	

The Table above is a guide. Refer to the referenced Addendum for specific information.

ATTACH TO CONTRACT DOCUMENTS
THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
INFRASTRUCTURE DIVISION
BUREAU OF DESIGN
PROJECT ID: BED776

48" TRUNK WATER MAIN AND 20", 12", 8" DISTRIBUTION
WATER MAIN REPLACEMENT IN EAST NEW YORK AVENUE
TOGETHER WITH ALL WORK INCIDENTAL THERETO

BOROUGH OF BROOKLYN
CITY OF NEW YORK

ADDENDUM NO. 5

DATED: February 7, 2020

THIS ADDENDUM IS HEREBY MADE A PART OF THE CONTRACT DOCUMENTS

1. **Refer** to ADDENDUM 4 dated 2/5/2020, BID SCHEDULE, B-3 [Revision #2] through B-47 [Revision #2]; **Delete** pages B-3 [Revision #2] through B-47 [Revision #2]; in their entirety; **Substitute** with attached revised B-3 [Revision #3] through B-47 [Revision #3].
NOTE: quantities for ITEM NO. 50.41C6C16 & ITEM NO. 50.41C6E16 revised.
[Number of attachments 45]
2. For additional information see the attached pages of "Questions Submitted by Bidders and DDC's Responses".
[Number of attachments 2]

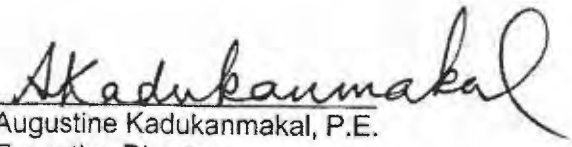
END OF ADDENDUM NO. 5

By signing in the space provided below, the bidder acknowledges receipt of this
Addendum along with all the attachments as mentioned above.

THIS ADDENDUM MUST BE SIGNED BY ALL BIDDERS AND ATTACHED TO THEIR BID

CAC Industries Inc
Name of Bidder

By: 


Augustine Kadukanmakal, P.E.
Executive Director

QUESTIONS SUBMITTED BY BIDDERS AND DDC'S RESPONSES

Question 1:

On Sheet 6 of the Drawings Note 4 states that "The 12-inch Water Main Shall Be Kept in Service as Required." Is the 12-inch water main referenced in this note the new water main to be installed closer to the south curb line? Or is the 12-inch water main referenced the existing water main that is in line with the proposed 20" water main along the north curb line?

DDC's Response:

12-inch water main referenced in this note is the new water main to be installed is closer to the south -curb line.

The second 12-inch water main near the north-curb line is in line with the proposed 20" water main.

Question 2:

On Sheet 6 of the Drawings Note 4 states that "The 12-inch Water Main Shall Be Kept in Service as Required.". Please clarify what these requirements for maintaining service are.

DDC's Response:

The requirements are for the service connections.

Question 3:

The quantities for the 16" DIP Combined Sewer seem to be reversed between encased and cradle. Please confirm the quantities.

DDC's Response:

Refer to article 1 of this Addendum NO.5, page A5-1.

Question 4:

Is DDC aware of any issues which might delay the start of the project.

DDC's Response:

At present there are no issues.

Question 5:

Please provide traffic stipulations for Howard Avenue.

DDC's Response:

Follow the stipulation provided for East New York Avenue between Pitkin Avenue and Howard Avenue.

Question 6:

We again urge you to extend the bid several weeks.

Please consider an extension of the bid date.

DDC's Response:

Please refer to ADDENDUM NO.3, DATED: 1/31/2020. Bid date will not be extended further.

Question 7:

Sheet 11A cross Section H-H is supposed to be shown on Sheet 22, but Sheet 22 skips H-H. Please provide the cross section.

DDC's Response:

Refer to Article 2 of Addendum NO.4, page A4-1 and attached sheet 11A of 76 (12/102) therein the ADDENDUM.

Question 8:

Addendum No. 2 Question 14 Item 15 requested traffic stipulations/working hours for Williams Avenue between East New York Avenue and Atlantic Avenue. The response states to follow the stipulation provided for that same location, but there are no stipulation for that location. Please provide the stipulations/working hours.

DDC's Response:

Please refer to page 9 of 23 of the OCMC stipulation for WILLIAMS AVENUE BETWEEN EAST NEW YORK AVENUE AND ATLANTIC AVENUE which is to be followed for For Dean Street between East New York Avenue and Sackman Street.

Question 9:

Our Team has been reviewing the above-mentioned project and It seems like the DDC is limiting the manufacturer experience requirement to drinking water mains only. We are requesting an exception to the manufacture experience for the project: Change manufacturer experience requirements to seven stand-alone FRP designs in last three years, in pipes larger than 36"-inch in diameter. To help keep the Project/Bidding open, fair and competitive.

DDC's Response:

No exceptions allowed.



**Department of
Design and
Construction**

**DIVISION OF INFRASTRUCTURE
BUREAU OF DESIGN**

VOLUME 3 OF 3

PROJECT ID: BED776

**48" TRUNK WATER MAIN AND 20", 12", 8" DISTRIBUTION WATER MAIN REPLACEMENT IN
EAST NEW YORK AVENUE AND JAMAICA AVENUE BETWEEN TAPSCOTT STREET TO
VERMONT STREET, IN ATLANTIC AVENUE BETWEEN VAN SINDEREN AVENUE AND
PENNSYLVANIA AVENUE, ETC.**

INCLUDING SEWER, STREET LIGHTING, AND TRAFFIC SIGNAL WORK

**TOGETHER WITH ALL WORK INCIDENTAL THERETO
BOROUGH OF BROOKLYN
CITY OF NEW YORK**

Contractor

Dated _____, 20____
