

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

30-30 THOMSON AVENUE  
LONG ISLAND CITY, NEW YORK 11101-3045  
TELEPHONE (718) 391-1000  
WEBSITE [www1.nyc.gov/site/ddc/index.page](http://www1.nyc.gov/site/ddc/index.page)

**VOLUME 1 OF 3**

**LAW**

**BID BOOKLET**

FOR FURNISHING ALL LABOR AND MATERIALS NECESSARY AND REQUIRED FOR:

**PROJECT ID: SE823**

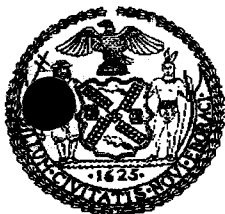
**CONSTRUCTION OF SANITARY AND STORM SEWERS AND  
APPURTENANCES IN 229TH STREET BETWEEN 145TH AVENUE AND  
147TH AVENUE, ETC.**

**INCLUDING WATER MAIN WORK**

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

FOR THE DEPARTMENT OF ENVIRONMENTAL PROTECTION  
PREPARED BY  
IN-HOUSE DESIGN

**March 20, 2017**



**7-090**



Justin Walter  
Chief Administrative Officer  
Administration

March 12, 2018

CERTIFIED MAIL - RETURN RECEIPT REQUEST

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

RE: FMS ID: SE-823  
E-PIN: 85017B0085001  
DDC PIN: 8502017SE0009C  
CONSTRUCTION OF STORM SANITARY  
AND COMBINED IN 229TH STREET  
BETWEEN 145TH AVENUE AND 147TH  
AVENUE, ETC. - BOROUGH OF QUEENS  
**NOTICE OF AWARD**

Dear Contractor:

You are hereby awarded the above referenced contract based upon your bid in the amount of \$72,721,954.35 submitted at the bid opening on February 01, 2018. 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, 1<sup>st</sup> 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.





**Department of  
Design and  
Construction**

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.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael Shipman", written over a horizontal line.

Michael Shipman  
Director of Contracts

## **LOCATIONS**

### **HIGH LEVEL STORM SEWER IN:**

230TH PLACE BETWEEN 144TH AVENUE AND 148TH AVENUE

147TH AVENUE BETWEEN 230TH PLACE AND 227TH STREET

227TH STREET BETWEEN 146TH AVENUE AND 149TH AVENUE

149TH AVENUE BETWEEN 279TH STREET AND 225TH STREET

147TH AVENUE BETWEEN 229TH STREET AND 227TH STREET

147TH AVENUE BETWEEN 229TH STREET AND 228TH STREET

230TH STREET BETWEEN 148TH AVENUE AND 145TH AVENUE

229TH STREET BETWEEN 148TH AVENUE AND 147TH AVENUE

228TH STREET BETWEEN 148TH AVENUE AND 147TH AVENUE

227TH STREET BETWEEN 147TH AVENUE AND 149TH AVENUE

149TH AVENUE BETWEEN 225TH STREET AND 226TH AVENUE

149TH AVENUE BETWEEN 228TH STREET AND 227TH STREET

229TH STREET BETWEEN 145TH AVENUE AND 147TH AVENUE

145TH AVENUE BETWEEN 230TH PLACE AND 226TH STREET

228TH STREET BETWEEN 145TH ROAD AND 144TH AVENUE

227TH STREET BETWEEN 145TH AVENUE AND 144TH AVENUE

148TH AVENUE BETWEEN 230TH STREET AND 226TH STREET

### **SANITARY SEWER IN:**

227TH STREET BETWEEN 148TH AVENUE AND 147TH AVENUE

229TH STREET BETWEEN 147TH AVENUE AND 145TH AVENUE

147TH AVENUE BETWEEN 227TH STREET AND 228TH STREET

145TH AVENUE BETWEEN 230TH PLACE AND 229TH STREET

230TH PLACE BETWEEN 148TH AVENUE AND 147TH AVENUE

230TH STREET BETWEEN 147TH AVENUE AND 145TH AVENUE

148TH AVENUE BETWEEN 230TH STREET AND 228TH STREET

**COMBINED SEWER IN:**

230TH PLACE BETWEEN 144TH AVENUE AND 145TH AVENUE

145TH AVENUE BETWEEN 230TH PLACE AND 229TH STREET

229TH STREET BETWEEN 145TH AVENUE AND 147TH AVENUE

**WATER MAIN WORK IN:**

227TH STREET BETWEEN 147TH AVENUE AND 148TH AVENUE

229TH STREET BETWEEN 147TH AVENUE AND 145TH AVENUE

230TH PLACE BETWEEN 148TH AVENUE AND 147TH AVENUE

230TH STREET BETWEEN 148TH STREET AND 145TH STREET

145TH AVENUE BETWEEN 226TH STREET AND 230TH STREET

147TH AVENUE BETWEEN 226TH STREET AND 230TH STREET

# Notices 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 ATTACHMENT 1 - BID INFORMATION, page A-1 and SCHEDULE B, page 13, 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.

## **Apprenticeship Program**

*If Apprenticeship Program is required as noted on Page 19 of this BID BOOKLET, the following notice applies:*

Please be advised that, pursuant to the authority granted to the City under Labor Law §816-b, the New York City Department of Design and Construction hereby requires that the contractor awarded a contract as a result of this solicitation, 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 subcontractor not being approved.

Please be further advised that, pursuant to Labor Law §220, the allowable ratio of apprentices to journeypersons 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.

# Notices to Bidders

## PASSPort Disclosure Filing

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.**

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](http://www.nyc.gov/passport). Contact MOCS at [passport@mocs.nyc.gov](mailto:passport@mocs.nyc.gov) for additional information and technical support.

# Notices to Bidders

## NYC Construction Loan Pilot Program

The New York City Department of Small Business Services (SBS), in conjunction with the New York Business Development Corporation (NYBDC), have established a **NYC Construction Loan** pilot program to provide prime contractors and subcontractors financing for mobilization costs on certain City construction projects.

Under this initiative, loans are available for early stage mobilization needs such as insurance, labor, supplies and equipment. Bidders are strongly encouraged to visit "Growing Your Business" at [www.nyc.gov/nycbusiness](http://www.nyc.gov/nycbusiness) to learn more about the loan or contact [constructionloan@sbs.nyc.gov](mailto:constructionloan@sbs.nyc.gov) / (212) 513-6444 to obtain details and to determine preliminary eligibility.

A successful loan applicant will be required to make an assignment of its contract (or subcontract) payments to the lender NYBDC until the loan is repaid. If the loan is to a subcontractor, a prime contractor must honor the terms of such an assignment.

A prime contractor may not discriminate against a subcontractor or potential subcontractor by reason of the subcontractor's participation, or nonparticipation, in the NYC Construction loan program.

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

**BID BOOKLET**

FOR FURNISHING ALL LABOR AND MATERIALS NECESSARY AND  
REQUIRED FOR:

**PROJECT ID: SE823**

**CONSTRUCTION OF STORM SANITARY AND COMBINED SEWERS IN 229TH  
STREET BETWEEN 145TH AVENUE AND 147TH AVENUE, ETC.**

**INCLUDING WATER MAIN WORK**

**Together With All Work Incidental Thereto**  
**BOROUGH OF QUEENS**



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

**BID BOOKLET**

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

**SPECIAL NOTICE TO BIDDERS**

**BID SUBMISSION REQUIREMENTS**

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

1. Bid Schedule and Bid Form, including Affirmation
2. Bid Security (if required, see Attachment 1 on Page A-1)
3. Schedule B: M/WBE Utilization Plan (if participation goals have been established)

**FAILURE TO SUBMIT ITEMS (1), (2) AND (3)  
WILL RESULT IN THE DISQUALIFICATION OF THE BID.**

4. Safety Questionnaire
5. Construction Employment Report (if bid is \$1,000,000 or more)
6. Contract Certificate (if bid is less than \$1,000,000)
7. Confirmation of Vendex Compliance
8. Bidder's Certification of Compliance with Iran Divestment Act
9. Special Experience Requirements (if applicable)
10. Apprenticeship Program Questionnaire (if applicable)
11. Any addenda issued prior to the receipt of bids

**FAILURE TO SUBMIT ITEMS (4) THROUGH (11)  
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.
- (2) If the bidder has any questions or requires additional information, please contact the Department of Design and Construction by phone (718-391- 2601) or by fax (718-391-2615).
- (3) VENDEX QUESTIONNAIRES: The Bidder is advised that Vendex Questionnaires and procedures have been changed. Vendex Questionnaires, as well as detailed instructions, may be obtained at [www.nyc.gov/vendex](http://www.nyc.gov/vendex). The bidder may also obtain Vendex forms and instructions by contacting the Agency Chief Contracting Officer or the contact person for this contract.
- (4) SPECIAL EXPERIENCE REQUIREMENTS: The Bidder is advised that Special Experience Requirements may apply to this contract. Such requirements are set forth on pages 3, 3a, 3b and 4 of this Bid Booklet.

## SPECIAL NOTICE TO BIDDERS

### SPECIAL EXPERIENCE REQUIREMENTS (Revised 03/2014)

- (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 (to be provided after an award of contract):**

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 contractor, subcontractor or sub-subcontractor 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.** After an award of contract, when requested by the City, the contractor will be required to submit the qualifications of the contractor, subcontractor or sub-subcontractor 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 contractor, subcontractor or sub-subcontractor (hereinafter referred to as 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:** \_\_\_\_\_

(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 he/she was affiliated, and (b) a significant management role in the entity submitting the bid for a period of six (6) months or more 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.

### 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: B94TH ST

Location of Project: MAN RUCKAWAY

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

Name: J. DAVIS

Title: Deputy Director Phone Number: 718 391-2249

Brief description of the Project completed or the Project in progress: Installation  
TUNK WATER MAINS STORM SANITARY &  
WATER MAIN ON B94TH ST

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

Amount of Contract, Subcontract or Sub-subcontract: 4,150,156.46

Start Date and Completion Date: 11/12 - 11/14

\*\*\*\*\*

Name of Contractor: CAC INDUSTRIES INC

Name of Project: QCD 1003

Location of Project: RICHMOND HILL QUEENS

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

Name: MAURO / SADEEM SR ZARDI

Title: OFF ENGINEER Phone Number: 718 847-5102

Brief description of the Project completed or the Project in progress: WATER MAIN  
REPLACEMENT AT VARIOUS LOCATIONS FROM 108TH ST  
TO 129TH ST AVE BRONX 85TH AVE & JAMICA IX

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

Amount of Contract, Subcontract or Sub-subcontract: \$ 37,511,009.00

Start Date and Completion Date: 3/15 - 10/16

# Creative Habitat Corp.

## 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: JRCRUZ Corp.

Name of Project: SER 2311 Bertram Ave

Location of Project: Bertram Ave/Zephyr Ave - Staten Island

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

Name: David Petersen (DDC)

Title: Engineer in Charge Phone Number: 718-391-2072

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

Stormsewer and outfall construction, Erosion & Sediment control

Upland restoration

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

Amount of Contract, Subcontract or Sub-subcontract: \$38,000.

Start Date and Completion Date: Aug - Oct 2017

\*\*\*\*\*

Name of Contractor: Perfetto Contracting

Name of Project: SE 200208 Wards Point Ave

Location of Project: Wards Pt Ave/Amboy Road - Staten Island

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

Name: Thony Germain (SIE Consultants)

Title: Resident Engineer Phone Number: 917-570-4078

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

Stormsewer and outfall construction, Erosion & Sediment Control

Upland restoration, protection of sensitive native habitat

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

Amount of Contract, Subcontract or Sub-subcontract: \$21,500.

Start Date and Completion Date: July - Oct 2016

**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: JRCRUZ Corp.  
 Name of Project: SEQ 200508 Bay 32nd Ave  
 Location of Project: Beach 32nd St/Bayswater Park - Far Rockaway/Queens

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

Name: Gordon Williams (DDC)  
 Title: Engineer in Charge Phone Number: 718-391-2020

Brief description of the Project completed or the Project in progress:  
Stormsewer and outfall construction, Parkland restoration,  
Tidal wetland planting, Follow-up monitoring

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

Amount of Contract, Subcontract or Sub-subcontract: \$21,000.

Start Date and Completion Date: Dec 2014 - Oct 2018

\*\*\*\*\*

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**

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: C.A.C. Industries Inc.

Name of Project: Construction of Storm Sewers and Appurtenances in Beach 42nd Street  
NYCDDC Project ID SEQ200533

Location of Project: Queens, New York

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

Name: Maresh K. Rana, PE

Title: Engineer-In-Charge, Phone Number: (718) 391-1965  
Infrastructure Division

Brief description of the Project completed or the Project in progress:  
Preparation of Stormwater Pollution Prevention Plan / Soil Erosion Control Plan  
Project included construction of a large box sewer and an outfall, shoreline restoration

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

Amount of Contract, Subcontract or Sub-subcontract: \$55,000

Start Date and Completion Date: August 2011 - April 2013

\*\*\*\*\*

Name of Contractor: C.A.C. Industries Inc.

Name of Project: Reconstruction of Gateway Estate (Nehemiah Creek) - Phase C  
NYCDDC Project ID HD-161C

Location of Project: Borough of Brooklyn

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

Name: Flore Bruneau, PE

Title: Engineer in Charge (EIC) Phone Number: (646) 739-7122

Brief description of the Project completed or the Project in progress:  
Preparation of Stormwater Pollution Prevention Plan / Soil Erosion Control Plan  
Construction of storm and sanitary sewers in street right-of-way with excavation and dewatering

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

Amount of Contract, Subcontract or Sub-subcontract: \$35,000

Start Date and Completion Date: March 2014-Ongoing

**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: Difazio Industries

Name of Project: Construction of Storm Sewers and Sanitary Sewers in Cuba Avenue, etc.  
NYCDDC Project ID SER 200238

Location of Project: Staten Island, New York

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

Name: Sasan Sareh, P.E.

Title: Engineer-In-Charge, Staten Island Phone Number: (718) 391-2542  
Infrastructure Division

Brief description of the Project completed or the Project in progress:  
Preparation of Stormwater Pollution Prevention Plan / Soil Erosion Control Plan, Dewatering Plan  
Construction of storm and sanitary sewers in street right-of-way with excavation and dewatering

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

Amount of Contract, Subcontract or Sub-subcontract: \$40,000

Start Date and Completion Date: August 2012 - August 2014

\*\*\*\*\*

Name of Contractor: JRCruz Corporation

Name of Project: Construction of Storm and Sanitary Sewers and BMPs in Richard Ave & Butler Manor  
NYCDDC Project ID SE-734

Location of Project: Staten Island, New York

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

Name: Mr. Arvind Patel, PE

Title: Engineer-In-Charge, Staten Island Phone Number: (718) 391-2507  
Infrastructure Division

Brief description of the Project completed or the Project in progress:  
Revising the soil erosion plan and weekly monitoring for SWPPP soil erosion, Dewatering Plan  
Construction of storm and sanitary sewers in street right-of-way and BMPs on a lake

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

Amount of Contract, Subcontract or Sub-subcontract: \$45,000

Start Date and Completion Date: August 2014 - Ongoing

## ATTACHMENT 1 - BID INFORMATION

**PROJECT ID: SE823****PIN: 8502017SE0009C**

**Description and Location of Work:** For The Construction Of Storm Sanitary And Combined Sewers In 229th Street Between 145th Avenue And 147th Avenue, Etc. Including Water Main Work together With All Work Incidental Thereto, Borough Of Queens.

**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 JANUARY 19, 2018

**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 JANUARY 19, 2018

**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

## **LIST OF DRAWINGS**

**PROJECT ID: SE823**

**PIN: 8502017SE0009C**

Sheet No.	Description
1	Title Sheet
2	Key Map
3-18	Plans and Profiles
19-29	Chambers 1-15
30-33	Miscellaneous Details
34-36	MPT
37-40	Erosion and Sediment Control Plans
41	Traffic Signal Plan
42-43	FDNY Communications
For Reference ONLY	
1-4, 1-10	Borings
1-13	Con Ed
1-1	Verizon
1-1	Time Warner

# **BID SCHEDULE**

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	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;"><b>AND</b></p> NYC DOT Standard Details of Construction;  <p style="text-align: center;"><b>OR,</b></p> <b><i>if the item is not contained within the Standard Specifications</i></b> , 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;"><b>AND</b></p> NYC DOT Specifications for Trunk Main Work;  <p style="text-align: center;"><b>AND</b></p> NYC DOT Sewer Design Standards;  <p style="text-align: center;"><b>AND</b></p> NYC DOT Water Main Standard Drawings;  <p style="text-align: center;"><b>OR,</b></p> <b><i>if the item is not contained within the Standard Specifications</i></b> , 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;"><b>AND</b></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.

# **BID SCHEDULE**

Item Number Format	Applicable Specifications
83X.XXX HW-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 <p style="text-align: center;"><b>AND</b></p> NYC Division of Street Lighting Standard Drawings.
T-XXX	NYC DOT Specifications for Traffic Signals and Intelligent Transportation Systems <p style="text-align: center;"><b>AND</b></p> 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)**

## 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 Through B - 43

PLEASE BE SURE A LEGIBLE BID IS ENTERED FOR EACH ITEM.  
THE BIDDER SHALL INSERT THE TOTAL BID PRICE IN  
THE BID FORM ON PAGE C-4 OF THIS BID BOOKLET.

# BID SCHEDULE FORM

SECTION NO.	ITEM NUMBER AND DESCRIPTION	QUANTITY	UNIT	UNIT PRICE (IN DOLLARS)	EXTENDED AMOUNT (IN DOLLARS)
001	4.01 FAG ASPHALT MACADAM PAVEMENT, 6" THICK	20,000.00	S.Y.	40 00	800,000 00
002	4.02 AB-R ASPHALTIC CONCRETE WEARING COURSE, 1-1/2" THICK	500.00	S.Y.	21 00	10,500 00
003	4.02 AF-R ASPHALTIC CONCRETE WEARING COURSE, 2" THICK	21,000.00	S.Y.	15 00	315,000 00
004	4.02 AG ASPHALTIC CONCRETE WEARING COURSE, 3" THICK	4,400.00	S.Y.	23 60	101,200 00
005	4.02 CA BINDER MIXTURE	7,547.00	TONS	220 00	1,660,340 00
006	4.04 AC CONCRETE BASE FOR PAVEMENT, 6" THICK, CLASS B-32	600.00	C.Y.	260 00	156,000 00



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# BID SCHEDULE FORM

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT PRICE (\$)	TOTAL (\$)
007	4.04 DD CONCRETE BASE FOR PAVEMENT, 9" THICK, CLASS A-40	100.00	C.Y.	270.00	27,000.00
008	4.04 H CONCRETE BASE FOR PAVEMENT, VARIABLE THICKNESS FOR TRENCH RESTORATION, (HIGH-EARLY STRENGTH)	170.00	C.Y.	280.00	47,600.00
009	4.05 AX HIGH-EARLY STRENGTH REINFORCED CONCRETE PAVEMENT (BUS STOPS)	250.00	C.Y.	280.00	70,000.00
010	4.08 AA CONCRETE CURB (18" DEEP)	3,250.00	L.F.	65.00	211,250.00
011	4.08 BA CONCRETE CURB (21" DEEP)	9,700.00	L.F.	70.00	679,000.00
012	4.09 AD STRAIGHT STEEL FACED CONCRETE CURB (18" DEEP)	1,300.00	L.F.	97.00	126,100.00

## BID SCHEDULE FORM

ITEM NO.	ITEM DESCRIPTION	ESTIMATE OF QUANTITY	UNIT	UNIT PRICE (DOLLARS & CENTS)	EXTENDED AMOUNT (DOLLARS & CENTS)
013	4.09 AE STRAIGHT STEEL FACED CONCRETE CURB (21" DEEP)	650.00	L.F.	98.00	63,700.00
014	4.09 AF STRAIGHT STEEL FACED CONCRETE CURB (27" DEEP)	500.00	L.F.	100.00	50,000.00
015	4.09 CD CORNER STEEL FACED CONCRETE CURB (18" DEEP)	800.00	L.F.	148.00	118,400.00
016	4.09 CE CORNER STEEL FACED CONCRETE CURB (21" DEEP)	60.00	L.F.	151.00	9,060.00
017	4.11 CA FILL, PLACE MEASUREMENT	145.00	C.Y.	52.00	7,250.00
018	4.13 AAS 4" CONCRETE SIDEWALK (UNPIGMENTED)	47,400.00	S.F.	10.00	474,000.00

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## BID SCHEDULE FORM

LINE NUMBER AND DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL PRICE
019 4.13 BAS 7" CONCRETE SIDEWALK (UNPIGMENTED)	17,895.00	S.F.	15.00	268,425.00
020 4.13 DE EMBEDDED PRE-FORMED DETECTABLE WARNING UNITS	610.00	S.F.	15.00	9,150.00
021 4.15 TOPSOIL	180.00	C.Y.	85.00	15,300.00
022 4.16 AA TREES REMOVED (4" TO UNDER 12" CALIPER)	30.00	EACH	265.00	7,950.00
023 4.16 AAT TREES TRANSPLANTED, UP TO 4" CALIPER, ALL TYPES	25.00	EACH	1,750.00	43,750.00
024 4.16 AB TREES REMOVED (12" TO UNDER 18" CALIPER)	20.00	EACH	525.00	10,500.00

# BID SCHEDULE FORM

SEQ. NO.	ITEM NUMBER AND DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL PRICE
025	4.16 AC TREES REMOVED (18" TO UNDER 24" CALIPER)	10.00	EACH	925.00	9,250.00
026	4.16 ADE TREES REMOVED (24" TO UNDER 48" CALIPER)	10.00	EACH	360.00	3,600.00
027	4.16 CA405 TREES PLANTED, 3" TO 3-1/2" CALIPER, ALL TYPES, IN 4' X 5' TREE PITS	427.00	EACH	1,585.00	668,255.00
028	4.16 EAT TREES TRANSPLANTED, 4" TO 6" CALIPER, ALL TYPES	10.00	EACH	1,750.00	17,500.00
029	4.16 STUMP STUMP REMOVAL	1.00	UNITS	625.00	625.00
030	4.18 A MAINTENANCE TREE PRUNING (UNDER 12" CAL.)	91.00	EACH	390.00	35,490.00

# BID SCHEDULE FORM

NO.	DESCRIPTION	UNIT	QTY	UNIT PRICE	TOTAL PRICE
031	4.18 B MAINTENANCE TREE PRUNING (12" TO UNDER 18" CAL.)	EACH	695	00	45,175.00
032	4.18 C MAINTENANCE TREE PRUNING (18" TO UNDER 24" CAL.)	EACH	1,090	00	49,050.00
033	4.18 D MAINTENANCE TREE PRUNING (24" CAL. AND OVER)	EACH	1,710	00	42,750.00
034	4.19 SODDING	S.Y.	27	50	33,000.00
035	4.20 SEEDING	S.Y.	13	50	49,845.00
036	4.21 TREE CONSULTANT	P/HR	100	00	85,600.00



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

PROJECT ID: SE823  
CONTRACT PIN: 8502017SE0009C

## BID SCHEDULE FORM

COL 1	COL 2	COL 3	COL 4	COL 5	COL 6	COL 7
ITEM NO.	DESCRIPTION	QTY	UNIT	UNIT PRICE	TOTAL PRICE	TOTAL PRICE
037	50.11CS166080 16-8" W X 6-0" H SINGLE BARREL FLAT TOP REINFORCED CONCRETE COMBINED SEWER	400.00	L.F.	5,100.00	2,040,000.00	
038	50.11CS166080 16-8" W X 8-0" H SINGLE BARREL FLAT TOP REINFORCED CONCRETE COMBINED SEWER	3,300.00	L.F.	5,200.00	17,160,000.00	
039	50.11MS080050 8-0" W X 5-0" H SINGLE BARREL FLAT TOP REINFORCED CONCRETE STORM SEWER	40.00	L.F.	2,100.00	84,000.00	
040	50.11MS080060 8-0" W X 6-0" H SINGLE BARREL FLAT TOP REINFORCED CONCRETE STORM SEWER	450.00	L.F.	1,900.00	855,000.00	
041	50.11MS090050 9-0" W X 5-0" H SINGLE BARREL FLAT TOP REINFORCED CONCRETE STORM SEWER	2,000.00	L.F.	1,750.00	3,500,000.00	
042	50.21M3C023W 23" W X 14" H R.C.P. CLASS HE-III STORM SEWER, ON CONCRETE CRADLE	40.00	L.F.	600.00	24,000.00	

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## BID SCHEDULE FORM

COL 1 SEQUENCE	COL 2 ITEM NUMBER AND DESCRIPTION	COL 3 QUANTITY	COL 4 UNIT	COL 5 UNIT PRICE (IN DOLLARS)	COL 6 TOTAL AMOUNT (IN DOLLARS)
043	50.21M3C030D 30" R.C.P. CLASS III STORM SEWER, ON CONCRETE CRADLE	780.00	L.F.	450 00	351,000 00
044	50.21M3C036D 36" R.C.P. CLASS III STORM SEWER, ON CONCRETE CRADLE	290.00	L.F.	520 00	150,800 00
045	50.21M3C042D 42" R.C.P. CLASS III STORM SEWER, ON CONCRETE CRADLE	280.00	L.F.	605 00	180,600 00
046	50.21M3C054D 54" R.C.P. CLASS III STORM SEWER, ON CONCRETE CRADLE	1,500.00	L.F.	900 00	1,350,000 00
047	50.21M3E024D 24" R.C.P. CLASS III STORM SEWER, ENCASED IN CONCRETE	610.00	L.F.	375 00	228,750 00
048	50.21M3E030D 30" R.C.P. CLASS III STORM SEWER, ENCASED IN CONCRETE	210.00	L.F.	665 00	139,650 00

# BID SCHEDULE FORM

SEQ. NO.	ITEM NUMBER AND DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL PRICE	ESTIMATED PRICE
049	50.21M3E036D 36" R.C.P. CLASS III STORM SEWER, ENCASED IN CONCRETE	300.00	L.F.	685.00	205,500.00	
050	50.21M3E042D 42" R.C.P. CLASS III STORM SEWER, ENCASED IN CONCRETE	200.00	L.F.	700.00	140,000.00	
051	50.21M3E054D 54" R.C.P. CLASS III STORM SEWER, ENCASED IN CONCRETE	530.00	L.F.	1,260.00	667,800.00	
052	50.21M3E060D 60" R.C.P. CLASS III STORM SEWER, ENCASED IN CONCRETE	300.00	L.F.	1,265.00	379,500.00	
053	50.21S4C024D 24" R.C.P. CLASS IV SANITARY SEWER, ON CONCRETE CRADLE	1,600.00	L.F.	735.00	1,176,000.00	
054	50.31MC15 15" E.S.V.P. STORM SEWER, ON CONCRETE CRADLE	310.00	L.F.	400.00	124,000.00	



## BID SCHEDULE FORM

ITEM NUMBER	DESCRIPTION	QUANTITY	UNIT	PRICE	AMOUNT
055	50.31MC18 18" E.S.V.P. STORM SEWER, ON CONCRETE CRADLE	100.00	L.F.	500.00	50,000.00
056	50.31ME18 18" E.S.V.P. STORM SEWER, ENCASED IN CONCRETE	100.00	L.F.	510.00	51,000.00
057	50.31SC10 10" E.S.V.P. SANITARY SEWER, ON CONCRETE CRADLE	3,800.00	L.F.	365.00	1,387,000.00
058	50.31SC12 12" E.S.V.P. SANITARY SEWER, ON CONCRETE CRADLE	675.00	L.F.	420.00	283,500.00
059	50.31SC15 15" E.S.V.P. SANITARY SEWER, ON CONCRETE CRADLE	600.00	L.F.	465.00	279,000.00
060	50.31SC18 18" E.S.V.P. SANITARY SEWER, ON CONCRETE CRADLE	550.00	L.F.	530.00	291,500.00

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# BID SCHEDULE FORM

SEQ NO.	ITEM NUMBER AND DESCRIPTION	QUANTITY	UNIT	PRICE	AMOUNT	PRICE	AMOUNT
				DOLLARS	CENTS	DOLLARS	CENTS
061	50.41M6E24 24" D.I.P. CLASS 56 STORM SEWER, ENCASED IN CONCRETE	100.00	L.F.	685	00	68,500	00
062	50.41S6E10 10" D.I.P. CLASS 56 SANITARY SEWER, ENCASED IN CONCRETE	130.00	L.F.	615	00	79,950	00
063	50.41S6E12 12" D.I.P. CLASS 56 SANITARY SEWER, ENCASED IN CONCRETE	150.00	L.F.	620	00	93,000	00
064	50.41S6E18 18" D.I.P. CLASS 56 SANITARY SEWER, ENCASED IN CONCRETE	50.00	L.F.	1,000	00	50,000	00
065	50.41S6E48 48" D.I.P. CLASS 56 SANITARY SEWER, ENCASED IN CONCRETE	50.00	L.F.	3,200	00	163,000	00
066	51.11C001 CHAMBER NO. 1	1.00	EACH	1,000,000	00	1,000,000	00

# BID SCHEDULE FORM

SECTION	ITEM NUMBER AND DESCRIPTION	QUANTITY	UNIT	UNIT PRICE (FIGURES)	EXTENDED AMOUNT (FIGURES)
067	51.11C002 CHAMBER NO. 2	1.00	EACH	1,800,000.00	1,800,000.00
068	51.11C003 CHAMBER NO. 3	1.00	EACH	1,000,000.00	1,000,000.00
069	51.11C004 CHAMBER NO. 4	1.00	EACH	1,000,000.00	1,000,000.00
070	51.11C005 CHAMBER NO. 5	1.00	EACH	955,000.00	955,000.00
071	51.11C006 CHAMBER NO. 6	1.00	EACH	750,000.00	750,000.00
072	51.11C007 CHAMBER NO. 7	1.00	EACH	1,050,000.00	1,050,000.00

## BID SCHEDULE FORM

SEQ. NO.	ITEM DESCRIPTION	QTY	UNIT	EST. PRICE	EST. PRICE
073	51.11C008 CHAMBER NO. 8	1.00	EACH	550,000.00	550,000.00
074	51.11C009 CHAMBER NO. 9	1.00	EACH	775,000.00	775,000.00
075	51.11C010 CHAMBER NO. 10	1.00	EACH	950,000.00	950,000.00
076	51.11C011 CHAMBER NO. 11	1.00	EACH	750,000.00	750,000.00
077	51.11C012 CHAMBER NO. 12	1.00	EACH	550,000.00	550,000.00
078	51.11C013 CHAMBER NO. 13	1.00	EACH	1,500,000.00	1,500,000.00

# BID SCHEDULE FORM

COL. 1 SEQ. NO.	COL. 2 ITEM NUMBER AND DESCRIPTION	COL. 3 QUANTITY	COL. 4 UNIT	COL. 5 UNIT PRICE (IN FIGURES)	COL. 6 EXTENDED AMOUNT (IN FIGURES)	COL. 7 TAXES	COL. 8 TOTAL
079	51.11C014 CHAMBER NO. 14	1.00	EACH	624,000.00	624,000.00		
080	51.11C015 CHAMBER NO. 15	1.00	EACH	3,255,000.00	3,255,000.00		
081	51.11P004 STANDARD 4'-0" DIAMETER PRECAST MANHOLE	7.00	EACH	10,000.00	70,000.00		
082	51.11P005 STANDARD 5'-0" DIAMETER PRECAST MANHOLE	2.00	EACH	15,000.00	30,000.00		
083	51.11P006 STANDARD 6'-0" DIAMETER PRECAST MANHOLE	2.00	EACH	16,000.00	32,000.00		
084	51.11P007 STANDARD 7'-0" DIAMETER PRECAST MANHOLE	3.00	EACH	35,000.00	105,000.00		



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

PROJECT ID: SE823  
CONTRACT PIN: 8502017SE0009C

## BID SCHEDULE FORM

SEQ. NO.	ITEM NUMBER AND DESCRIPTION	QTY	UNIT	UNIT PRICE (\$)	EXT. AMOUNT (\$)	UNIT PRICE (\$)	EXT. AMOUNT (\$)
085	51.11P008 STANDARD 8-0" DIAMETER PRECAST MANHOLE	2.00	EACH	60,000.00	120,000.00		
086	51.21A000000C ACCESS MANHOLE	25.00	EACH	25,000.00	625,000.00		
087	51.21C000000C CLEANOUT MANHOLE	4.00	EACH	35,000.00	140,000.00		
088	51.21L000000V SPECIAL MANHOLE	1.00	EACH	50,000.00	50,000.00		
089	51.21S0A1000E STANDARD MANHOLE TYPE A-1 ON EXISTING SEWER	2.00	EACH	45,000.00	90,000.00		
090	51.21S0A1000V STANDARD MANHOLE TYPE A-1	8.00	EACH	10,000.00	80,000.00		

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## BID SCHEDULE FORM

COL 1 SEQ. NO.	COL 2 ITEM NUMBER AND DESCRIPTION	COL 3 QUANTITY	COL 4 UNIT	COL 5 UNIT PRICE (DOLLARS)	COL 6 BID AMOUNT (DOLLARS)
091	51.21S0A2000V STANDARD MANHOLE TYPE A-2	1.00	EACH	15,000.00	15,000.00
092	51.21S0A3000V STANDARD SHALLOW MANHOLE TYPE A-3	13.00	EACH	7,500.00	97,500.00
093	51.21S0B1000V STANDARD MANHOLE TYPE B-1	34.00	EACH	11,000.00	374,000.00
094	51.21S0B2000V STANDARD MANHOLE TYPE B-2	18.00	EACH	12,000.00	216,000.00
095	51.21S0C1036R STANDARD MANHOLE TYPE C-1 ON 36" R.C.P. SEWER	2.00	EACH	15,000.00	30,000.00
096	51.21S0C1042R STANDARD MANHOLE TYPE C-1 ON 42" R.C.P. SEWER	1.00	EACH	18,000.00	18,000.00

# BID SCHEDULE FORM

COL 1 ITEM NUMBER AND DESCRIPTION	COL 2 ESTIMATE QUANTITY	COL 3 UNIT	COL 4 UNIT PRICE (IN DOLLARS AND CENTS)	COL 5 BIDDING AMOUNT (IN DOLLARS)
097 51.21S0C1054R STANDARD MANHOLE TYPE C-1 ON 54" R.C.P. SEWER	10.00	EACH	27,600.00	276,000.00
098 51.21S0C2048D STANDARD MANHOLE TYPE C-2 ON 48" D.I.P. SEWER	1.00	EACH	35,000.00	35,000.00
099 51.41S001 STANDARD CATCH BASIN, TYPE 1	96.00	EACH	15,000.00	1,440,000.00
100 52.11D12 12" DUCTILE IRON PIPE BASIN CONNECTION	2,100.00	L.F.	250.00	525,000.00
101 52.21V08 8" E.S.V.P. RISER FOR HOUSE CONNECTION	500.00	V.F.	95.00	47,500.00
102 52.31V06S10 6" E.S.V.P. SPUR FOR HOUSE CONNECTION ON 10" E.S.V.P. SANITARY SEWER	60.00	EACH	375.00	22,500.00



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

PROJECT ID: SE823  
CONTRACT PIN: 8502017SE0009C

## BID SCHEDULE FORM

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT PRICE (\$)	TOTAL (\$)	EST. TOTAL (\$)
103	52.31V06S12 6" E.S.V.P. SPUR FOR HOUSE CONNECTION ON 12" E.S.V.P. SANITARY SEWER	20.00	EACH	450	9,000.00	00
104	52.41D06R 6" D.I.P. HOUSE CONNECTION DRAIN ON CONCRETE CRADLE (RECONNECTION)	450.00	L.F.	500	225,000.00	00
105	52.41V06R 6" E.S.V.P. HOUSE CONNECTION DRAIN ON CONCRETE CRADLE (RECONNECTION)	1,100.00	L.F.	65	71,500.00	00
106	53.11DR TELEVISION INSPECTION AND DIGITAL AUDIO-VISUAL RECORDING OF SEWERS	12,800.00	L.F.	4	57,200.00	00
107	54.11SC SEWER CLEANING	1,500.00	L.F.	7	11,250.00	00
108	54.12CS CLEANING OF DRAINAGE STRUCTURES	50.00	C.Y.	430	21,500.00	00

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# BID SCHEDULE FORM

SECTION	ITEM NUMBER AND DESCRIPTION	ESTIMATED QUANTITY	UNIT	UNIT PRICE (DOLLARS)	SCHEDULED AMOUNT (DOLLARS)
109	6.01 AC CLEARING AND GRUBBING	2,980.00	S.Y.	120.00	357,600.00
110	6.02 AAN UNCLASSIFIED EXCAVATION	10,160.00	C.Y.	100.00	1,016,000.00
111	6.03 AA STRIPPING PAVEMENT SURFACE (ASPHALTIC CONCRETE)	180.00	S.Y.	01.00	1.80
112	6.25 RS TEMPORARY SIGNS	12,430.00	S.F.	01.00	124.30
113	6.26 TIMBER CURB	56,420.00	L.F.	01.00	564.20
114	6.28 AA LIGHTED TIMBER BARRICADES	5,015.00	L.F.	01.00	50.15



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

PROJECT ID: SE823  
CONTRACT PIN: 8502017SE0009C

## BID SCHEDULE FORM

COL 1 SEQ. NO.	COL 2 ITEM NUMBER AND DESCRIPTION	COL 3 QTY OF QUANTITY	COL 4 UNIT	COL 5 UNIT PRICE (AMOUNTS) DOLLARS	COL 6 EXTENDED AMOUNT (AMOUNTS) DOLLARS
115	6.33 B STEEL FACED WALL NOSING, 3' TO UNDER 6' RADIUS	6.00	EACH	5,000.00	30,000.00
116	6.40 D ENGINEER'S FIELD OFFICE (TYPE D)	42.00	MONTH	10,000.00	420,000.00
117	6.44 THERMOPLASTIC REFLECTORIZED PAVEMENT MARKINGS (4" WIDE)	21,420.00	L.F.	1.00	21,420.00
118	6.49 TEMPORARY PAVEMENT MARKINGS (4" WIDE)	41,420.00	L.F.	50.00	20,710.00
119	6.52 CG CROSSING GUARD	6,410.00	P/HR	75.00	480,750.00
120	6.53 REMOVE EXISTING LANE MARKINGS (4" WIDE)	21,710.00	L.F.	1.00	21,710.00

## BID SCHEDULE FORM

COL 1 SEQ. NO.	COL 2 ITEM NUMBER AND DESCRIPTION	COL 3 QUANTITY	COL 4 UNIT	COL 5 UNIT PRICE (IN DOLLARS)	COL 6 BID AMOUNT (IN DOLLARS)
121	6.55 SAWCUTTING EXISTING PAVEMENT	1,015.00	L.F.	3.00	3,045.00
122	6.67 SUBBASE COURSE, SELECT GRANULAR MATERIAL	4,500.00	C.Y.	85.00	382,500.00
123	6.82 A REMOVING EXISTING TRAFFIC AND STREET NAME SIGNS	250.00	S.F.	10.00	2,500.00
124	6.82 B REMOVING EXISTING TRAFFIC AND STREET NAME SIGN POSTS	350.00	L.F.	10.00	3,500.00
125	6.83 AA FURNISHING NEW NON-REFLECTORIZED TRAFFIC SIGNS	100.00	S.F.	30.00	3,000.00
126	6.83 AB FURNISHING NEW TRAFFIC SIGN POSTS	250.00	L.F.	10.00	2,500.00



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

PROJECT ID: SE823  
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## BID SCHEDULE FORM

CS	COL 1	COL 2	COL 3	COL 4	COL 5	COL 6	COL 7
SEQ NO	ITEM NUMBER	DESCRIPTION	QTY	UNIT	PRICE	AMOUNT	EXTENDED AMOUNT
127	6.83 AR	FURNISHING NEW REFLECTORIZED TRAFFIC SIGNS	160.00	S.F.	31.00	4,960.00	
128	6.83 BA	INSTALLING TRAFFIC SIGNS	260.00	S.F.	20.00	5,200.00	
129	6.83 BB	INSTALLING TRAFFIC SIGN POSTS	250.00	L.F.	20.00	5,000.00	
130	6.84 B	LOLLIPOP TYPE BUS STOP SIGNS PRICE BID SHALL BE FOR THE FIXED SUM OF \$ 15,500.00	1.00	F.S.	15,500.00	\$15,500.00	
131	6.86 AA	FURNISHING NEW STREET NAME SIGNS	100.00	S.F.	45.00	4,500.00	



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PROJECT ID: SE823  
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## BID SCHEDULE FORM

COL 1	COL 2	COL 3	COL 4	COL 5	COL 6	COL 7
SEQ. NO.	ITEM NAME, QTY, DESCRIPTION	UNIT	QTY	UNIT PRICE	TOTAL PRICE	TOTAL PRICE
132	6.86 AB FURNISHING NEW STREET NAME SIGN POSTS	L.F.	15	00	2,250	00
133	6.86 BA INSTALLING STREET NAME SIGNS	S.F.	22	00	2,200	00
134	6.86 BB INSTALLING STREET NAME SIGN POSTS	L.F.	21	00	3,150	00
135	6.87 PLASTIC BARRELS	EACH	01		606	30
136	6.91 REFLECTIVE CRACKING MEMBRANE (18" WIDE)	L.F.	3	00	7,245	00
137	60.11R520 FURNISHING AND DELIVERING 20-INCH DUCTILE IRON RESTRAINED JOINT PIPE (CLASS 55)	L.F.	226	00	452,000	00



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NEW YORK CITY DEPARTMENT OF DESIGN AND CONSTRUCTION PROJECT ID: SE823  
DIVISION OF INFRASTRUCTURE - BUREAU OF DESIGN CONTRACT PIN: 8502017SE0009C

## BID SCHEDULE FORM

REQ. NO.	ITEM NUMBER AND DESCRIPTION	QUANTITY	UNIT	ESTIMATED PRICE (IN FIGURES)	EXTENDED AMOUNT (IN FIGURES)	CIS
138	60.11R606 FURNISHING AND DELIVERING 6-INCH DUCTILE IRON RESTRAINED JOINT PIPE (CLASS 56)	500.00	L.F.	31 60	15,520 00	
139	60.11R608 FURNISHING AND DELIVERING 8-INCH DUCTILE IRON RESTRAINED JOINT PIPE (CLASS 56)	6,400.00	L.F.	71 00	454,400 00	
140	60.11R612 FURNISHING AND DELIVERING 12-INCH DUCTILE IRON RESTRAINED JOINT PIPE (CLASS 56)	3,400.00	L.F.	185 00	391,000 00	
141	60.12D06 LAYING 6-INCH DUCTILE IRON PIPE AND FITTINGS	550.00	L.F.	1 00	550 00	
142	60.12D08 LAYING 8-INCH DUCTILE IRON PIPE AND FITTINGS	6,600.00	L.F.	121 00	798,600 00	
143	60.12D12 LAYING 12-INCH DUCTILE IRON PIPE AND FITTINGS	3,600.00	L.F.	133 00	478,800 00	

## BID SCHEDULE FORM

ITEM NUMBER	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE (DOLLARS)	TOTAL PRICE (DOLLARS)
144	60.12D20 LAYING 20-INCH DUCTILE IRON PIPE AND FITTINGS	2,200.00	L.F.	190.00	418,000.00
145	60.13M0A24 FURNISHING AND DELIVERING DUCTILE IRON MECHANICAL JOINT 24-INCH DIAMETER AND SMALLER FITTINGS, INCLUDING WEDGE TYPE RETAINER GLANDS	16.00	TONS	15,000.00	240,000.00
146	60.18BJC20EL FURNISHING, DELIVERING AND INSTALLING BELL JOINT CLAMPS, COMPLETE FOR 20-INCH PIPE AND LESS	11.00	EACH	1.00	11.00
147	61.11DMM06 FURNISHING AND DELIVERING 6-INCH MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	36.00	EACH	1,500.00	54,000.00
148	61.11DMM08 FURNISHING AND DELIVERING 8-INCH MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	30.00	EACH	2,700.00	81,000.00



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# BID SCHEDULE FORM

SEQ. NO.	ITEM NUMBER AND DESCRIPTION	UNIT	QTY	UNIT PRICE	TOTAL PRICE	EXTENDED AMOUNT
				DOLLARS	CENTS	DOLLARS
149	61.11DMM12 FURNISHING AND DELIVERING 12-INCH MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	EACH	15.00	4,300.00		64,500.00
150	61.11DMM20 FURNISHING AND DELIVERING 20-INCH MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	EACH	10.00	20,600.00		206,000.00
151	61.11TWC03 FURNISHING AND DELIVERING 3-INCH WET CONNECTION TAPPING VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	EACH	2.00	900.00		1,800.00
152	61.11TWC04 FURNISHING AND DELIVERING 4-INCH WET CONNECTION TAPPING VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	EACH	2.00	1,000.00		2,000.00
153	61.12DMM06 SETTING 6-INCH MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	EACH	36.00	250.00		9,000.00

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## BID SCHEDULE FORM

ITEM NO.	ITEM NAME, DESCRIPTION	QUANTITY	UNIT	ESTIMATED QUANTITY (UNITS)	ESTIMATED PRICE (DOLLARS)	ESTIMATED PRICE (DOLLARS)
154	61.12DMM08 SETTING 8-INCH MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	30.00	EACH	250	7,500	00
155	61.12DMM12 SETTING 12-INCH MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	15.00	EACH	250	3,750	00
156	61.12DMM20 SETTING 20-INCH MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	10.00	EACH	375	3,750	00
157	61.12TWC03 SETTING 3-INCH WET CONNECTION TAPPING VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	2.00	EACH	185	370	00
158	61.12TWC04 SETTING 4-INCH WET CONNECTION TAPPING VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	2.00	EACH	200	400	00
159	62.11SD FURNISHING AND DELIVERING HYDRANTS	36.00	EACH	4,000	144,000	00



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NEW YORK CITY DEPARTMENT OF DESIGN AND CONSTRUCTION  
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PROJECT ID: SE823  
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## BID SCHEDULE FORM

SEQ. NO.	ITEM NUMBER AND DESCRIPTION	ENGINEER'S ESTIMATE QUANTITY	UNIT	UNIT PRICE (DOLLARS)	EXTENDED PRICE (DOLLARS)	TOTAL (DOLLARS)
160	62.12SG SETTING HYDRANTS COMPLETE WITH WEDGE TYPE RETAINER GLANDS	36.00	EACH	1,100.00	39,600.00	
161	62.13RH REMOVING HYDRANTS	25.00	EACH	250.00	6,250.00	
162	62.14FS FURNISHING, DELIVERING AND INSTALLING HYDRANT FENDERS	72.00	EACH	250.00	18,000.00	
163	63.11VC FURNISHING AND DELIVERING VARIOUS CASTINGS	45.00	TONS	1,340.00	60,300.00	
164	64.11EL WITHDRAWING AND REPLACING HOUSE SERVICES USING 1-1/2- INCH OR LARGER SCREW TAPS	100.00	EACH	800.00	80,000.00	
165	64.11ST WITHDRAWING AND REPLACING HOUSE SERVICES USING SMALLER THAN 1-1/2-INCH SCREW TAPS	220.00	EACH	800.00	176,000.00	

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## BID SCHEDULE FORM

COL NO.	ITEM NUMBER AND DESCRIPTION	COL CLASSIFICATION	COL UNIT	COL QUANTITY (IN FIGURES)	COL UNIT PRICE (IN FIGURES)	COL EXTENDED AMOUNT (IN FIGURES)
166	64.12COEG CUTTING AND OFFSETTING HOUSE SERVICE WATER CONNECTIONS (EQUAL TO OR GREATER THAN 3-INCH DIAMETER)	300.00	L.F.	29	00	8,700 00
167	64.12COLT CUTTING AND OFFSETTING HOUSE SERVICE WATER CONNECTIONS (LESS THAN 3-INCH DIAMETER)	2,500.00	L.F.	24	00	60,000 00
168	64.12ESEG EXTENDING HOUSE SERVICE WATER CONNECTIONS (EQUAL TO OR GREATER THAN 3-INCH DIAMETER)	300.00	L.F.	38	00	11,400 00
169	64.12ESLT EXTENDING HOUSE SERVICE WATER CONNECTIONS (LESS THAN 3- INCH DIAMETER)	2,500.00	L.F.	20	00	50,000 00
170	64.13WC08 FURNISHING, DELIVERING AND INSTALLING WET CONNECTION SLEEVE ON 8-INCH WATER MAIN PIPE WITH VARIOUS OUTLETS	1.00	EACH	2,500	00	2,500 00
171	64.13WC12 FURNISHING, DELIVERING AND INSTALLING WET CONNECTION SLEEVE ON 12-INCH WATER MAIN PIPE WITH VARIOUS OUTLETS	1.00	EACH	3,500	00	3,500 00

# BID SCHEDULE FORM

SEQ. NO.	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL PRICE	TAXES	TOTAL
172	64.13WC20 FURNISHING, DELIVERING AND INSTALLING WET CONNECTION SLEEVE ON 20-INCH WATER MAIN PIPE WITH VARIOUS OUTLETS	1.00	EACH		4,500.00	00	4,500.00
173	65.11BR FURNISHING, DELIVERING AND INSTALLING BANDS, RODS, WASHERS, ETC., COMPLETE, FOR RESTRAINING JOINTS	700.00	LBS.		1.00	00	700.00
174	66.31FF FURNISHING, DELIVERING AND PLACING FILTER FABRIC Unit price bid shall not be less than: \$ 0.10	90,000.00	S.F.		0.10	00	9,000.00
175	65.51PC FURNISHING AND PLACING CAST-IN-PLACE CONCRETE CLASS 40 AND PRECAST CONCRETE CLASS 50	50.00	C.Y.		1,250.00	00	62,500.00
176	65.61SS FURNISHING, DELIVERING AND PLACING STRUCTURAL REINFORCING AND MISCELLANEOUS STEEL	56,000.00	LBS.		2.50	00	140,000.00
177	65.71SG FURNISHING, DELIVERING AND PLACING SCREENED GRAVEL OR SCREENED BROKEN STONE BEDDING	1,500.00	C.Y.		35.00	00	52,500.00



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NEW YORK CITY DEPARTMENT OF DESIGN AND CONSTRUCTION  
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PROJECT ID: SE823  
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## BID SCHEDULE FORM

COL 1 ITEM NO.	COL 2 ITEM NUMBER AND DESCRIPTION	COL 3 QUANTITY OF PLANT	COL 4 UNIT	COL 5 UNIT PRICE (IN FIGURES)	COL 6 BIDDED AMOUNT (IN FIGURES)	COL 7 CTS
178	7.07 MB2 MARTELO BOLLARD, VERSION 2.0	3.00	EACH	5,000.00	15,000.00	00
179	7.13 B MAINTENANCE OF SITE Unit price bld shall not be less than: \$ 8,000.00	36.00	MONTH	8,000.00	288,000.00	00
180	7.19 LOAD TRANSFER JOINT	915.00	L.F.	1.00	915.00	00
181	7.36 PEDESTRIAN STEEL BARRICADES	40,820.00	L.F.	5.00	204,100.00	00
182	7.88 AA RODENT INFESTATION SURVEY AND MONITORING Unit price bld shall not be less than: \$ 10,000.00	1.00	L.S.	10,000.00	10,000.00	00
183	7.88 AB RODENT BAIT STATIONS Unit price bld shall not be less than: \$ 60.00	450.00	EACH	60.00	27,000.00	00

## BID SCHEDULE FORM

SECTION	ITEM NUMBER AND DESCRIPTION	QUANTITY ESTIMATE	UNIT	UNIT PRICE (IN FIGURES)	ESTIMATED AMOUNT (IN FIGURES)	CIS
184	7.88 AC BAITING OF RODENT BAIT STATIONS Unit price bid shall not be less than: \$ 12.50	450.00	EACH	12 50	5,625 00	
185	7.88 AD WATERBUG BAIT APPLICATIONS Unit price bid shall not be less than: \$ 70.00	540.00	BLOCK	70 00	37,800 00	
186	70.21DK DECKING	26,400.00	S.Y.	0 01	264 00	
187	70.31FN FENCING Unit price bid shall not be less than: \$ 2.00	55,500.00	L.F.	2 00	111,000 00	
188	70.51EO EXCAVATION OF BOULDERS IN OPEN CUT Unit price bid shall not be less than: \$ 50.00	20.00	C.Y.	75 00	1,500 00	
189	70.61RE ROCK EXCAVATION	20.00	C.Y.	1 00	20 00	



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## BID SCHEDULE FORM

COL 1 SEQ. NO.	COL 2 ITEM NUMBER AND DESCRIPTION	COL 3 ENGINEER'S ESTIMATE QUANTITY	COL 4 C.Y.	COL 5 DIRECT (IN FIGURES) DOLLARS	COL 6 EXTENDED AMOUNT (IN FIGURES) DOLLARS	COL 7 C.Y.
190	70.71SB STONE BALLAST Unit price bid shall not be less than: \$ 15.00	2,400.00	C.Y.	15 00	36,000 00	
191	70.81CB CLEAN BACKFILL Unit price bid shall not be less than: \$ 12.50	27,000.00	C.Y.	12 50	337,500 00	
192	70.91SW12 FURNISHING AND PLACING SHEETING AND BRACING IN TRENCH FOR WATER MAIN PIPE 12-INCH IN DIAMETER AND LESS	30,000.00	S.F.	0 01	300 00	
193	70.91SW20 FURNISHING AND PLACING SHEETING AND BRACING IN TRENCH FOR WATER MAIN PIPE 20-INCH IN DIAMETER	16,000.00	S.F.	0 01	160 00	
194	72.11HF HYDRAULIC FILL FOR ABANDONED SEWERS AND WATER MAINS	900.00	C.Y.	1 00	900 00	
195	73.11AB ADDITIONAL BRICK MASONRY Unit price bid shall not be less than: \$ 37.50	150.00	C.Y.	37 50	5,625 00	



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# BID SCHEDULE FORM

COL 1 ITEM NO.	COL 2 ITEM DESCRIPTION	COL 3 QUANTITY	COL 4 UNIT	COL 5 UNIT PRICE (CURREN)	COL 6 EXTENDED AMT (CURREN)	COL 7 TOTAL
196	73.21AC ADDITIONAL CONCRETE Unit price bid shall not be less than: \$ 62.50	200.00	C.Y.	62.50	12,500.00	00
197	73.31AE0 ADDITIONAL EARTH EXCAVATION INCLUDING TEST PTS (ALL DEPTHS) Unit price bid shall not be less than: \$ 15.00	3,100.00	C.Y.	15.00	46,500.00	00
198	73.41AG ADDITIONAL SELECT GRANULAR BACKFILL Unit price bid shall not be less than: \$ 15.00	4,000.00	C.Y.	15.00	60,000.00	00
199	73.51AS ADDITIONAL STEEL REINFORCING BARS Unit price bid shall not be less than: \$ 1.25	10,000.00	LBS.	1.25	12,500.00	00
200	73.61AT ADDITIONAL STONE BALLAST Unit price bid shall not be less than: \$ 17.50	350.00	C.Y.	17.50	6,125.00	00
201	8.01 C1 HANDLING, TRANSPORTING AND DISPOSAL OF NON-HAZARDOUS CONTAMINATED SOIL	30,000.00	TONS	0.01	300.00	00

## BID SCHEDULE FORM

SET NO.	ITEM NUMBER AND DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	EXTENDED AMOUNT
202	8.01 C2 SAMPLING AND TESTING OF CONTAMINATED/POTENTIALLY HAZARDOUS SOIL FOR DISPOSAL PURPOSES	30.00	SETS	2,250.00	67,500.00
203	8.01 H HANDLING, TRANSPORTING AND DISPOSAL OF HAZARDOUS SOIL	5,000.00	TONS	0.01	50.00
204	8.01 S HEALTH AND SAFETY	1.00	L.S.	25,000.00	25,000.00
205	8.01 W1 REMOVAL, TREATMENT, AND DISCHARGE/DISPOSAL OF CONTAMINATED WATER	20.00	DAY	5,000.00	100,000.00
206	8.01 W2 SAMPLING AND TESTING OF CONTAMINATED WATER	10.00	SETS	1,500.00	15,000.00

# BID SCHEDULE FORM

SECTION	ITEM NUMBER AND DESCRIPTION	QUANTITY	UNIT	UNIT PRICE (DOLLARS)	TOTAL PRICE (DOLLARS)
207	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
208	9.30 STORM WATER POLLUTION PREVENTION	1.00	L.S.	100,000.00	100,000.00
209	BMP-7.09 LICENSED SURVEYOR	2.00	DAY	2,500.00	5,000.00
210	BMP-7.307-A GRADING	26,820.00	S.F.	3.00	80,460.00
211	BMP-7.401-J HERBACEOUS PLANTS (PLUGS)	9,626.00	EACH	5.00	48,130.00

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## BID SCHEDULE FORM

COL. 1 SEQ. NO.	COL. 2 ITEM NUMBER AND DESCRIPTION	COL. 3 ENGINEER'S ESTIMATE QTY	COL. 4 UNIT	COL. 5 UNIT PRICE (UNPAID) DOLLARS	COL. 6 ESTIMATED AMOUNT (UNPAID) DOLLARS	COL. 7 EST.
212	BMP-7.403 TOPSOIL	2,710.00	C.Y.	60 00	162,600 00	00
213	BMP-7.404-A RESTORATION SPECIALIST	460.00	HRS	100 00	46,000 00	00
214	BMP-7.404-B EROSION AND SEDIMENT CONTROL LICENSED/CERTIFIED PROFESSIONAL	60.00	DAY	900 00	54,000 00	00
215	BMP-7.407-A EROSION CONTROL MAT	36,510.00	S.F.	0 70	25,557 00	00
216	BMP-7.504A SILT FENCE	960.00	L.F.	12 00	11,520 00	00
217	BMP-7.509-A STABILIZED CONSTRUCTION ENTRANCE	1.00	EACH	15,000 00	15,000 00	00

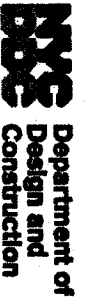
## BID SCHEDULE FORM

SEQ. NO.	ITEM NUMBER AND DESCRIPTION	ENGINEER'S ESTIMATE OF QUANTITY	UNIT	UNIT PRICE (DOLLARS)	EXTENDED AMOUNT (DOLLARS)
218	PK-304 CHAIN LINK FENCE 6'-0" HT	380.00	L.F.	50.00	19,000.00
219	PK-318 DOUBLE GATE FOR CHAIN LINK FENCE 6' HT.	1.00	EACH	2,000.00	2,000.00
220	PM-01 PLANT MAJOR TREES (2.5" TO 3" CALIPER)	6.00	EACH	1,100.00	6,600.00
221	PM-02 PLANT MAJOR TREES (3.5" TO 4" CALIPER)	5.00	EACH	1,700.00	8,500.00
222	PM-03 PLANT FLOWERING AND ORNAMENTAL TREES	10.00	EACH	900.00	9,000.00
223	UTL-6.01.1 GAS MAIN CROSSING SEWER UP TO 24" IN DIAMETER (\$6.01) Unit price bld shall not be less than: \$ 1,040.00	14.00	EACH	1,040.00	14,560.00

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# BID SCHEDULE FORM

SEQ. NO.	ITEM NUMBER AND DESCRIPTION	QTY	UNIT	EST. PRICE DOLLARS	EST. PRICE CENTS	EST. PRICE DOLLARS	EST. PRICE CENTS
224	UTL-6.01.3 GAS MAIN CROSSING SEWER 36" THRU 42" IN DIAMETER (\$6.01) Unit price bld shall not be less than: \$ 2,040.00	4.00	EACH	2,040	00	8,160	00
225	UTL-6.01.4 GAS MAIN CROSSING SEWER 48" THRU 54" IN DIAMETER (\$6.01) Unit price bld shall not be less than: \$ 2,120.00	6.00	EACH	2,120	00	12,720	00
226	UTL-6.01.5 GAS MAIN CROSSING SEWER 60" IN DIAMETER (\$6.01) Unit price bld shall not be less than: \$ 2,340.00	1.00	EACH	2,340	00	2,340	00
227	UTL-6.01.7WW GAS MAIN CROSSING 18-6"W X 8-0"H FLAT TOP REINFORCED CONCRETE STORM SEWER (\$6.01) Unit price bld shall not be less than: \$ 2,740.00	5.00	EACH	2,740	00	13,700	00
228	UTL-6.01.7YY GAS MAIN CROSSING 9-0"W X 5-0"H FLAT TOP REINFORCED CONCRETE STORM SEWER (\$6.01) Unit price bld shall not be less than: \$ 2,740.00	4.00	EACH	2,740	00	10,960	00
229	UTL-6.01.8 GAS SERVICES CROSSING TRENCHES AND/OR EXCAVATIONS (\$6.01) Unit price bld shall not be less than: \$ 465.00	117.00	EACH	465	00	54,405	00



1/19/2018 11:35 AM

NEW YORK CITY DEPARTMENT OF DESIGN AND CONSTRUCTION  
DIVISION OF INFRASTRUCTURE - BUREAU OF DESIGN  
PROJECT ID: SE823  
CONTRACT PIN: 8502017SE0009C

## BID SCHEDULE FORM

ITEM NO.	ITEM DESCRIPTION	ESTIMATE QUANTITY	UNIT	UNIT PRICE (DOLLARS / CENTS)	TOTAL (DOLLARS / CENTS)
230	UTL-6.01.9 GAS MAIN CROSSING WATER MAIN UP TO 20" IN DIAMETER (\$6.01) Unit price bid shall not be less than: \$ 485.00	31.00	EACH	485.00	15,035.00
231	UTL-6.02 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	4.00	EACH	715.00	2,860.00
232	UTL-6.03 REMOVAL OF ABANDONED GAS FACILITIES. ALL SIZES. (\$6.03) Unit price bid shall not be less than: \$ 15.00	5,200.00	L.F.	15.00	78,000.00
233	UTL-6.03.1 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	200.00	L.F.	25.00	5,000.00
234	UTL-6.04 ADJUST HARDWARE TO GRADE USING SPACER RINGS/ADAPTORS. (STREET REPAVING.) (\$6.04) Unit price bid shall not be less than: \$ 35.00	20.00	EACH	70.00	1,400.00
235	UTL-6.05 ADJUST HARDWARE TO GRADE BY RESETTNG. (ROAD RECONSTRUCTION.) (\$6.05) Unit price bid shall not be less than: \$ 65.00	25.00	EACH	130.00	3,250.00

## BID SCHEDULE FORM

COL 1 SEQ. NO.	COL 2 ITEM NUMBER AND DESCRIPTION	COL 3 AMOUNT OF QUANTITY	COL 4 UNIT	COL 5 UNIT PRICE DOLLARS	COL 6 TOTAL DOLLARS	COL 7 TOTAL DOLLARS
236	UTL-6.06 SPECIAL CARE EXCAVATION AND BACKFILLING (S6.06) Unit price bid shall not be less than: \$ 180.00	5,000.00	C.Y.	180.00	900,000.00	00
237	UTL-6.07 TEST PTS FOR GAS FACILITIES (S6.07) Unit price bid shall not be less than: \$ 100.00	50.00	C.Y.	100.00	5,000.00	00
238	UTL-GCS-2WS 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	00

**SUB-TOTAL: \$ 69,925,953.75**

239	6.39 A MOBILIZATION BID PRICE OF MOBILIZATION SHALL NOT EXCEED 4% OF THE ABOVE SUB-TOTAL PRICE.	1.00	L.S.	2,796,000.60	2,796,000.60	60
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1/19/2018 11:35 AM

NEW YORK CITY DEPARTMENT OF DESIGN AND CONSTRUCTION PROJECT ID: SE823  
DIVISION OF INFRASTRUCTURE - BUREAU OF DESIGN CONTRACT PIN: 8602017SE0009C

## BID SCHEDULE FORM

COL. 1 ITEM NO.	COL. 2 ITEM DESCRIPTION	COL. 3 QUANTITY	COL. 4 UNIT	COL. 5 UNIT PRICE (NEEDED)	COL. 6 TOTAL AMOUNT (NEEDED) DOLLARS
--------------------	----------------------------	--------------------	----------------	----------------------------------	---

TOTAL BID PRICE: \$ 72,721,954.35

PLEASE BE SURE A LEGIBLE BID IS ENTERED FOR EACH ITEM.  
THE BIDDER SHALL INSERT THE TOTAL BID PRICE IN  
THE BID FORM ON PAGE C4 OF THIS BID BOOKLET.

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: SE823

CONSTRUCTION OF STORM SANITARY AND COMBINED SEWERS IN 229TH STREET  
BETWEEN 145TH AVENUE AND 147TH AVENUE, ETC.

Together With All Work Incidental Thereto  
BOROUGH OF QUEENS

Name of Bidder: CAC INDUSTRIES INC

Date of Bid Opening: 2-1-18

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

Place of Business of Bidder: 54-08 VERANO BLVD LIC NY 11101

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

Bidder's E-Mail Address: JLABOZZA AT CACINDS INC.COM

Residence of Bidder (If Individual): -

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

Names of Partners	Residence of Partners
<u>-</u>	<u>-</u>
<u>-</u>	<u>-</u>
<u>-</u>	<u>-</u>

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 NY NY 10022

Name and Home Address of Secretary: SAME AS ABOVE

Name and Home Address of Treasurer: \_\_\_\_\_

## 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 him, he and his subcontractors engaged in the performance: (1) will comply with the provisions of Section 6-108 of the Administrative Code of the City of New York and the non-discrimination provisions of Section 220a of the New York State Labor Law, as more expressly and in detail set forth in the Agreement; (2) will comply with Section 6-109 of the Administrative Code of the City of New York in relation to minimum wages and other stipulations as more expressly and in detail set forth in the Agreement; (3) have complied with the provisions of the aforesaid laws since their respective effective dates, and (4) will post notices to be furnished by the City, setting forth the requirements of the aforesaid laws in prominent and conspicuous places in each and every plant, factory, building and structure where employees engaged in the performance of the Contract can readily view it, and will continue to keep such notices posted until the supplies, materials and equipment, or work labor and services required to be furnished or rendered by the Contractor have been finally accepted by the City. In the event of any breach or violation of the foregoing, the Contractor may be subject to damages, liquidated or otherwise, cancellation of the Contract and suspension as a bidder for a period of three years. (The words, "the bidder", "he", "his", and "him" where used herein shall mean the individual bidder, firm, partnership or corporation executing the 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 his attention has been specifically drawn to Executive Order No. 50, dated, April 25, 1980, on Equal Employment Compliance of the contract, and (2) warrants that he will comply with the provisions of Executive Order No. 50. The Employment Report must be submitted as part of the bid.

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

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: SE823**

**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)**

**\$ 12,721,954.35**

**H-C  
2/1/18**

**BIDDER'S SIGNATURE AND AFFIDAVIT**

**Bidder:** CAC Industries Inc

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

**Attest:  
(Corporate Seal)**

[Signature]  
Secretary of Corporate Bidder

**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:

being duly sworn says:

I am the PRESIDENT of the above named corporation whose name is subscribed to and which executed the foregoing bid. I reside at 45E 72ND ST NYC NY 10022  
I have knowledge of the several matters therein stated, and they are in all respects true.

\_\_\_\_\_  
(Signature of Partner who signed the Bid)

Subscribed and sworn to before me this  
19th day of JANUARY, 2008

[Signature]  
Notary Public

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

**AFFIRMATION**

**PROJECT ID: SE823**

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 VERNON BLVD  
City: LIC State: NY Zip Code: 11101

**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: PRESIDENT

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 Hall's Mill Road, P.O. Box 1650 , Whitehouse Station, NJ 08889-1600

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: SE823 - Construction of Sanitary and Storm Sewers and Appurtenances in 229th Street Between 145th Avenue and 147th Avenue, ETC.,  
Borough of Queens, 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 2nd day of January, 2018.

(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 12TH day of JANUARY, 2018, before me personally came  
MICHAEL ACAPASCO to me known, who, being by me duly sworn, did depose and say that he  
resides at 45 E 72ND ST NY NY 10022  
that he is the PRESIDENT of PRE TAD TAC  
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. 010E5048152  
Qualified in Queens County  
Commission Expires August 14, 2021

  
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

CHUBB

## 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 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 Sagistano, Vincent A. Walsh, Michelle Wannamaker and Mia Woo-Warren 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 3<sup>rd</sup> day of March, 2017.

*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 3<sup>rd</sup> day of March, 2017 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



KATHERINE J. ADELAAR  
NOTARY PUBLIC OF NEW JERSEY  
No. 2318886  
Commission Expires July 16, 2019

*Katherine J. Adelaar*

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 Companies are duly licensed and authorized to transact surety business in all 50 of the United States of America and the District of Columbia and are authorized by the U.S. Treasury Department; further, Federal and Vigilant are licensed in the U.S. Virgin Islands, and Federal is licensed in Guam, Puerto Rico, and each of the Provinces of Canada except Prince Edward Island; and
- (iii) 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 2, 2018**



*Dawn M. Chloros*

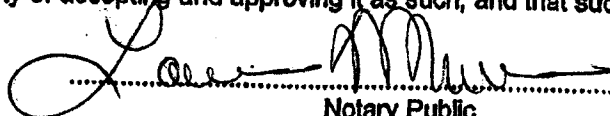
Dawn M. Chloros, Assistant Secretary

IN THE EVENT YOU WISH TO NOTIFY US OF A CLAIM, 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

ACKNOWLEDGMENT OF SURETY COMPANY

STATE OF ...New York  
COUNTY OF ...Nassau..... } ss

On this ...January 2, 2018  
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

NY acknowledgement

LAURAJEAN MURTAGH  
Notary Public, State of New York  
No. 01MU6319758  
Qualified in Nassau County  
Commission Expires 02/23/2019

# FEDERAL INSURANCE COMPANY

## STATEMENT OF ASSETS, LIABILITIES AND SURPLUS TO POLICYHOLDERS

Statutory Basis

DECEMBER 31, 2016

(in thousands of dollars)

ASSETS		LIABILITIES AND SURPLUS TO POLICYHOLDERS	
Cash and Short Term Investments.....	\$ (86,990)	Outstanding Losses and Loss Expenses .....	\$ 11,482,308
United States Government, State and Municipal Bonds .....	8,135,311	Unearned Premiums.....	2,723,875
Other Bonds.....	5,471,330	Ceded Reinsurance Premiums Payable.....	566,868
Stocks.....	130,689	Provision for Reinsurance .....	29,339
Other Invested Assets.....	1,289,903	Other Liabilities.....	1,144,976
 TOTAL INVESTMENTS .....	 14,940,243	 TOTAL LIABILITIES .....	 15,947,366
Investments in Affiliates:			
Chubb Investment Holdings, Inc. ....	3,727,406	Capital Stock.....	20,980
Pacific Indemnity Company.....	2,926,619	Paid-In Surplus.....	3,106,809
Executive Risk Indemnity Inc.....	1,250,965	Unassigned Funds .....	8,296,020
Great Northern Insurance Company .....	504,162	 SURPLUS TO POLICYHOLDERS .....	 11,423,809
Vigilant Insurance Company.....	319,505		
Chubb European Investment Holdings, SLP ..	277,361		
Chubb Custom Insurance Company.....	214,956		
Chubb National Insurance Company .....	162,929		
Chubb Indemnity Insurance Company.....	163,668		
Other Affiliates .....	70,204		
Premiums Receivable .....	1,510,107		
Other Assets .....	1,303,050		
 TOTAL ADMITTED ASSETS .....	 \$ 27,371,175	 TOTAL LIABILITIES AND SURPLUS TO POLICYHOLDERS.....	 \$ 27,371,175

Investments are valued in accordance with requirements of the National Association of Insurance Commissioners.  
At December 31, 2016, investments with a carrying value of \$565,702,495 were deposited with government authorities  
as required by law.

State, County & City of New York, — ss:

Dawn M. Chloros, Assistant Secretary \_\_\_\_\_ of the Federal Insurance Company

being duly sworn, deposes and says that the foregoing Statement of Assets, Liabilities and Surplus to Policyholders of said Federal Insurance Company on December 31, 2016 is true and correct and is a true abstract of the Annual Statement of said Company as filed with the Secretary of the Treasury of the United States for the 12 months ending December 31, 2016.

Subscribed and sworn to before me  
this March 3, 2017.

*Jeanette Shipsey*  
Notary Public

JEANETTE SHIPSEY  
Notary Public, State of New York  
No. 02SH5074142  
Qualified in Nassau County  
Commission Expires March 10, 2019

*Dawn M. Chloros*  
Assistant Secretary

## 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:** Schedule B: M/WBE Utilization Plan for this Contract is set forth in this Bid Booklet on the pages following the section entitled “Notice to All Prospective Contractors”. 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 on the pages following the section entitled “Notice to All Prospective Contractors”. A Schedule B submitted by the bidder 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 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 is 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](http://www.nyc.gov/buycertified), by emailing DSBS at [buyer@sbs.nyc.gov](mailto: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](http://www.nyc.gov/getcertified), emailing [MWBE@sbs.nyc.gov](mailto: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](mailto: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 VENDEX as caution data.

Tax ID #: 11-3082726APT E-  
PIN #: 85017B0085**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 # 85017B0085 FMS Project ID#: SE-823

Project Title/ Agency PIN # CONSTRUCTION OF STORM SANITARY AND COMBINED SEWERS IN 229TH STREET, ETC./ 8502017SE0009C

Bid/Proposal Response Date JANUARY 19, 2018

Contracting Agency Department of Design and Construction

Agency Address 30-30 Thomson Avenue City Long Island City State NY Zip Code 11101

Contact Person Emmanuel K. Charles Title MWBE Compliance Analyst

Telephone # (718) 391-1450 Email charlesem@ddc.nyc.gov

**Project Description** (attach additional pages if necessary)**PROJECT ID: SE823****CONSTRUCTION OF STORM SANITARY AND COMBINED SEWERS IN 229TH STREET BETWEEN 145TH AVENUE AND 147TH AVENUE, ETC.****INCLUDING WATER MAIN WORK****Together With All Work Incidental Thereto  
BOROUGH OF QUEENS  
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
<u>Unspecified*</u>	<u>5%</u>
or	
<u>Black American</u>	<u>UNSPECIFIED*</u>
<u>Hispanic American</u>	<u>UNSPECIFIED*</u>
<u>Asian American</u>	<u>UNSPECIFIED*</u>
<u>Women</u>	<u>UNSPECIFIED*</u>
<b>Total Participation Goals</b>	<b>5% Line 1</b>

*\*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.*

Tax ID #: 11-3082726

APT E-

PIN #: 85017B0085**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 17 and 18 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 # 876657  
 Business Name CAR INDUSTRIES INC Contact Person JOHN M LABOZZA  
 Address 34-08 VERMON BLVD LIC NY 11101  
 Telephone # 718-729-3600 Email JLABOZZA@CARINDUS.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.	Total Bid/Proposal Value	Agency Total Participation Goals (Line 1, Page 13)	Calculated M/WBE Participation Amount
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.	72,721,954.35 \$	5% X	3,636,097.72 \$ = 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.	Total Bid/Proposal Value	Adjusted Participation Goal (From Partial Waiver)	Calculated M/WBE Participation Amount
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.	\$	X	\$ = Line 3

Tax ID #:

11-3082726

APT E-  
PIN #:

85017B0085

**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? % 6.6

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.

SEE ATTACHED

✓ Scopes of Subcontract Work

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16
- 17



C.A.C. Industries Inc.

Contract No:	SE823
Contract Name:	229th St Sewers
MWBE %	5.00%

Prime Contractor (Adopt MWBE Goals)

Bid Amount	\$72,721,954.35	x	Goal	5.00%
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Participation Amount	\$3,636,097.72
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Total Sub %	6.6%
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Total MWBE %	5.4%
--------------	------

Subcontracting		MWBE Subs		Name	Duration
Area	Amount	MWBE			
Contaminated Material	\$2,125,000.00	MBE	\$2,125,000.00		1/2019-10/2021
Crossing Guards	\$230,760.00	MBE	\$230,760.00		1/2019-10/2021
Rodent Control	\$41,470.00	MBE	\$41,470.00		1/2019-10/2021
Thermoplastic	\$44,845.00				11/2021
Landscaping	\$843,834.00	WBE	\$84,834.00		1/2019-11/2021
Trucking	\$1,384,000.00	M/WBE	\$1,384,000.00		1/2019-10/2021
TV Inspection	\$38,400.00				12/2020
Fence	\$19,100.00				11/2021
Photos	\$30,000.00				1/2019-10/2021
Tree Consultant	\$64,200.00	WBE	\$64,200.00		1/2019-10/2021
Total Subcontracting	\$4,821,609.00		\$3,930,264.00		

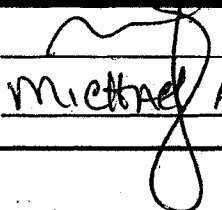
Tax ID #: 11-3082726

APT E-  
PIN #: 85017B0085

### 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		Date	<u>1/19/18</u>
Print Name	<u>Michael A. Capasso</u>	Title	<u>President</u>

## APPRENTICESHIP PROGRAM REQUIREMENTS

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

  ✓   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 journeypersons 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 page of the Bid Booklet.

## APPRENTICESHIP PROGRAM QUESTIONNAIRE ("APQ")

Bidder Name: CAC INDUSTRIES INC

Project ID Number: 86823

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.



## THE GENERAL CONTRACTORS ASSOCIATION OF NEW YORK, INC.

Denise M. Richardson  
Executive Director

February 1, 2018

C.A.C. Industries, Inc.  
Attn: Mr. Michael A. Capasso  
54-08 Vernon Blvd.  
Long Island City, NY 11101

Dear Mr. Capasso:

C.A.C. Industries, Inc. is a member in good standing of the General Contractors Association of New York ("GCA"). Through your membership in the GCA, you have authorized the GCA to enter into collective bargaining agreements on your behalf.

As such, your firm is signatory to the collective bargaining agreements and participates in, upholds and is subject to all provisions of those agreements, including the union(s) established and approved apprenticeship programs.

The General Contractors Association has collective bargaining agreements with the following unions:

- Laborers International Union of North America  
Local 731, Heavy Construction Laborers  
Local 29 Drillers and Blasters  
Local 147 Tunnel Workers  
Local 1010 Asphalt Pavers
- New York District Council of Carpenters  
Local 1556 Dockbuilders/Timbermen
- International Union of Operating Engineers  
Local 14 / 15 Operating Engineers  
Local 15 C Operating Engineers Mechanics & Helpers  
Local 15 D Surveyors
- International Brotherhood of Teamsters Local 282
- Metallic Lathers Local 46

Please contact me if you require additional information.

Sincerely,

William G. Tyson  
Director, Labor Relations

**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.

**1. Bidder Information:**Company Name: QAC INDUSTRIES INCDDC Project Number: SE 823

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**

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

**3. Experience Modification Rate:**

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

Project ID. SE823

The Contractor 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
<u>2017</u>	<u>.81</u>	<u>N/A</u>
<u>2016</u>	<u>.85</u>	<u>↓</u>
<u>2015</u>	<u>.78</u>	<u>↓</u>

If the Intrastate and/or Interstate EMR for any of the past three years is greater than 1.00, the 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 New York City Department of Buildings (NYCDOB) 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 (all work-related in-patient hospitalizations, all amputations and all losses of an eye).

The Occupational Safety and Health Act (OSHA) of 1970 requires employers with ten or more employees, on a yearly basis to complete and maintain on file the form entitled "Log of Work-related Injuries and Illnesses". This form is commonly referred to as the OSHA 300 Log (OSHA 200 Log for 2001 and earlier).

The OSHA 300 Log must be submitted for the last three years for contractors with more than ten employees.

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

The contractor must submit the Incident Rate for Lost Time Injuries (the Incident Rate) for the past three 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 300 Log. The 200,000 hours represents the equivalent of 100 employees working forty hours a week, fifty weeks per year.

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

YEAR	TOTAL NUMBERS OF HOURS WORKED BY EMPLOYEES	INCIDENT RATE
<u>2017</u>	<u>730,593.50</u>	<u>1.37</u>
<u>2016</u>	<u>501,835</u>	<u>1.20</u>
<u>2015</u>	<u>448,294.50</u>	<u>1.78</u>

If the 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 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 Contractor previously audited by the DDC Office of Site Safety.

DDC Project Number(s) HWQ 1161, \_\_\_\_\_, \_\_\_\_\_

☒ YES ☐ NO Accident on previous DDC Project(s).

DDC Project Number(s): HWQ 1161, \_\_\_\_\_, \_\_\_\_\_

☐ YES ☒ NO Fatality or Life-altering Injury on DDC Project(s) within the last three years.  
[Examples of a life-altering injury include loss of limb, loss of a sense (e.g., sight, hearing), or loss of neurological function].

DDC Project Number(s): \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

Date: 11/9/18

By: [Signature]  
(Signature of Owner, Partner, Corporate Officer)

Title: President



## Pre-Award Process

The bidder is advised that as part of the pre-award review of its bid, it may be required to submit the information described in Sections (A) through (D) below. If required, such information must be submitted by the bidder within five (5) business days following receipt of notification from DDC that it is among the low bidders. Such notification from DDC will be by facsimile or in writing and will specify the types of information must be submitted. The types of information the bidder may be required to submit are described below. In the event the bidder fails to submit the required information within the specified time frame, its bid may be rejected as nonresponsive.

\*\*\*\*\*

- (A) **Project Reference Form:** If required, the bidder must complete and submit the Project Reference Form set forth on pages 26 through 28 of this Bid Booklet. The Project Reference Form consists of 3 parts: (1) Similar Contracts Completed by the Bidder, (2) Contracts Currently Under Construction by the Bidder, and (3) Pending Contracts Not Yet Started by the Bidder.
- (B) **Copy of License:** If required, the bidder must submit a copy of the license under which the bidder will be performing the work. Such license must clearly show the following: (1) Name of the Licensee, (2) License Number, and (3) Expiration date of the License. A copy of the license will be required from bidders for the following contracts: Plumbing Work, Electrical Work and Asbestos Abatement.
- (C) **Financial Information:** If required, the bidder must submit the financial information described below:
- (1) **Audited Financial Statements:** Financial statements (Balance Sheet and Income Statement) of the entity submitting the bid, as audited by an independent auditor licensed to practice as a certified public accountant (CPA). Audited financial statements for the three most recent fiscal years must be submitted. Each such financial statement must include the auditor's standard report.
- If the bidder does not have audited financial statements, it must submit an affidavit attesting to the fact that the bidder does not have such statements. In addition, the bidder must submit the following documentation covering the three most recent fiscal years: signed federal tax returns, unaudited financial statements, and a "certified review letter" from a certified public accountant (CPA) verifying the unaudited financial statements.
- Unless the most recent audited or unaudited financial statement was issued within ninety (90) days, the bidder must submit interim financial information that includes data on financial position and results of operation (income data) for the current fiscal year. Such information may be summarized on a monthly or quarterly basis or at other intervals.
- (2) **Schedule of Aged Accounts Receivable,** including portion due within ninety (90) days.

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

- (1) Statement indicating the number of years of experience the bidder has had and in what type of construction.
- (2) Resumes of all key personnel to be involved in the project, including the proposed project superintendent.
- (3) List of significant pieces of equipment expected to be used for the contract, and whether such equipment is owned or leased.
- (4) Description of work expected to be subcontracted, and to what firms, if known.
- (5) List of key material suppliers.
- (6) Preliminary bar chart time schedule
- (7) Contractor's expected means of financing the project. This should be based on the assumption that the contractor is required to finance 2X average monthly billings throughout the contract period.
- (8) Any other issues the contractor sees as impacting his ability to complete the project according to the contract.

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

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

**A. PROJECT REFERENCES – SIMILAR CONTRACTS COMPLETED BY THE BIDDER**

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

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

### PROJECT REFERENCES – CONTRACTS CURRENTLY UNDER CONSTRUCTION BY THE BIDDER

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

[illegible]



**OFFICE OF THE MAYOR  
BUREAU OF LABOR SERVICES  
CONTRACT CERTIFICATE**

To be completed if the contract is less than \$1,000,000

Contractor: \_\_\_\_\_

Address: \_\_\_\_\_  
\_\_\_\_\_

Telephone Number: \_\_\_\_\_

Name and Title of Signatory: \_\_\_\_\_  
\_\_\_\_\_

Contracting Agency or Owner: \_\_\_\_\_

Project Number: \_\_\_\_\_

Proposed Contract Amount: \_\_\_\_\_

Description and Address of Proposed Contract: \_\_\_\_\_

Names of Subcontractors in the amount of 750,000 or more on this contract (if not known at this time, so state indicating that trades will be subcontracted):  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

I, (fill in name of person signing) \_\_\_\_\_, hereby affirm that I am authorized by the above-named contractor to certify that said contractor's proposed contract with the above-named owner or city agency is less than \$1,000,000. This affirmation is made in accordance with Executive Order No. 50 (1980) as amended and its implementing regulations.

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature

**WILLFUL OR FRAUDULENT FALSIFICATION OF ANY DATA OR INFORMATION SUBMITTED HERewith MAY RESULT IN THE TERMINATION OF ANY CONTRACT BETWEEN THE CITY AND THE BIDDER OR CONTRACTOR AND BAR THE BIDDER OR CONTRACTOR FROM PARTICIPATION IN ANY CITY CONTRACT FOR A PERIOD OF UP TO THREE YEARS. FURTHER, SUCH FALSIFICATION MAY RESULT IN CRIMINAL PROSECUTION.**

## **VENDEX COMPLIANCE**

(A) **Vendex Fees:** Pursuant to Procurement Policy Board Rule 2-08(f)(2), the contractor will be charged a fee for the administration of the VENDEX system, including the Vendor Name Check process, if a Vendor Name Check review is required to be conducted by the Department of Investigation. The contractor shall also be required to pay the applicable required fees for any of its subcontractors for which Vendor Name Check reviews are required. The fee(s) will be deducted from payments made to the contractor under the contract. For contracts with an estimated value of less than or equal to \$1,000,000, the fee will be \$175 per Vendor Name Check review. For contracts with an estimated value of greater than \$1,000,000, the fee will be \$350 per Vendor Name Check review.

(B) **Confirmation of Vendex Compliance:** The Bidder shall submit this Confirmation of Vendex Compliance to the Department of Design and Construction, Contracts Section, 30-30 Thomson Avenue – First Floor, Long Island City, NY 11101.

**Bid Information:** The Bidder shall complete the bid information set forth below.

Name of Bidder: \_\_\_\_\_  
Bidder's Address: \_\_\_\_\_  
Bidder's Telephone Number: \_\_\_\_\_  
Bidder's Fax Number: \_\_\_\_\_  
Date of Bid Opening: \_\_\_\_\_  
PROJECT ID: \_\_\_\_\_

**Vendex Compliance:** To demonstrate compliance with Vendex requirements, the Bidder shall complete either Section (1) or Section (2) below, whichever applies.

- (1) **Submission of Vendex Questionnaires to MOCS:** By signing in the space provided below, the Bidder certifies that as of the date specified below, the Bidder has submitted Vendex Questionnaires to the Mayor's Office of Contract Services, Attn: VENDEX, 253 Broadway, 9<sup>th</sup> Floor, New York, New York 10007.

Date of Submission: \_\_\_\_\_

By: \_\_\_\_\_  
(Signature of Partner or corporate officer)

Print Name: \_\_\_\_\_

- (2) **Submission of Certification of No Change to DDC:** By signing in the space provided below, the Bidder certifies that it has read the instructions in a "Vendor's Guide to Vendex" and that such instructions do not require the Bidder to submit Vendex Questionnaires. The Bidder has completed **TWO ORIGINALS** of the Certification of No Change set forth on the next page of this Bid Booklet.

By: \_\_\_\_\_  
(Signature of Partner or corporate officer)

Print Name: \_\_\_\_\_

# Certificate of No Change Form



- Please submit two completed forms. Copies will not be accepted.
- Please send both copies to the agency that requested it, unless you are advised to send it directly to the Mayor's Office of Contract Services (MOCS).
- A materially false statement willfully or fraudulently made in connection with this certification, and/or the failure to conduct appropriate due diligence in verifying the information that is the subject of this certification, may result in rendering the submitting entity non-responsible for the purpose of contract award.
- A materially false statement willfully or fraudulently made in connection with this certification may subject the person making the false statement to criminal charges

I, \_\_\_\_\_, being duly sworn, state that I have read  
*Enter Your Name*

and understand all the items contained in the vendor questionnaire and any submission of change as identified on page one of this form and certify that as of this date, these items have not changed. I further certify that, to the best of my knowledge, information and belief, those answers are full, complete, and accurate; and that, to the best of my knowledge, information, and belief, those answers continue to be full, complete, and accurate.

In addition, I further certify on behalf of the submitting vendor that the information contained in the principal questionnaire(s) and any submission of change identified on page two of this form have not changed and have been verified and continue, to the best of my knowledge, to be full, complete and accurate.

I understand that the City of New York will rely on the information supplied in this certification as additional inducement to enter into a contract with the submitting entity.

## **Vendor Questionnaire** *This section is required.*

*This refers to the vendor questionnaire(s) submitted for the vendor doing business with the City.*

Name of Submitting Entity: \_\_\_\_\_

Vendor's Address: \_\_\_\_\_

Vendor's EIN or TIN: \_\_\_\_\_ Requesting Agency: \_\_\_\_\_

Are you submitting this Certification as a parent? (Please circle one)      Yes      No

Signature date on the last full vendor questionnaire signed for the submitting vendor: \_\_\_\_\_

Signature date on change submission for the submitting vendor: \_\_\_\_\_



# Principal Questionnaire

*This section refers to the most recent principal questionnaire submissions.*



Principal Name	Date of signature on last full Principal Questionnaire	Date(s) of signature on submission of change
1		
2		
3		
4		
5		
6		

☐ Check if additional changes were submitted and attach a document with the date of additional submissions.

## Certification *This section is required.*

*This form must be signed and notarized. Please complete this twice. Copies will not be accepted.*

### Certified By:

\_\_\_\_\_  
Name (Print)

\_\_\_\_\_  
Title

\_\_\_\_\_  
Name of Submitting Entity

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

### Notarized By:

\_\_\_\_\_  
Notary Public

\_\_\_\_\_  
County License Issued

\_\_\_\_\_  
License Number

Sworn to before me on: \_\_\_\_\_  
Date

# Certificate of No Change Form



- Please submit two completed forms. Copies will not be accepted.
- Please send both copies to the agency that requested it, unless you are advised to send it directly to the Mayor's Office of Contract Services (MOCS).
- A materially false statement willfully or fraudulently made in connection with this certification, and/or the failure to conduct appropriate due diligence in verifying the information that is the subject of this certification, may result in rendering the submitting entity non-responsible for the purpose of contract award.
- A materially false statement willfully or fraudulently made in connection with this certification may subject the person making the false statement to criminal charges

I, \_\_\_\_\_, being duly sworn, state that I have read  
*Enter Your Name*

and understand all the items contained in the vendor questionnaire and any submission of change as identified on page one of this form and certify that as of this date, these items have not changed. I further certify that, to the best of my knowledge, information and belief, those answers are full, complete, and accurate; and that, to the best of my knowledge, information, and belief, those answers continue to be full, complete, and accurate.

In addition, I further certify on behalf of the submitting vendor that the information contained in the principal questionnaire(s) and any submission of change identified on page two of this form have not changed and have been verified and continue, to the best of my knowledge, to be full, complete and accurate.

I understand that the City of New York will rely on the information supplied in this certification as additional inducement to enter into a contract with the submitting entity.

## Vendor Questionnaire *This section is required.*

*This refers to the vendor questionnaire(s) submitted for the vendor doing business with the City.*

Name of Submitting Entity: \_\_\_\_\_

Vendor's Address: \_\_\_\_\_

Vendor's EIN or TIN: \_\_\_\_\_ Requesting Agency: \_\_\_\_\_

Are you submitting this Certification as a parent? (Please circle one)      Yes      No

Signature date on the last full vendor questionnaire signed for the submitting vendor: \_\_\_\_\_

Signature date on change submission for the submitting vendor: \_\_\_\_\_

# Principal Questionnaire

*This section refers to the most recent principal questionnaire submissions.*



Principal Name	Date of signature on last full Principal Questionnaire	Date(s) of signature on submission of change
1		
2		
3		
4		
5		
6		

☐ Check if additional changes were submitted and attach a document with the date of additional submissions.

## Certification *This section is required.*

*This form must be signed and notarized. Please complete this twice. Copies will not be accepted.*

### Certified By:

\_\_\_\_\_  
Name (Print)

\_\_\_\_\_  
Title

\_\_\_\_\_  
Name of Submitting Entity

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

### Notarized By:

\_\_\_\_\_  
Notary Public

\_\_\_\_\_  
County License Issued

\_\_\_\_\_  
License Number

Sworn to before me on: \_\_\_\_\_  
Date

## 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 §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

PRINTED NAME

TITLE

Sworn to before me this  
19<sup>th</sup> day of JAN 20 18

Notary Public

Dated: 1/19/18

DIANE C. DERIN  
Notary Public, State of New York  
No. 01065049152  
Qualified in Queens County  
Commission Expires August 14, 2021

The City of New York  
Department of Small Business Services  
Division of Labor Services  
Contract Compliance Unit  
110 William Street  
New York, New York 10038  
Phone: (212) 513 - 6323  
Fax: (212) 618-8879

## CONSTRUCTION EMPLOYMENT REPORT INSTRUCTIONS

### WHO MUST FILE A CONSTRUCTION EMPLOYMENT REPORT

A Construction Employment Report (ER) must be filed if you meet the following conditions:

CONTRACT FUNDING SOURCE	CONTRACTOR	CONTRACT VALUE	SUBMISSION REQUIREMENT
Federal/Federally assisted	Prime and subcontractors	\$10,000 or greater	Construction Employment Report
City and state funded	Prime contractor	\$1,000,000 or greater	
	Subcontractor	\$750,000 or greater	
		Less than \$750,000	Less than \$750,000 Certificate (City/State Only)

#### Prime Contractor:

- A general contractor or construction manager selected to perform work on a construction project funded (in whole or in part) by the federal government with a proposed contract value of \$10,000 or more.
- A general contractor or construction manager selected to perform work on a construction project funded or assisted by the City of New York with a proposed contract value of \$1,000,000 or more.

#### Subcontractor:

- A subcontractor selected to perform work on a construction project funded (in whole or in part) by the federal government with a proposed contract value of \$10,000 or more.
- A subcontractor selected to perform work on a construction project funded or assisted by the City of New York with a proposed contract value of \$750,000 or more.
- A subcontractor selected to perform work on a construction project funded or assisted by the City of New York with a proposed contract value of less than \$750,000 must submit a "Less than \$750,000" certificate.

### WHERE TO FILE

Employment Reports must be filed with the City agency awarding the contract. If you are a contractor or subcontractor who will be working for a private developer in receipt of funding or assistance from the City, the ER must be filed with the City agency with jurisdiction over the developer's project.

### DLS REVIEW PROCESS

In accordance with Executive Order 50 (EO 50), upon receipt by DLS of a completed ER, DLS conducts a review of the contractor's current employment policies, practices and procedures, as well as perform a statistical analysis of the contractor's workforce, if necessary. The process is as follows:

1. Within five (5) business days, DLS will review the ER for completeness and accuracy. If any information is omitted or incorrect, or if necessary documents are not submitted, the submission shall be deemed incomplete and DLS will inform the contractor. The substantive compliance review does not commence until the submission is complete. An incomplete submission will delay the review process and may preclude or interrupt the contract approval.
2. If the ER submission is complete, the compliance review will proceed, resulting in one of the following:

**Certificate of Approval**

The contractor is found to be in compliance with all applicable laws and regulations. The approval is valid for 36 months.

**Continued Approval Certificate**

The contractor has been issued a Certificate of Approval in the previous 36 months which is good for the applicable contract.

**Conditional Certificate of Compliance**

The contractor is required to take corrective actions in order to be in compliance with EO 50. The contractor must meet the conditions within one month of the issue of the Conditional Certificate.

**Determination of Nonperformance**

The contractor has failed to take the required corrective actions stipulated in the Conditional Certificate. A determination of nonperformance may prevent a contractor from receiving an award of a contract.

## HOW TO COMPLETE THE EMPLOYMENT REPORT

### Contents

**General Information**

**Part I: Contractor/Subcontractor Information**

**Part II: Employment Policies and Practices**

**Part III: Contract Bid Information and Projected and Current Workforce Forms**

**Signature Page**

### PART I: CONTRACTOR/SUBCONTRACTOR INFORMATION

Questions 7 – 11: Please provide the required contact information for your company. All contracts must have a designated Equal Employment Officer.

Question 12: If you are a subcontractor, you must state the name of the contractor for whom you are providing the construction services.

Question 13: Please provide the number of permanent employees in your company.

Question 14a-g: The Project Identification Number (PIN) and the Contract Registration ID Number (CT#) can be obtained from the City agency. Provide a description of the trade work you will perform on this project and the address where the work will be performed. Subcontractors can obtain this information from the contract they have with the prime contractor.

Questions 15 – 18: If your company has received a valid Certificate of Approval within the past 36 months, been audited by the United States Department of Labor, Office of Federal Contract Compliance Programs (OFCCP), or if your company has submitted an ER for a different contract for which you have not yet received a compliance certificate, then you only need to complete and submit the following:

- General Information section
- Part I - Contractor/Subcontractor Information
- Form B - Projected Workforce
- Signature Page

If your company is currently waiting for an approval on another contract previously submitted, be certain to identify the date on which you submitted the completed Employment Report, the name of the City contracting agency with which the contract was made, and the name and telephone number of the person to whom the Employment Report was submitted.

If your company was issued a Conditional Certificate of Approval, all required corrective actions must have been taken or DLS will not issue a Continued Certificate.

- Question 18: If the company was audited by the OFCCP, also provide the following:
- Identify the reviewing OFCCP office by its name and address
  - If an unconditional certificate of compliance was issued by the OFCCP, attach a copy of the certificate in lieu of completing Parts II and III;
  - Include copies of all corrective actions and documentation of OFCCP's performance; and
  - Provide a copy of all stated OFCCP findings.

- Question 19: Please provide a copy of any Collective Bargaining Agreement(s) which is negotiated through an employer trade association on behalf of your organization or any of its affiliates.

## **PART II: EMPLOYMENT POLICIES AND PRACTICES**

*Remember to label all documents with the question number for which they are submitted.*

Questions 20a – j: You must respond to the questions as to whether or not your firm has documents reflecting written policies, benefits and procedures. If so, then you must identify by name each document in which the policy(ies), procedure(s) and benefit(s) is located and submit copies of all of the document(s). If your firm follows unwritten practices or procedures, include an explanation of how they operate. Please submit the most current document(s), including all applicable amendments. Label each document and/or unwritten practice according to the question to which it corresponds (e.g. 20a, 20b, etc.)

Questions 21a – h: Inquires about the manner/methods by which you comply with the requirements of the Immigration Reform and Control Act of 1986 (IRCA).

Question 22: Inquires into where and how I-9 forms are maintained and stored.

Questions 23a – e: Inquires into whether or not there is a requirement that an applicant or employee be subjected to a medical examination at any given time. Copies of the medical information questionnaire and instructions must be submitted with the Employment Report.

Question 24: Indicate the existence and location of all statements of your firm's Equal Employment Opportunity policy and attach a copy of each statement.

Question 25: Submit any current Affirmative Action Plan(s) created pursuant to Executive Order 11246.

Question 26: If your firm or collective bargaining agreement has an internal grievance procedure, indicate this and submit a copy of the policy and procedure. If unwritten, explain its nature and operation. Explain how your firm's procedure addresses EEO complaints.

Question 27: If your employees have used the procedure in the last three (3) years, please submit an explanation in the format indicated below:

1. Number of complaint(s)	2. Nature of the complaint(s)	3. Position(s) of the complainant(s)	4. Was an investigation conducted? Y/N	5. Current status of the disposition
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Question 28: Indicate whether in the past three (3) years complaints have been filed with a court of law or administrative agency, naming your company as a defendant (or respondent) in a complaint alleging violation of any anti-discrimination or affirmative action laws. If yes, develop and submit a log to show, for each administrative/and or judicial action filed, the following information:

1. Name(s) of complainant(s)	2. Administrative agency or court in which action was filed	3. Nature of the complaint(s)	4. Current status	5. If not pending, the complaint's disposition
------------------------------	---	-------------------------------	-------------------	--

Question 29: Identify each job for which a physical qualification exists. Identify and explain the physical qualification(s) for each stated job. Submit job descriptions for each job and the reasons for the qualifications.

Question 30: Identify each job for which there exists any qualification related to age, race, color, national origin, sex, creed, disability, marital status, sexual orientation or citizenship status. Identify and explain the specific related qualification for each job stated. Submit job descriptions for each job and the reasons for the qualifications.

### **PART III: CONTRACT BID INFORMATION AND PROJECTED AND CURRENT WORKFORCE FORMS**

#### **FORM A: CONTRACT BID INFORMATION – USE OF SUBCONTRACTORS/TRADES**

Your projections for the utilization of subcontractors on the proposed contract are to be provided in this section. A chart has been provided for the identification of subcontractors. Information is to be provided to the extent known at the time the ER is filed for review by DLS. If the subcontractor's name is unknown, then write "unknown". Under "ownership", enter the appropriate race/ethnic and gender code. If the contract is federally funded or assisted and the subcontractor is being utilized in accordance with applicable federal requirements with respect to Minority Business Enterprise or Woman Business Enterprise requirements, enter the appropriate code. This will also apply to state funded contracts with similar requirements for minority and female owned businesses.

#### **FORM B: PROJECTED WORKFORCE FOR WORK TO BE PERFORMED ON THIS PROJECT**

For each trade to be engaged by your company for this project, enter the projected workforce for Males and Females by trade classification in the charts provided.

#### **FORM C: CURRENT WORKFORCE FOR WORK TO BE PERFORMED ON THIS PROJECT**

For each trade *currently* engaged by your company for all work performed in NYC, enter the current workforce for Males and Females by trade classification in the charts provided.

### **SIGNATURE PAGE**

The signatory of this Employment Report and all other documents submitted to DLS must be an official authorized to enter into a binding legal agreement. The signature page must be completed in its entirety and notarized. Only original signatures will be accepted.

The City of New York Department of Small Business Services  
Division of Labor Services Contract Compliance Unit  
110 William Street, New York, New York 10038  
Phone: (212) 513 - 6323  
Fax: (212) 618-8879

CONSTRUCTION EMPLOYMENT REPORT

GENERAL INFORMATION

1. Your contractual relationship in this contract is: Prime contractor ☒ Subcontractor ☐
- 1a. Are MWBE goals attached to this project? Yes ☒ No ☐
2. Please check one of the following if your firm would like information on how to certify with the City of New York as a:  
☐ Minority Owned Business Enterprise  
☐ Women Owned Business Enterprise  
☐ Disadvantaged Business Enterprise  
☒ Locally Based Business Enterprise  
☐ Emerging Business Enterprise
- 2a. If you are certified as an MBE, WBE, LBE, EBE or DBE, what city/state agency are you certified with? \_\_\_\_\_ Are you DBE certified? Yes ☐ No ☒
3. Please indicate if you would like assistance from SBS in identifying certified MWBEs for contracting opportunities: Yes ☐ No ☒
4. Is this project subject to a project labor agreement? Yes ☐ No ☒
5. Are you a Union contractor? Yes ☒ No ☐ If yes, please list which local(s) you affiliated with 1010/731/284/536/14575
6. Are you a Veteran owned company? Yes ☐ No ☒

PART I: CONTRACTOR/SUBCONTRACTOR INFORMATION

7. 11-3682726 J LABOZZA AT CACINDUC.COM  
Employer Identification Number or Federal Tax I.D. Email Address
8. CAC INDUSTRIES INC  
Company Name
9. 54-08 VERNON BLVD LYNN MA 01901  
Company Address and Zip Code
10. Michael A Capasso 718 729-3600  
Chief Operating Officer Telephone Number
11. Diana Rangel 718 729-3600 Ext 228  
Designated Equal Opportunity Compliance Officer Telephone Number  
(If same as Item #10, write "same")
12. SAME AS ABOVE  
Name of Prime Contractor and Contact Person  
(If same as Item #8, write "same")

13. Number of employees in your company: 165

14. Contract Information:

(a) NYCDDC  
Contracting Agency (City Agency)

(b) 72,721,954.35  
Contract Amount

(c) SE823  
Procurement Identification Number (PIN)

(d) \_\_\_\_\_  
Contract Registration Number (CT#)

(e) \_\_\_\_\_  
Projected Commencement Date

(f) \_\_\_\_\_  
Projected Completion Date

(g) Description and location of proposed contract:

CONST OF SANITARY & STORM SEWERS ?  
APPORT IN 229TH BORO 185TH AVE & 147TH  
AVE - BORO OF QUEENS

15. Has your firm been reviewed by the Division of Labor Services (DLS) within the past 36 months and issued a Certificate of Approval? Yes ☒ No ☐

If yes, attach a copy of certificate.

16. Has DLS within the past month reviewed an Employment Report submission for your company and issued a Conditional Certificate of Approval? Yes ☐ No ☒

If yes, attach a copy of certificate.

**NOTE: DLS WILL NOT ISSUE A CONTINUED CERTIFICATE OF APPROVAL IN CONNECTION WITH THIS CONTRACT UNLESS THE REQUIRED CORRECTIVE ACTIONS IN PRIOR CONDITIONAL CERTIFICATES OF APPROVAL HAVE BEEN TAKEN.**

17. Has an Employment Report already been submitted for a different contract (not covered by this Employment Report) for which you have not yet received compliance certificate? Yes ☐ No ☒ If yes,

Date submitted: \_\_\_\_\_  
Agency to which submitted: \_\_\_\_\_  
Name of Agency Person: \_\_\_\_\_  
Contract No: \_\_\_\_\_  
Telephone: \_\_\_\_\_

18. Has your company in the past 36 months been audited by the United States Department of Labor, Office of Federal Contract Compliance Programs (OFCCP)? Yes ☐ No ☐

If yes,

(a) Name and address of OFCCP office.

\_\_\_\_\_  
\_\_\_\_\_

(b) Was a Certificate of Equal Employment Compliance issued within the past 36 months?  
Yes ☒ No ☐

If yes, attach a copy of such certificate.

(c) Were any corrective actions required or agreed to? Yes ☐ No ☐

If yes, attach a copy of such requirements or agreements.

(d) Were any deficiencies found? Yes ☐ No ☐

If yes, attach a copy of such findings.

19. Is your company or its affiliates a member or members of an employers' trade association which is responsible for negotiating collective bargaining agreements (CBA) which affect construction site hiring? Yes ☒ No ☐

If yes, attach a list of such associations and all applicable CBA's.

*GCA  
GENERAL CONTRACTORS  
ASSOC.*

## PART II: DOCUMENTS REQUIRED

20. For the following policies or practices, attach the relevant documents (e.g., printed booklets, brochures, manuals, memoranda, etc.). If the policy(ies) are unwritten, attach a full explanation of the practices. See instructions.

- ☒ (a) Health benefit coverage/description(s) for all management, nonunion and union employees (whether company or union administered)
- ☒ (b) Disability, life, other insurance coverage/description
- ☒ (c) Employee Policy/Handbook
- ☒ (d) Personnel Policy/Manual
- ☒ (e) Supervisor's Policy/Manual
- ☒ (f) Pension plan or 401k coverage/description for all management, nonunion and union employees, whether company or union administered
- ☒ (g) Collective bargaining agreement(s).
- ☒ (h) Employment Application(s)
- ☒ (i) Employee evaluation policy/form(s).
- ☒ (j) Does your firm have medical and/or non-medical (i.e. education, military, personal, pregnancy, child care) leave policy?

Gregg Bishop  
Commissioner

216CY282

June 15, 2016

Ms. Diane Derrin  
Engineering Assistant  
C.A.C. Industries, Inc.  
54-08 Vernon Boulevard  
Long Island City, NY 11101

RE: **New York City Department of Design and Construction Contract; PIN**  
**No. 8502016SE0014C; FMS ID: SEQ201BN8; E-PIN No. 85016B0084;**  
**Reconstruction of collapsed or otherwise defective storm, sanitary vitrified clay**  
**pipe sewers in various locations; Borough of Queens; Contract Value:**  
**\$8,661,116.07; Continued Certificate of Approval.**

Dear Ms. Derrin:

Please be advised that C.A.C. Industries, Inc. has already received notice of its approval for the three (3) year period indicated in the Department of Small Business Services/Division of Labor Services (DLS) Certificate of Approval dated June 22, 2015, for DLS File No. 215CY221.

As your organization continues to meet the equal employment opportunity requirements of the City of New York, DLS approves the awarding of the above-referenced contract. This approval does not extend the initial three (3) year approval (June 22, 2015 – June 21, 2018) referred to above.

If you have any questions regarding this letter, please call **Mr. Isaac Molho**, Contract Reviewer, at (212) 618-8796 or e-mail him at [imolho@sbs.nyc.gov](mailto:imolho@sbs.nyc.gov).

Very truly yours,

  
Helen Wilson  
Assistant Commissioner  
Division of Labor Services

cc: Giovanni Matos (DDC)  
Isaac Molho  
FILE

# ENROLLMENT 2016



**C.A.C. Industries, Inc**

June 1, 2016 to May 31, 2017



**crisp**

Insurance  
Advisors

# 2016 Open Enrollment



C.A.C. Industries, Inc.



## Welcome to Open Enrollment

What makes C.A.C. Industries, Inc. one of the top heavy construction firms in the industry? The talented people we have working here and your extraordinary effort and uncompromising commitment to excellence. Just as we ask you to make a commitment, C.A.C. Industries, Inc., we are committed to rewarding your hard work and dedication with the quality and flexibility that you demand in your benefits. Your rewards are not limited to what you see in your paycheck; we are committed to assisting you in achieving the financial security you deserve in every area of your life.

If you have any questions as you review your benefit choices C.A.C. Industries, Inc.'s benefits broker – Crisp Insurance Advisors – can assist you and/or your dependents. Contact information for Crisp Advisors and all of our benefit providers is provided in the back of the packet

### The Actions You Must Take

Discuss with your dependents which medical, dental and vision elections are best for you (review last year's health expenditures and discuss whether your situation might change in 2016).

If you are enrolling in the medical plan for the first time, or are making changes to the individuals enrolled in your current plan, please complete a new Cigna enrollment form. New dependents will not be enrolled in coverage until documentation verifying their eligibility is received.

---

*Benefit elections made during this open enrollment will be effective June 1, 2016 through May 31, 2017, unless you experience a qualified life event as described on page 11.*

---

## 2016 Benefits Overview

---

### Medical

#### The Medical Plans have NOT changed this year!

Plan 1: The Cigna Healthcare EPO plan will continue to be offered as our base plan option. This plan offers copays for office visits, ER services and prescription drug coverage.

Plan 2: The Cigna POS Option with HSA plan provides a buy-up option for employees who require Out of Network provider access. Employees have the ability to establish a Health Savings Account with this buy-up plan and set aside pre-tax dollars to be used for health care expenses.

### Other Contributory Coverages!

#### Dental

You have the option to enroll in our C.A.C. Industries, Inc. Dental Benefit with minimal payroll contribution through Cigna Healthcare. Coverage provides 100% coverage for Preventive Services, 80% coverage for Basic Services, and 50% coverage for Major services. Orthodontia coverage is also included. The annual dental maximum is \$1,500 and the lifetime maximum for Orthodontia is \$1,500.

### Vision

Voluntary Vision coverage is also available through ShelterPoint. Coverage is provided for exams, lenses, frames, and contact lenses. Additional details on the Vision can be found later in this document.





## 2016 Contributions & Plan Costs

### Employee Medical Contributions per Week

	Employee Only	Employee + Child(ren)	Employee + Spouse	Family
Plan 1 EPO Option	\$13.96	\$26.52	\$29.31	\$41.88
TOTAL Annual Premium Plan 1	\$ 7,262.40	\$ 13,798.80	\$ 15,323.52	\$ 21,787.80
Plan 2 POS Option	\$44.58	\$ 84.70	\$ 93.61	\$ 133.74
TOTAL Annual Premium Plan 2	\$ 8,854.68	\$ 16,824.12	\$ 18,595.32	\$ 26,564.40

### Employee Dental Contributions per Week

	Employee Only	Employee + Child(ren)	Employee + Spouse	Family
EE Contribution \$2.85		\$ 40.83	\$11.01	\$24.53
TOTAL Ann Prem \$ 593.40		\$ 1,156.32	\$ 1,165.80	\$ 1,869.48

### Employee Vision Contributions per Week

	Employee Only	Employee + Child(ren)	Employee + Spouse	Family
EE Contribution \$0		\$1.06	\$1.60	\$2.53
TOTAL Ann Prem \$60.84		\$ 117.12	\$ 145.56	\$195.48

### Medical Plan Out-of-Pocket Costs

Carrier	In-Plan 1 EPO		Plan 2 POS	
	In-Network	Out-of-Network	In-Network	Out-of-Network
Cigna Healthcare				
Deductible	\$1,500 Ind/\$3,000 Fam	N/A	\$1,500/\$3,000	
Coinsurance Percentage	90%/10%	N/A	100%/0%	80%/20%
Annual Out-of-Pocket Maximum	\$3,000 / \$6,000	N/A	\$1,500 / \$3,000	\$3,000/\$6,000
Emergency Room Co-Pay	\$150 copay	N/A	0% after deductible	20% after deductible
Retail Pharmacy Co-Pay	\$15/\$35/\$70 & \$38/\$88/\$175 Mail	N/A	\$15/\$35/\$75 after \$100 Deductible	100% after deductible Retail & Mail

- The overviews in this document are intended to provide highlights of the plans listed. Please see the attached **Summary of Benefits Coverage** documents for an overview of your plan coverages.
- If there is a discrepancy between this document and a plan document, the plan document will govern.

## 2016 Contributions & Plan Costs, Continued

### Dental Plan Out-of-Pocket Costs

Dental	In-Network	Out-of-Network*
Deductible (does not apply to Preventive & Diagnostic)	\$50 ind. / \$150 family	\$50 ind. / \$150 family
Annual Maximum (per person)	\$1,500	\$1,500
Preventive & Diagnostic • Exams, Cleanings, Bitewing X-rays (each twice in a calendar year) • Fluoride Treatment (once in a calendar year, children to age 19) Sealants	100%	100%
Remaining Basic (Fillings, Extractions, Oral Surgery, Repair of Dentures)	80% after ded	80% after ded
Crowns, Endodontics (root canal), Periodontics & Prosthodontics (six month waiting period)	50% after ded	50% after ded
Orthodontia (for children to age 26)	50% to \$1,500 LTM	50% to \$1,500 LTM

\* Out-of-Network charges are subject to maximum allowable charge rates established by the carrier. Costs in excess of these rates are the responsibility of the Member.

### Vision Plan Out-of-Pocket Costs

Vision	In-Network	Out-of-Network*
Exam (Once every 12 months)	100%	Reimbursed up to \$50
Lenses (Once every 12 months)	100%	Reimbursed \$70-\$200
Frames (Once every 12 months)	\$0-\$25 copay (Davis collections) Others \$100 plus 20% overage discount	Included in above
Elective Contact Lenses (in lieu of glasses)	Davis Collections: \$0 copay Others: \$100 plus 15% overage discount	Reimbursed up to \$200

## 2016 Other Benefit Plans

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### **Life and Accidental Death & Dismemberment (AD&D) Insurance**

Life and AD&D insurance is an important part of your financial well-being, especially if others depend on you for support. It is for that reason that C.A.C. Industries provides employees with both Life and AD&D insurance at no additional cost. The life insurance benefit is \$25,000 which is paid lump sum to your beneficiary(ies). The maximum AD&D benefit is also \$25,000 although certain covered losses will pay out a partial benefit. Please refer to your plan documents and certificate of coverage for complete details for your benefit coverage. This plan is administered by Cigna.

### **401k Plan**

C.A.C. Industries, Inc. currently offers all eligible employees an opportunity to save for their retirement needs through a Company-sponsored 401k plan. As with all retirement plans, all benefits guidelines and matches are subject to IRS Guidelines. If you are interested in more information or enrolling, please go to [www.fidelity.com](http://www.fidelity.com).

### **Health Savings Account (H S A)**

In addition, each employee under the age of 65 will be given the opportunity to open a Health Savings Account (H S A) for the POS plan option. This account will allow you to put aside pre-tax dollars directly from your paycheck to help pay for eligible medical, dental and vision expenses.

## Important Notices



### EMPLOYEE RETIREMENT INCOME SECURITY ACT (ERISA)

The Employee Retirement Income Security Act (ERISA) requires plan administrators - the people who run plans - to give plan participants in writing the most important facts they need to know about their retirement and health benefit plans including plan rules, financial information, and documents on the operation and management of the plan. Some of these facts must be provided to participants regularly and automatically by the plan administrator. Others are available upon request, free-of-charge or for copying fees. The request should be made in writing.

### CONSOLIDATED OMNIBUS BUDGET RECONCILIATION ACT (COBRA)

The Consolidated Omnibus Budget Reconciliation Act (COBRA) gives workers and their families who lose their health benefits the right to choose to continue group health benefits provided by their group health plan for limited periods of time under certain circumstances such as voluntary or involuntary job loss, reduction in the hours worked, transition between jobs, death, divorce, and other life events. Qualified individuals may be required to pay the entire premium for coverage up to 102 percent of the cost to the plan.

### HEALTH INSURANCE PORTABILITY AND ACCOUNTABILITY ACT (HIPAA)

The Health Insurance Portability and Accountability Act (HIPAA) provides rights and protections for participants and beneficiaries in group health plans. HIPAA includes protections for coverage under group health plans that limit exclusions for preexisting conditions; prohibit discrimination against employees and dependents based on their health status; and allow a special opportunity to enroll in a new plan to individuals in certain circumstances. HIPAA may also give you a right to purchase individual coverage if you have no group health plan coverage available, and have exhausted COBRA or other continuation coverage.

### NEWBORNS' AND MOTHERS' HEALTH PROTECTION ACT

The Newborns' and Mothers' Health Protection Act (Newborns' Act) requires group health plans that offer maternity hospital benefits for mothers and newborns to pay for at least a 48-hour hospital stay for the mother and newborn following childbirth (or, in the case of a cesarean section, a 96-hour hospital stay), unless the attending provider, in consultation with the mother, decides to discharge earlier.

### WOMEN'S HEALTH AND CANCER RIGHTS ACT (WHCRA)

Under WHCRA, the plan is required to provide coverage for (a) all stages of reconstruction of the breast on which the mastectomy has been performed, (b) surgery and reconstruction of the other breast to produce a symmetrical appearance and (c) prostheses and physical complications of mastectomy, including lymphedemas, in a manner determined in consultation with the attending physician and the patient.



## Glossary of Terms

**Deductible** The deductible is a fixed dollar amount that an insured person pays during the benefit period before the insurer starts to make payments for covered medical services. Plans may have both individual and family deductibles. Some plans have separate deductibles for specific services. For example, a plan may have a hospitalization deductible per admission. Deductibles may differ between services received from an approved provider (that is, a provider with whom the insurer has a contract or an agreement specifying payment levels and other requirements) and those received from providers not on the approved list.

**Coinurance** This form of medical cost sharing requires an insured person to pay a stated percentage of medical expenses after the deductible amount, if any, is paid. After any deductible amount and coinsurance are paid, the insurer is responsible for the rest of the reimbursement for covered benefits, up to the maximum out-of-pocket expense. The individual is responsible for any charges in excess of what the insurer determines to be "usual, customary, and reasonable." Coinsurance rates may differ between services received from an approved provider and those received from providers not on the approved list.

**Maximum out-of-pocket expense** This feature limits the dollar amount a group member is required to pay out of pocket during a year. Until it is met, the plan and the member share in the cost of covered expenses. After the maximum is reached, the insurer pays all covered expenses, often up to a lifetime maximum.

**Copayment** The fixed dollar amount that an insured person must pay when a service is received before any remaining charges are paid by the insurer.

**Network** Contracted providers of health care (physicians, hospitals, testing centers, rehabilitation centers, etc.) that have negotiated discounted fees for their services. This can apply to HMO, PPO, POS and EPO organizations.

**Out-of-Network** This phrase usually refers to physicians, hospitals or other health care providers who are considered non-participants in an insurance plan.

**Referral** The process of sending a patient from one doctor to another or to other health care professionals for services. Most managed care plans require the Primary Care Physician to authorize a referral before the cost of the service will be covered.

**Pre-Admission Certification** Approval by a case manager or insurance company representative (usually a nurse) for a person to be admitted to a hospital or in-patient facility, granted prior to the admittance.



## Dependent Eligibility

### Dependent Eligibility Definition

The "Dependent" definition under the C.A.C Industries, Inc. Health Plan is summarized below: It describes which dependents are eligible for coverage under the Plan.

Dependents are:

- Your lawful spouse as recognized for federal tax purposes
- Any child of yours who is less than 26 years old.
- Any child 26 years old or older, unmarried, primarily supported by you, and incapable of self-sustaining employment by reason of mental or physical handicap.
- A child includes one who is in your custody, pursuant to an interim court order of adoption or placement for adoption, whichever comes first, whether or not a final order granting adoption is ultimately issued. It also includes any child or grandchild for whom you are the legal guardian; and your foster and/or stepchildren.

### Dependent Eligibility Verification

Newly added dependents to the group health plan will not be covered until you submit sufficient documentation supporting dependent eligibility. You have 31 days from when your change is made to submit documentation.

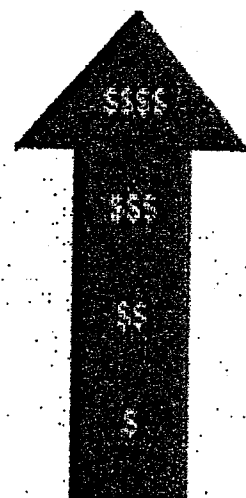
Enrolling dependents who do not meet the Plan's "Dependent" definition will result in the dependents not being enrolled in medical or other benefit programs.

## Be an Informed Consumer and Save Your Money

### Summary Guide for Where to Go When Medical Care Is Needed

If you need medical attention, but it is not life threatening, look into the most cost-effective treatment facilities that can provide you with the care you need:

Facility	Use Facility For
Emergency Room	Immediate treatment of critical injuries or illness. If a situation seems life-threatening, call 911 or go to the nearest ER. Open 24/7.
Urgent Care Center	Conditions that aren't life threatening. Staffed by nurses and doctors and usually have extended hours.
Doctor's Office	Routine or preventive care, to keep track of medications, or for a referral to see a specialist.
Convenience Care Clinic	Treatment of minor medical concerns that aren't life threatening. Staffed by nurse practitioners and physician assistants. Located in retail stores and pharmacies. Often open nights and weekends.



21. To comply with the Immigration Reform and Control Act of 1986 when and of whom does your firm require the completion of an I-9 Form?

- |  |   |
|--|---|
| (a) Prior to job offer                     | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |
| (b) After a conditional job offer          | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |
| (c) After a job offer                      | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |
| (d) Within the first three days on the job | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> |
| (e) To some applicants                     | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |
| (f) To all applicants                      | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> |
| (g) To some employees                      | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |
| (h) To all employees                       | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> |

22. Explain where and how completed I-9 Forms, with their supportive documentation, are maintained and made accessible.

Files are kept in individual folders at OAC's  
MAN OFFICE 34-08 VERNON BLVD LTC NY 1101

23. Does your firm or any of its collective bargaining agreements require job applicants to take a medical examination? Yes ☐ No ☐

If yes, is the medical examination given:

- |                                   |  |
|-----------------------------------|--|
| (a) Prior to a job offer          | Yes <input type="checkbox"/> No <input type="checkbox"/> |
| (b) After a conditional job offer | Yes <input type="checkbox"/> No <input type="checkbox"/> |
| (c) After a job offer             | Yes <input type="checkbox"/> No <input type="checkbox"/> |
| (d) To all applicants             | Yes <input type="checkbox"/> No <input type="checkbox"/> |
| (e) Only to some applicants       | Yes <input type="checkbox"/> No <input type="checkbox"/> |

If yes, list for which applicants below and attach copies of all medical examination or questionnaire forms and instructions utilized for these examinations.

\_\_\_\_\_

24. Do you have a written equal employment opportunity (EEO) policy? Yes ☒ No ☐

If yes, list the document(s) and page number(s) where these written policies are located.

\_\_\_\_\_

25. Does the company have a current affirmative action plan(s) (AAP) NO

\_\_\_\_\_  
Minorities and Women  
\_\_\_\_\_  
Individuals with handicaps  
\_\_\_\_\_  
Other. Please specify \_\_\_\_\_

26. Does your firm or collective bargaining agreement(s) have an internal grievance procedure with respect to EEO complaints? Yes ☐ No ☒

If yes, please attach a copy of this policy.

If no, attach a report detailing your firm's unwritten procedure for handling EEO complaints.

27. Has any employee, within the past three years, filed a complaint pursuant to an internal grievance procedure or with any official of your firm with respect to equal employment opportunity? Yes \_\_\_ No ☒

If yes, attach an internal complaint log. See instructions.

28. Has your firm, within the past three years, been named as a defendant (or respondent) in any administrative or judicial action where the complainant (plaintiff) alleged violation of any anti-discrimination or affirmative action laws? Yes \_\_\_ No ☒

If yes, attach a log. See instructions.

29. Are there any jobs for which there are physical qualifications? Yes ☒ No \_\_\_

If yes, list the job(s), submit a job description and state the reason(s) for the qualification(s).  
FIELD LABOR

30. Are there any jobs for which there are age, race, color, national origin, sex, creed, disability, marital status, sexual orientation, or citizenship qualifications? Yes \_\_\_ No ☒

If yes, list the job(s), submit a job description and state the reason(s) for the qualification(s).  
\_\_\_\_\_  
\_\_\_\_\_



# SIGNATURE PAGE

I, (print name of authorized official signing) Michael A Capasso hereby certify that the information submitted herewith is true and complete to the best of my knowledge and belief and submitted with the understanding that compliance with New York City's equal employment requirements, as contained in Chapter 56 of the City Charter, Executive Order No. 50 (1980), as amended, and the implementing Rules and Regulations, is a contractual obligation. I also agree on behalf of the company to submit a certified copy of payroll records to the Division of Labor Services on a monthly basis.

CAC INDUSTRIES INC  
Contractor's Name

DIANE DERIN ENG ASST  
Name of person who prepared this Employment Report Title

Michael A Capasso President  
Name of official authorized to sign on behalf of the contractor Title

718 729-3600  
Telephone Number

[Signature] 1/19/18  
Signature of authorized official Date

If contractors are found to be underutilizing minorities and females in any given trade based on Chapter 56 Section 311, the Division of Labor Services reserves the right to request the contractor's workforce data and to implement an employment program.

Contractors who fail to comply with the above mentioned requirements or are found to be in noncompliance may be subject to the withholding of final payment.

Willful or fraudulent falsifications of any data or information submitted herewith may result in the termination of the contract between the City and the bidder or contractor and in disapproval of future contracts for a period of up to five years. Further, such falsification may result in civil and/or criminal prosecution.

To the extent permitted by law and consistent with the proper discharge of DLS' responsibilities under Charter Chapter 56 of the City Charter and Executive Order No. 50 (1980) and the implementing Rules and Regulations, all information provided by a contractor to DLS shall be confidential.

Only original signatures accepted.

Sworn to before me this 19TH day of JAN 20 18

[Signature] [Signature] 1/19/18  
Notary Public Authorized Signature Date

DIANE G. DERIN  
Notary Public, State of New York  
No. 010E5048152  
Qualified in Queens County  
Commission Expires August 14, 2021

**FORM A CONTRACT BID INFORMATION: USE OF SUBCONTRACTORS/TRADES**

1. Do you plan to subcontract work on this contract? Yes ☒ No ☐
2. If yes, complete the chart below.

**NOTE:** All proposed subcontractors with a subcontract in excess of \$750,000 must complete an Employment Report for review and approval before the contract may be awarded and work commences.

SUBCONTRACTOR'S NAME*	OWNERSHIP (ENTER APPROPRIATE CODE LETTERS BELOW)	WORK TO BE PERFORMED BY SUBCONTRACTOR	TRADE PROJECTED FOR USE BY SUBCONTRACTOR	PROJECTED DOLLAR VALUE OF SUBCONTRACT
TBD			Crossing Guards	
			Robot Control	
			Landscaping	
			Fence	
			TV Inspection	

\*If subcontractor is presently unknown, please enter the trade (craft name).

**OWNERSHIP CODES**

W: White  
 B: Black  
 H: Hispanic  
 A: Asian  
 N: Native American  
 F: Female

# FORM B: PROJECTED WORKFORCE

## TRADE CLASSIFICATION CODES

(J) Journeylevel Workers  
(H) Helper  
(TOT) Total by Column

(A) Apprentice  
(TRN) Trainee

For each trade to be engaged by your company for this project, enter the projected workforce for Males and Females by trade classification on the charts below.

### MALES

### FEMALES

Trade: LABORERS

Union Affiliation, if applicable  
1010/731

Total (Col. #1-10):  
4

Total Minority, Male & Female  
(Col. #2,3,4,5,7,8,9, & 10):  
0

Total Female  
(Col. #6 - 10):  
0

	(1) White Non Hisp.	(2) Black Non Hisp.	(3) Hisp.	(4) Asian	(5) Native Amer.
J	2	2			
H					
A					
TRN					
TOT	2	2			

	(6) White Non Hisp.	(7) Black Non Hisp.	(8) Hisp.	(9) Asian	(10) Native Amer.
J					
H					
A					
TRN					
TOT					

What are the recruitment sources for you projected hires (i.e., unions, government employment office, job tap center, community outreach)?

# FORM B: PROJECTED WORKFORCE

Trade: Drivers

Union Affiliation, if applicable  
282

Total (Col. #1-10):  
2

Total Minority, Male & Female  
(Col. #2,3,4,5,7,8,9, & 10):

Total Female  
(Col. #6 - 10):

## MALES

(1) White Non Hisp.	(2) Black Non Hisp.	(3) Hisp.	(4) Asian	(5) Native Amer.
2				
2				
J				
H				
A				
TRN				
TOT				

## FEMALES

(6) White Non Hisp.	(7) Black Non Hisp.	(8) Hisp.	(9) Asian	(10) Native Amer.

What are the recruitment sources for you projected hires (i.e., unions, government employment office, job tap center, community outreach)?

# FORM C: CURRENT WORKFORCE

## TRADE CLASSIFICATION CODES

(J) Journeylevel Workers  
(H) Helper  
(TOT) Total by Column

(A) Apprentice  
(TRN) Trainee

For each trade currently engaged by your company for all work performed in New York City, enter the current workforce for Males and Females by trade classification on the charts below.

### MALES

### FEMALES

Trade: Timbermen

Union Affiliation, if applicable

1536

Total (Col. #1-10):

2

Total Minority, Male & Female  
(Col. #2,3,4,5,7,8,9, & 10):

Total Female  
(Col. #6 - 10):

	(1) White Non Hisp.	(2) Black Non Hisp.	(3) Hisp.	(4) Asian	(5) Native Amer.	(6) White Non Hisp.	(7) Black Non Hisp.	(8) Hisp.	(9) Asian	(10) Native Amer.
J	2									
H										
A										
TRN										
TOT	2									

What are the recruitment sources for you projected hires (i.e., unions, government employment office, job tap center, community outreach)?

# FORM C: CURRENT WORKFORCE

Trade: Openg

Union Affiliation, if applicable  
14'15

Total (Col. #1-10):  
2

Total Minority, Male & Female  
(Col. #2,3,4,5,7,8,9, & 10):

Total Female  
(Col. #6 - 10):

## MALES

## FEMALES

	(1) White Non Hisp.	(2) Black Non Hisp.	(3) Hisp.	(4) Asian	(5) Native Amer.
J	2				
H					
A					
TRN					
TOT	2				

	(6) White Non Hisp.	(7) Black Non Hisp.	(8) Hisp.	(9) Asian	(10) Native Amer.
J					
H					
A					
TRN					
TOT					

What are the recruitment sources for you projected hires (i.e., unions, government employment office, job tap center, community outreach)?

## EQUAL EMPLOYMENT OPPORTUNITY POLICY

1. We will not engage in any unlawful discrimination against any employee or applicant for employment because of race, creed, color, national origin, sex, age, disability, citizenship, religion, 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.
2. We agree that when we hire subcontractors we 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, citizenship, marital status or sexual orientation.
3. We will state in all solicitations or advertisements for employees that all qualified applicants will receive consideration for employment without unlawful discrimination based on race, creed, color, national origin, sex, age, disability, citizenship, religion, marital status or sexual orientation, or that we are equal employment opportunity employer.
4. We will send to each labor organization or representative of workers with which we have a collective bargaining agreement or other contract or memorandum of understanding, written notification of our equal opportunity commitments under E.O. 50 and the rules and regulations promulgated thereunder; and
5. We will furnish all information and reports including an Employment Report before the award of the contract which are required by E.O. 50 the rules and regulations promulgated thereunder, and the orders of the Director of the Bureau of Labor Services ("Bureau"), and will permit access to our books, records and accounts by the Bureau for the purposes of investigation to ascertain compliance with such rules, regulations and orders.
6. We agree to include the provisions of the foregoing paragraphs in every subcontract in the amount of \$750,000.00 or more to which we become a party unless exempted by E.O. 50 and the rules and regulations promulgated thereunder, so that such provisions will be binding upon each subcontractor. We will take such action with respect to any subcontract as may be directed by the

## C.A.C. INDUSTRIES, INC.

## SIMILAR CONTRACTS COMPLETED BY THE BIDDER

Print Date: 1/15/2016

Project & Location Contract #	Contract Type	Contract Amount	Date Completed	Owner Reference & Tel. No.	Architect/Engineer Ref & Tel. No.
Construction of Storm Sewers in Springfield Blvd., Queens Contract #SE-687-A	G.C.	\$ 1,575,000.00	Nov-98	D.D.C.	John Pusz, P.E. 718-391-1903
Construction of Combined Sewers in 62nd Street, Brooklyn Contract #SEK-002258	G.C.	\$ 533,413.75	Aug-98	D.D.C.	Lambert Monah, P.E. 718-780-8115
Construction of Storm & Sanitary Sewers in 169th Street, Queens Contract #SEQ-200292/002431	G.C.	\$ 491,756.68	Dec-98	D.D.C.	Donald Granger, P.E. 718-391-1968
Construction of Sanitary Sewers in 117th Rd., Queens Contract #SEQ-002420	G.C.	\$ 391,456.71	Dec-98	D.D.C.	Donald Granger, P.E. 718-391-1968
Construction of Storm & Sanitary Sewers, Watermains & Appurtenances in 229th Street, Queens Contract #SEQ-200295/002501	G.C.	\$ 2,722,332.51	Dec-99	D.D.C.	Tom Wynne, P.E. 718-391-2273
Construction of Storm & Sanitary Sewers, Watermains & Appurtenances in Heberton Ave., Staten Island Contract #SER-20065	Sub	\$ 550,000.00	Sep-97	D.D.C.	Medhat Hanna, P.E. 718-390-5327 (718) 390-5327
Reconstruction of Baisley Blvd. Including Sewers, Watermains & Street Lighting HWC-994	Sub	\$ 1,000,000.00	Nov-97	D.D.C.	Anna Pluta-Migoya, P.E. 718-391-1954
Construction of Storm Sewers in 58th Avenue, Queens Contract# SEQ-200289	G.C.	\$ 243,742.00	Sep-98	D.D.C.	Eric Sattler, P.E. 718-391-1966
Construction of Sewers in 85th Avenue Contract #SEQ-002482	G.C.	\$ 672,424.89	Apr-00	D.D.C.	Tom Wynne, P.E. 718-391-2273
Construction of Storm & Sanitary Sewers in 220th Street & Jamaica Avenue, Queens Contract # SEQ-002478/200319/002464/200326	G.C.	\$ 3,104,402.31	Nov-00	D.D.C.	Tom Wynne, P.E. 718-391-2273
Construction of Sewers in 125th Avenue Contract # SEQ002474	G.C.	\$ 2,491,158.96	Dec-00	D.D.C.	Tom Wynne, P.E. 718-391-2273
The Reconstruction of Sutphin Blvd Area, Queens Contract #HWC-600C2	G.C.	\$ 9,352,053.99	Oct-01	D.D.C.	Donald Granger, P.E. 718-391-1968
Reconstruction of Collapsed Storm, Sanitary or Combined Sewers in various locations, Queens	G.C.	\$ 3,571,618.77	Aug-01	D.D.C.	Dan Leffowitz 718-595-4201



**C.A.C. INDUSTRIES, INC.**  
SIMILAR CONTRACTS COMPLETED BY THE BIDDER

Print Date: 1/15/2016

Project & Location Contract #	Contract Type	Contract Amount	Date Completed	Owner Reference & Tel. No.	Architect/Engineer Ref & Tel. No.
Contract # SEQ-00201A/EP-7 Construction of Sanitary & Storm Sewers in 219th Street, Queens Contract # SEQ-002510/200344	G.C.	\$ 5,256,628.65	May-02	D.D.C.	Tom Wynne, P.E. 718-391-2273
Construction of Storm Sewers in Baisley Blvd, Queens Contract # SEQ-002514/200362	G.C.	\$ 5,022,345.51	May-02	D.D.C.	Donald Granger, P.E. 718-391-1968
Construction of Sanitary Sewers in Murdock Avenue, Queens Contract # SEQ-002514/200362	G.C.	\$ 1,409,727.96	Aug-02	D.D.C.	Tom Wynne, P.E. 718-391-2273
Construction of Storm Sewers in Beach Channel Drive, Queens Contract # SEQ-200358/200378	G.C.	\$ 927,658.80	Aug-02	D.D.C.	Tom Wynne, P.E. 718-391-2273
Construction of Combined Sewers in East 89th Street, Brooklyn Contract # SEK-002320	G.C.	\$ 177,903.00	Dec-02	D.D.C.	Tom Wynne, P.E. 718-391-2273
Construction of Storm Sewers in Beach 139th Street Queens Contract # SE-426C/427C	G.C.	\$ 6,545,625.39	Jun-03	D.D.C.	Tom Wynne, P.E. 718-391-2273
Construction of Sanitary Sewers in Smith Street, Queens Contract # SEQ-002532	G.C.	\$ 4,905,099.18	Jul-03	D.D.C.	Tom Wynne, P.E. 718-391-2273
Reconstruction of Greenwich Street Manhattan Contract # HWMWVTCA1A	G.C.	\$ 2,145,384.00	Dec-03	D.D.C.	Tom Wynne, P.E. 718-391-2273
Reconstruction of 89th Road Queens Contract # HWQ-631A	G.C.	\$ 5,422,676.58	Jan-04	D.D.C.	Tom Wynne, P.E. 718-391-2273
Construction of Storm Sewers in Beach 53rd Street, Queens Contract # SEQ-200381-R	G.C.	\$ 280,615.43	Mar-04	D.D.C.	Tom Wynne, P.E. 718-391-2273
Water Main Installation for New Building Constr & Improvement to the City's Water Main Distribution System, Queens, Bronx System, Queens & Bronx - Contract # QED-980	G.C.	\$ 1,021,005.00	May-04	D.D.C.	Tom Wynne, P.E. 718-391-2273
Reconstruction of Sanitary Sewers in Daniels Street, Queens Contract # SEQ-002488	G.C.	\$ 1,215,916.60	May-04	D.D.C.	Tom Wynne, P.E. 718-391-2273
Construction of Sanitary & Storm Sewers					Tom Wynne, P.E.

**C.A.C. INDUSTRIES, INC.**  
SIMILAR CONTRACTS COMPLETED BY THE BIDDER

Print Date: 1/15/2016

Project & Location Contract #	Contract Type	Contract Amount	Date Completed	Owner Reference & Tel. No.	Architect/Engineer Ref & Tel. No.
In 43rd Avenue, Queens Contract # SEQ-002569	G.C.	\$ 911,936.43	Jul-04	D.D.C.	718-391-2273
Reconstruction of Somerville Area, Queens Queens Contract HMQ-631A	G.C.	\$ 15,245,464.68	Mar-05	D.D.C.	Tom Wynne, P.E. 718-391-2273
Construction of Sanitary and Storm Sewers in Collier Avenue, Etc. - Queens Contract # SEQ-002413-R	G.C.	\$ 1,850,940.00	Apr-05	D.D.C.	Donald Granger, P.E. 718-391-1968
Construction of Sanitary Sewers in 122nd Avenue, Queens Contract # SEQ-002567	G.C.	\$ 4,666,115.25	Sep-05	D.D.C.	Donald Granger, P.E. 718-391-1968
Reconstruction of Edgemere Urban Renewal Area Phase I - Borough of Queens Contract # HD-153B	G.C.	\$ 6,436,325.09	Sep-05	D.D.C.	Donald Granger, P.E. 718-391-1968
Reconstruction of Reads Lane Borough of Brooklyn Contract # HMQ230G-R	G.C.	\$ 6,537,998.25	Sep-05	D.D.C.	Donald Granger, P.E. 718-391-1968
Reconstruct of Collapsed or Defective Sanitary, Storm and Combined Vitrified Clay pipe Sewers, Bronx Contract # SEX00201P	G.C.	\$ 3,438,710.96	May-06	D.E.P.	Dan Leftkowitz 718-595-4200
Reconstruct of Collapsed or Defective Sanitary, Storm & Combined Vitrified Clay pipe Sewers, Queens Contract # SEQ0201B2	G.C.	\$ 4,689,808.39	May-06	D.E.P.	Dan Leftkowitz 718-595-4200
Constr of Sanitary & Storm Sewers & Installation of Water Mains in 167th Street, Queens Contract # SEQ-002574	G.C.	\$ 4,965,952.50	Jun-07	D.D.C.	Donald Granger, P.E. 718-391-1968
Reconstruction of Collapsed or Otherwise Defective Sanitary, Storm & Vitrified Clay Pipe Sewers, Borough of Queens Contract # SEQ0201B3	G.C.	\$ 4,143,865.40	Apr-07	D.E.P.	Dan Leftkowitz 718-595-4200
Reconstruction of Collapsed, Defective Sanitary, Storm and Combined Vitrified Clay Pipe Sewers, Borough of Bronx	G.C.	\$ 3,204,358.27	Apr-07	D.E.P.	Dan Leftkowitz 718-595-4200

**G.A.C. INDUSTRIES, INC.**  
SIMILAR CONTRACTS COMPLETED BY THE BIDDER

Print Date: 1/15/2016

Project & Location Contract #	Contract Type	Contract Amount	Date Completed	Owner Reference & Tel. No.	Architect/Engineer Ref & Tel. No.
Contract # SEX00201Q					
Reconstruction & Rehabilitation of Combined Sewer in Seymour Ave, etc., Borough of the Bronx Contract # SEX002251	G.C.	\$ 3,545,973.00	Sep-07	D.D.C.	Tom Wynne, P.E. 718-391-2273
Construction of Sanitary Sewers in Hoda Place Borough of Staten Island Contract # SER-002235-R	G.C.	\$ 1,639,099.89	Aug-07	D.D.C.	Tom Wynne, P.E. 718-391-2273
Reconstruction of Edgemere Urban Renewal Area Phase II - Borough of Queens Contract # HD-153B1	G.C.	\$ 17,221,197.24	Sep-07	D.D.C.	Donald Granger, P.E. 718-391-1968
Installation of Water Mains & Reconstruction of Combined Sewers in Richmond Road, Staten Island Contract # RED-354	G.C.	\$ 20,315,957.76	Dec-07	D.D.C.	Tom Wynne, P.E. 718-391-2273
Reconstruction of Gateway Estates Area Phase 1A, Brooklyn Contract # HD-161	G.C.	\$ 17,445,456.27	Mar-08	D.D.C.	Tom Wynne, P.E. 718-391-2273
Reconstruction of Gateway Estates Area Phase 1A, Brooklyn Contract # HD-181	G.C.	\$ 11,378,826.00	Nov-08	D.D.C.	Tom Wynne, P.E. 718-391-2273
Reconstruction of Collapsed or Defective Cement Pipe & Combined Sewers in Various Locations, Borough of Brooklyn Contract No: SE-166-B4	G.C.	\$ 4,178,068.70	Mar-09	D.E.P.	Dan Leftkowitz 718-595-4200
Reconstruction of Collapsed or Defective Cement Pipe & Combined Sewers in Various Locations, Borough of Brooklyn Contract No: SE-166-B5	G.C.	\$ 4,174,464.15	Mar-10	D.E.P.	Dan Leftkowitz 718-595-4200

## C.A.C. INDUSTRIES, INC.

## SIMILAR CONTRACTS COMPLETED BY THE BIDDER

Print Date: 1/15/2016

Project & Location Contract #	Contract Type	Contract Amount	Date Completed	Owner Reference & Tel. No.	Architect/Engineer Ref & Tel. No.
Reconstruction of 99th, 104th and 110th Avenues, etc. Borough of Queens Contract # HWQ1161	G.C.	\$ 59,545,262.70	Dec-10	D.D.C.	Donald Granger, P.E. 718-391-1968
Rehabilitation of Step Streets at West 176th and West 230th Streets Borough of the Bronx Contract No: HWXS211V2	G.C.	\$ 3,488,663.36	Dec-10	D.D.C.	Joe Cassidy, P.E. (718) 365-2106
Reconstruction of Harrison Street Borough of Manhattan Contract No: HWMWTC7A	G.C.	\$ 13,358,600.51	Nov-10	D.D.C.	Ashwinkumar Patel, P.E. 212-442-7990
Reconstruction of Collapsed or Defective Cement Pipe & Combined Sewers in Various Locations, Borough of Brooklyn Contract No: SE-166-B6	G.C.	\$ 3,965,926.77	May-11	D.E.P.	Dan Lefkowitz 718-595-4200
Highline Reconstruction (Section 2) Borough of Queens NYCEDC Contract # 16230008	G.C.	\$ 36,714,323.00	Jul-11	E.D.C.	Len Greco, P.E. 212-3123743
Construction of Sanitary & Storm and Appurtenances in 89th Ave, etc. various locations, Borough of Queens Contract No: SEQ002658	G.C.	\$ 1,898,354.25	Dec-11	D.D.C.	Donald Granger, P.E. 718-391-1968
Construction of Storm and Combined Sewers in Fairfax Avenue between Waterbury Ave & Fairmount Avenue, Borough of the Bronx Contract No: SEX20039	G.C.	\$ 2,245,311.00	Dec-11	D.D.C.	Joe Cassidy, P.E. 718-365-2106
Construction of Storm Sewer & Outfall in B. 42nd St b/w B. Channel Drive & the U.S. Bulkhead Line , Borough of Queens Contract No: SEQ200533	G.C.	\$ 5,277,781.60	Jun-12	D.D.C.	Donald Granger, P.E. 718-391-1968
Construction of Combined Sewers and Appurtenances in 26th Avenue between 154th Street & 157th Street, Borough of Queens Contract No: SEQ002587	G.C.	\$ 1,496,484.00	Jun-12	D.D.C.	Donald Granger, P.E. 718-391-1968

**C.A.C. INDUSTRIES, INC.**  
SIMILAR CONTRACTS COMPLETED BY THE BIDDER

Print Date: 1/15/2016

Project & Location Contract #	Contract Type	Contract Amount	Date Completed	Owner Reference & Tel. No.	Architect/Engineer Ref & Tel. No.
Reconstruction of East Fordham Rd from Southern Blvd to the Ramps of the Bronx River Parkway - Borough of the Bronx Contract No: HWXP134	G.C.	\$ 11,421,586.26	Dec-13	D.D.C.	Lambert Monah, P.E. 917-939-6966
Reconstruction of Bronx & Pelham Pkwy East Bound & Pelham Pkwy South from Bronx River Pkwy to Hutchinson River Pkwy, Borough of the Bronx Contract No: HWX710	G.C.	\$ 36,165,168.80	Apr-14	D.D.C.	Lambert Monah 917-939-6966
Reconstruction of Collapsed or Otherwise Defective Sanitary, Storm Sewers Various location - Borough of the Bronx Contract No: SEX00201W	G.C.	\$ 4,554,306.44	Apr-14	D.D.C.	Lambert Monah 917-939-6966
McDonald's USA, LLC - 91-18 Beach Channel Drive New sidewalks, Parking lot pavement Contract No. PO 968093	G.C.	\$ 75,896.00	Dec.9, 2014	McDonald's USA	Julie Andrews Construction Coordinator 732-623-8528

**C.A.C. INDUSTRIES, INC.**  
**CONTRACTS CURRENTLY UNDER CONSTRUCTION BY THE BIDDER**

Print Date: 1/16/2016

Project & Location	Type	Contract Amount	Contracted in Others		Uncompleted Portion	Date Scheduled to Complete	Owner Reference & Tel. No.	Architect/Engineer Ref. & Tel. No.	CAC JOB #
Reconstruction of Turnpike Avenue, Phase II Borough of Queens Contract No: HWC631B1	G.C.	\$ 41,544,348.39	\$ 35,000.00	\$	1,000.00	4/15/14	D.D.C.	Donald Granger, P.E. 718-391-1968	8-378
World Trade Center - WTC Street, Utilities & Related Infrastructure - Phase I Manhattan Contract No: WTC-342.287	G.C.	\$ 9,057,261.78	\$ 98,000.00	\$	1,000.00	5/1/14	The Port Authority	Trevor Wright 212-435-5151	10-188
Rehabilitation of College Point Blvd & Reconstruction of 32nd Ave Queens Contract No: HWC167B	G.C.	\$ 12,454,452.00	\$ 218,000.00	\$	1,000.00	5/13/14	D.D.C.	Donald Granger, P.E. 718-391-1968 (718) 391-1968	10-394
Installation of Trunk Mains & Appurtenances in Hudson Street Manhattan Contract No: MHD-596	G.C.	\$ 59,494,197.13	\$ 462,000.00	\$	1,000.00	2/10/16	D.D.C.	Ashwin Kumar Patel, P.E. 212-442-7990	10-197
Installation of Trunk Water Main in Beach Path Street Queens Contract No: QED-983	G.C.	\$ 24,372,688.50	\$ 355,000.00	\$	1,000.00	6/1/14	D.D.C.	Donald Granger, P.E. 718-391-1968	10-300
Reconstruction of Combined and Storm Sewers in Commerce Ave Borough of the Bronx Contract No: SEX20043	G.C.	\$ 4,190,156.46	\$ 194,000.00	\$	1,000.00	6/1/14	D.D.C.	Lambert Monah 917-539-6966	12-405
Construction of Sanitary & Storm Sewers and Appurtenances in 28th Street Borough of Queens Contract No: SE-817	G.C.	\$ 37,911,609.00	\$ 968,000.00	\$	1,000.00	8/1/15	D.D.C.	Donald Granger, P.E. 718-391-1968	11-303
Reconstruction of Select Bus Service at Nostalgia Avenue & Rogers Avenue Brooklyn Contract No: HMK1130A	G.C.	\$ 14,945,698.98	\$ 422,000.00	\$	1,000.00	6/1/14	D.D.C.	Tom Wynne, P.E. 718-391-2273	12-207
Storm & Sanitary Sewers & Trunk Mains, Hart Place & Coney Island Creek Brooklyn Contract No: CONISPH01	G.C.	\$ 27,721,983.89	\$ 878,000.00	\$	8,000,000.00	6/1/15	D.D.C.	Tom Wynne, P.E. 718-391-2273	12-209
Reconstruction of Gateway Estates Area, Phase C Borough of Brooklyn Contract No: HD-161C	G.C.	\$ 12,787,621.65	\$ 368,000.00	\$	1,000,000.00	6/1/15	D.D.C.	Tom Wynne, P.E. 718-391-2273	12-207
Frasera Pit Excavation - Con Ed All Boroughs Contract No 4253484	G.C.	\$ 5,718,280.00	\$	\$	250,000.00	12/1/16	Con Edison	Eliza Reinagle 212-480-4024	13-801

**G.A.C. INDUSTRIES, INC.**  
**CONTRACTS CURRENTLY UNDER CONSTRUCTION BY THE BIDDER**

Print Date: 1/16/2016

Project & Location	Type	Contract Amount	Contracted to Others	Uncompleted Portion	Date Scheduled to Complete	Owner Reference & Tel. No.	Architect/Engineer Ref & Tel. No.	CAC JOB #
West End Avenue Pipe Enhancement Manhattan	G.C.	\$ 925,390.00	\$ -	\$ 1,000.00	5/25/14	Con Edison	Jill Karschenski 212-490-2798	14-103
Reconstruction of Bailey Place Relating Well, etc. Borough of the Bronx	G.C.	\$ 5,155,388.10	\$ 750,000.00	\$ 1,000.00	6/1/14	DDC	Lambert Monah 917-938-6966	10-498
Construction of Sanitary & Storm Sewers and Appurtenances in Chandler Street Borough of Queens	G.C.	\$ 22,622,311.00	TBD	\$ 22,622,311.00	6/2/16	DDC	Donald Granger, P.E. 718-391-1868	11-304
Services of Backhoe Loader with Operating Engineer Region 3 Borough of Queens	G.C.	\$ 3,545,226.00	\$ -	\$ 3,545,226.00	4/2/16	DEP	Rick Nelson 718-695-5262	14-306
Contract No: BHOE-14-30 New Combined Sewers in Calanue Avenue and 69th Street in Woodside, Queens Borough of Queens	G.C.	\$ 24,472,947.98	TBD	\$ 24,472,947.98	9/25/16	DDC	Donald Granger, P.E. 718-391-1868	13-315
Contract No: SE 814 Test Pile and Hides at Various Locations All Boroughs	G.C.	\$ 4,564,530.00	\$ 912,906.00	\$ 4,564,530.00	3/25/17	MTA 646-252-6259	Mohammed Haque 646-252-4854	14-604
Contract C-39011 Manhattan Dead Gas Main and Service Installation and Gas Trenching Manhattan	G.C.	\$ 6,538,400.00	TDD	\$ 6,538,400.00	2/29/16	Con Edison	TBD	14-107
PO 4323096 Replacement of Existing Water Siphons between Brooklyn and Staten Island Brooklyn and Staten Island	Sub	\$ 37,400,000.00	\$ -	\$ 19,000,390.42	1/29/16	NYCEDC	Thomas Bowers (247) 291-8460	11-502
Contract 22660002 Capital Project GE 343 Steam Structures and Improvements Manhattan	G.C.	\$ 7,809,856.00	TBD	\$ 7,809,856.00	12/31/16	Con Edison	TBD	14-107
Contract PO 4331350 Reconstruction of Myrtle Avenue from Hall Street to Emerson Place Brooklyn	G.C.	\$ 5,981,333.79	351680	\$ 5,861,333.79	12/31/16	DDC	Robert Yueh, P.E. 718-391-1837	13-210
Contract HWPL2001K Safe Routes to Transit, Phase IV White Plains Rd at Allerton Ave Bronx	G.C.	\$ 1,831,140.09	TBD	TBD	6/4/2015	DDC	Lambert Monah 917-938-6966	14-403
HWSRT2009								

**G.A.C. INDUSTRIES, INC.**  
**CONTRACTS CURRENTLY UNDER CONSTRUCTION BY THE BIDDER**

Print Date: 11/6/2016

Project & Location	Type	Contract Amount	Contracted to Others		Uncompleted Portion	Date Scheduled to Complete	Owner Reference & Tol. No.	Architect/Engineer Ref. & Tol. No.	CAC JOB #
			Contracted to Others	Uncompleted Portion					
Reconstruction of Wadsworth Terrace from 180th St to Fairview Avenue Manhattan Contract HMM2017	G.C.	\$ 2,321,534.16	TBD	\$ 2,321,534.16	6/4/2015	DDC	Shafren Jaroni 212-442-1880		14-117
Con Edison 65 Palmer Avenue Vault Construction on Piles Bronxville Contract PO	G.C.	\$ 365,364.00	\$ -	\$ -	1/31/15	Con Edison	TBD		14-701
Queens Centers for Progress Little Neck, Queens	G.C.	\$ 1,820,000.00	TBD	\$ 500,000.00	1/31/15	United Central Paving of Queens, Inc. 81-15 164 Street, Jamaica, NY 11432	Leonard J. Strandberg and Assoc. Neil Strandberg 516-378-2064 Lambert Moriah 917-839-0866		14-312
Roadway Improvements in Shore Road from 36th Ave to West Drive Queens HWQ985	G.C.	\$ 7,474,069.38	TBD	\$ 7,474,069.38	9/25/2016	DDC			14-311
Edenwald Houses North - On Site Stormwater Management Practices Borough of Queens Contract No. GXHP 24-03	G.C.	\$ 3,580,934.00	TBD	\$ 3,580,934.00	3/28/2017	DEP	Wald Harrouh 718-595-3850		14-401
Edenwald Houses South - On Site Stormwater Management Practices Borough of Queens Contract No. GXHP 24-04	G.C.	\$ 3,735,666.00	TBD	\$ 3,735,666.00	3/28/2017	DEP	Wald Harrouh 718-595-3850		14-506
Watermain Replacement at Various Locations 108th to 129th Streets Queens Contract QED1003	G.C.	\$ 9,123,131.61	TBD	\$ 9,123,131.61	3/30/2015	DDC	Pat Larkin 718-391-1858		14-305
Combined Sewers in 74th St b/w Juniper Blvd & Juniper Valley Road (Penelope) Queens SEQ002693	G.C.	\$ 22,131,637.56	TBD	\$ 22,131,637.56	6/27/2017	DDC	Pat Larkin 718-391-1858		14-309
Rockaway Beach Blvd Watermain Work Queens Sub Agreement 10-094-02	Sub	\$ 720,000.00	0	\$ -	11/1/2015	EDC	Steve Andrich sandrich@graceindustrials.c om		15-320



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**INFRASTRUCTURE DIVISION  
BUREAU OF DESIGN**

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**VOLUME 1 OF 3**

PROJECT ID: SE823

CONSTRUCTION OF SANITARY AND STORM SEWERS AND APPURTENANCES IN 229TH  
STREET BETWEEN 145TH AVENUE AND 147TH AVENUE, ETC.  
INCLUDING WATER MAIN WORK

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

---

*Contractor*

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**Dated** \_\_\_\_\_, 20\_\_\_\_

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

30-30 THOMSON AVENUE  
LONG ISLAND CITY, NEW YORK 11101-3045  
TELEPHONE (718) 391-1000  
WEBSITE [www1.nyc.gov/site/ddc/index.page](http://www1.nyc.gov/site/ddc/index.page)

**VOLUME 2 OF 3**

**INFORMATION FOR BIDDERS  
CONTRACT  
PERFORMANCE AND PAYMENT BONDS  
PREVAILING WAGE SCHEDULE**

FOR FURNISHING ALL LABOR AND MATERIALS NECESSARY AND REQUIRED FOR:

**PROJECT ID: SE823**

**CONSTRUCTION OF SANITARY AND STORM SEWERS AND  
APPURTENANCES IN 229TH STREET BETWEEN 145TH AVENUE AND  
147TH AVENUE, ETC.**

**INCLUDING WATER MAIN WORK**

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

FOR THE DEPARTMENT OF ENVIRONMENTAL PROTECTION  
PREPARED BY  
IN-HOUSE DESIGN

**March 20, 2017**



**17-090**



**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, NEW YORK 11101-3045  
TELEPHONE (718) 391-1000  
WEBSITE [www1.nyc.gov/site/ddc/index.page](http://www1.nyc.gov/site/ddc/index.page)

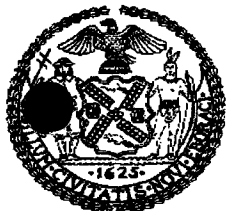
**VOLUME 2 OF 3**

**INFORMATION FOR BIDDERS  
CONTRACT  
PERFORMANCE AND PAYMENT BONDS  
PREVAILING WAGE SCHEDULE**

FOR FURNISHING ALL LABOR AND MATERIALS NECESSARY AND REQUIRED FOR:

FOR THE DEPARTMENT OF ENVIRONMENTAL PROTECTION  
PREPARED BY  
IN-HOUSE DESIGN

**MARCH 15, 2017**



**CITY OF NEW YORK**  
**DEPARTMENT OF**  
**DESIGN AND CONSTRUCTION**  
**DIVISION OF INFRASTRUCTURES**

**INFORMATION FOR BIDDERS**

**JUNE 2015**

*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 as page A-1 of the Bid Booklet.

### 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. VENDEX Questionnaires

(A) Requirement: Pursuant to Administrative Code Section 6-116.2 and the PPB Rules, bidders may be obligated to complete and submit VENDEX Questionnaires. Generally, if this bid is \$100,000 or more, or if this bid when added to the sum total of all contracts, concessions and franchises the bidder has received from the City and any subcontracts received from City contractors over the past twelve months, equals or exceeds \$100,000, Vendex Questionnaires must be completed. If required, Vendex Questionnaires must be completed and submitted before any award of contract may be made or before approval is given for a proposed subcontractor. Non-compliance with these submission requirements may result in the disqualification of the bid, disapproval of a subcontractor, subsequent withdrawal of approval for the use of an approved subcontractor, or the cancellation of the contract after its award.

(B) Submission: Vendex Questionnaires must be submitted directly to the Mayor's Office of Contract Services, ATTN: Vendex, 253 Broadway, 9th Floor, New York, New York 10007. In addition, the bidder must submit a Confirmation of Vendex Compliance to the agency. A form for this confirmation is set forth in the Bid Booklet.

(C) Obtaining Forms: Vendex Questionnaires, as well as detailed instructions, may be obtained at [www.nyc.gov/vendex](http://www.nyc.gov/vendex). The bidder may also obtain Vendex forms and instructions by contacting the

Agency Chief Contracting Office or the contract person for this contract.

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)669-2797.

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 (page A-1 of the Bid Booklet). 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 (page A-1 of the Bid Booklet). 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 202-512-1800; (2) through the Internet at <http://www.fms.treas.gov/c570/index.html>, and (3) through a computerized public bulletin board, which can be accessed by using your computer modem and dialing 202-874-6887.

(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 to 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 following forms, all of which are contained in the Bid Booklet, are to be completed and submitted with the bid:

- (1) Bid Schedule and Bid Form, including Affirmation
- (2) Bid Security (if required, see Attachment 1 on Page A-1)
- (3) M/WBE Subcontractor Utilization Plan (if participation goals have been established)

**FAILURE TO SUBMIT ITEMS (1), (2) AND (3)  
WILL RESULT IN THE DISQUALIFICATION OF THE BID.**

- (4) Safety Questionnaire
- (5) Construction Employment Report (if bid is \$1,000,000 or more)
- (6) Contract Certificate (if bid is less than \$1,000,000)
- (7) Confirmation of Vendex Compliance
- (8) Special Experience Requirements (if applicable to this contract)
- (9) Apprenticeship Program Questionnaire (if applicable)

**FAILURE TO SUBMIT ITEMS (4) THROUGH (9)  
MAY RESULT IN THE DISQUALIFICATION OF THE BID.**

39. Comptroller's Certificate

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

40. Procurement Policy Board Rules

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

41. DDC Safety Requirements

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

**CITY OF NEW YORK**  
**DEPARTMENT OF DESIGN AND CONSTRUCTION**  
**SAFETY REQUIREMENTS**

June 2015

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***THE DDC SAFETY REQUIREMENTS INCLUDE THE FOLLOWING SECTIONS:***

- I. POLICY ON SITE SAFETY**
- II. PURPOSE**
- III. DEFINITIONS**
- IV. RESPONSIBILITIES**
- V. SAFETY QUESTIONNAIRE**
- VI. SAFETY PROGRAM AND SITE SAFETY PLAN**
- VII. KICK-OFF/PRE-CONSTRUCTION MEETINGS AND SAFETY REVIEW**
- VIII. EVALUATION DURING WORK IN PROGRESS**
- IX. SAFETY PERFORMANCE EVALUATION**

City of New York Department of Design and Construction: Safety Requirements  
Safety and Site Support– Quality Assurance and Construction Safety

## 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 jobsites must, at a minimum, comply with applicable federal, state and city laws, rules and regulations, including without limitation:

- ❑ U. S. Department of Labor 29 Code of Federal Regulations (CFR) Part 1926 and applicable Sub-parts of Part 1910 – U.S. Occupational Safety and Health Administration (OSHA); New York State Department of Labor Industrial Code Rule 23 – Protection in Construction, Demolition and Excavation;
- ❑ New York City Construction Codes, Title 28
- ❑ NYC Department of Transportation Title 34 Chapter 2 – Highway Rules
- ❑ New York State Department of Labor Industrial Code Rule 16 NYCRR Part 753
- ❑ Title 15 of the Rules of the City of New York, Chapter 13 Citywide Construction Dust Mitigation
- ❑ Manual on Uniform Traffic Control Devices (MUTCD)
- ❑ Title 15 of the Rules of the City of New York, Chapter 28 Citywide Construction Noise Mitigation

## 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 shall mean the person delegated authority by the Commissioner to organize and supervise the procurement activity of subordinate Agency staff in conjunction with the 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.

**Construction Safety Auditor:** A representative of the QA&CS Construction Safety Unit 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 surveys, reviewing health and safety plans, reviewing construction permits, and rendering technical advice and assistance to DDC Resident Engineers and Project Managers.

**Construction Safety Unit:** A part of QA&CS within the Division of Program Management/ Safety & Site Support that assesses contractor safety on DDC jobsites and advises responsible parties of needed corrective actions.

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**Construction Superintendent:** A representative of the contractor responsible for overseeing performance of the required construction work. This individual must engage in sound construction practices, and is responsible to maintain a safe work site. In the case of a project involving the demolition, alteration or new construction of buildings, the Construction Superintendent must be licensed by the NYC Department of Buildings.

**Contractor:** For purposes of these Safety Requirements, the term "Contractor" shall mean any person or entity that enters into a contract for the performance of construction work on a DDC project. The term "Contractor" shall 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 meetings, giving to all jobsite personnel by contractor, with the purpose of discussing project specific safety procedures for the scheduled construction work.

**Director - Quality Assurance and Construction Safety (QA&CS):** Responsible for the operations of the QACS Construction Safety Unit and the DDC Site Safety management programs.

**Job Hazard Analysis (JHA):** A process of identifying the major job steps and any potential site-specific hazards that may be present during construction and establishing the means and methods to eliminate or control those hazards.

**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 and trenching and shoring, 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 shall have completed an authorized 30 hour OSHA Construction Safety Course and other safety training applicable to Contractor's/subcontractor's project work. Except in instances where a dedicated Project Safety Manager is required, a Project Safety Representative may also function as a superintendent, foreman or crew leader on the Project, but must have sufficient experience and authority to undertake corrective actions and must qualify to be a competent person. No work is to be performed on site when a Project Safety Representative is not present.

**Project Safety Manager:** A dedicated, full-time project safety manager may be a contractual requirement on large projects or projects deemed by DDC to be particularly high risk. This would be in addition or in lieu of a Contractor's Project Safety Representative. This individual shall not have any other assigned duties. This individual shall have received, at a minimum an authorized 30 hour OSHA Construction Safety Course. Other examples of acceptable training are OSHA Safety and Health Standards for the Construction Industry training program (OSHA 510), Certified Safety Professional (CSP), Certified Industrial Hygienist (CIH) or a degree/certificate in a safety and health from a college-level curriculum.

A Project Safety Manager shall possess the additional training, years of experience, and skills necessary to thoroughly understand the health and safety hazards and controls for large construction projects, including the full scope of the specific Work.

**QA&CS - Quality Assurance and Construction Safety of the New York City Department of Design and Construction.**

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**Resident Engineer (RE) / Construction Project Manager (CPM):** Representative of the Commissioner duly designated by the Commissioner to be his/her representative at the site of the work. (The RE/CPM may be a third-party consultant, including a Construction Management firm, retained by DDC)

**Safety Program:** Established by the Contractor that covers all operations of that Contractor and establishes the Contractor's overall safety policy, regulatory compliance plan and minimum safety standards. The Safety Program must be submitted prior to the commencement of work at the site and is subject to review and acceptance by the Construction Safety Unit.

**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 NYC Construction Codes - Title 28, the Contractor shall provide a Site Safety Manager with a Site Safety Manager License issued by the NYC Department of Building.

**Site Safety Plan:** A site-specific safety plan developed by the Contractor for a specific project. The Site Safety Plan must identify hazards associated with the project, and include specific safety procedures and training appropriate and necessary to complete the work. The Site Safety Plan must be submitted prior to the commencement of work at the site and is subject to review and acceptance by the Construction Safety Unit.

**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 documented 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.

**Work:** The construction required by the 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.

#### IV. RESPONSIBILITIES

All persons who manage, perform, and provide support for construction projects shall 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. DDC or CM Resident Engineer / Construction Project Manager

- Monitors the issuance of safety-related permits, approvals and drawings and maintains copies on site.
- Monitors construction-related work activities to confirm that they are conducted in accordance with DDC policies and all applicable regulations that pertain to construction safety.
- Maintains documentation and periodically attends weekly safety meetings and daily safety job briefings.
- Notifies the Construction Safety Unit and the ACCO's Insurance and Risk Management Unit of project-related accidents and emergencies, as per DDC's Construction Safety Emergency and Accident Notification and Response Protocol.
- Gathers facts related to all accidents and prepares DDC Construction Accident Report.

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- Notifies the Construction Safety Unit within two (2) hours of the start of an inspection by any outside regulatory agency personnel, including OSHA, NYC DOB or others and forwards a copy of the inspection report within three days of its receipt.
- Monitors the conditions at the site for conformance with the contractor's Site Safety Plan and DDC construction documents.
- Notifies the contractor and DDC in the event that any condition or activity exists that 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.
- Notifies DDC of any unsafe or unhealthy condition and directs the contractor to provide such labor, materials, equipment and supervision to abate such conditions.
- Escort and assist QA&CS Construction Safety Auditors during the field and record inspections.
- Reports emergency conditions to the Construction Safety Unit immediately.

**B. Contractors**

- Submit a completed Safety Questionnaire and other safety performance related documentation with its bid or as part of a pre-qualification package.
- Complete a written Job Hazard Analysis (JHA) that identifies safety hazards for project specific work tasks and hazard control methods. A written JHA shall be available at the site for reference and included in the Site Safety Plan submitted by the contractor.
- Submit a Site Safety Plan and Safety Program within 30 days from the Award Date or as otherwise directed. The Site Safety Plan and Safety Program are subject to review and acceptance by the Construction Safety Unit prior to the commencement of work at the site. The Site Safety Plan shall be revised and updated as necessary.
- Develop project specific safety procedures to protect general public during all construction activities for the duration of the project.
- 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 weekly safety meetings and daily job briefing sessions for the duration of the project. Documentation to be provided to the RE/CPM on a monthly basis.
- Name the Project Safety Representative and Project Safety Manager, if required. The Contractor will be required to identify the Project Safety Representative and Project Safety Manager in the Site Safety Plan. Resumes, outlining the qualification and experience for the Project Safety Representative and Project Safety Manager, shall be available upon request. DDC reserves the right to request that the Contractor replace any Project Safety Representative or Project Safety Manager for any reason at any time during the project.
- Name a Competent Person(s), The Contractor will be required to identify a Competent Person(s) in the Site Safety Plan.
- Comply with all mandated federal, state and local safety and health rules and regulations.
- Comply with all provisions of the Site Safety Plan.
- Conduct applicable safety training prior to the commencement of work at the site. All training records (OSHA 10-hour, flagger, scaffold, fall protection, confined space entry, etc.) shall be provided to the RE/CPM prior to mobilization, included in the Site Safety Plan, kept current during the course of the project, and available for review. Prior to performing any work on DDC project all employees shall have successfully completed, within the previous five calendar years, a 10 Hour OSHA construction safety course.
- As part of the Site Safety Plan, prepare a site specific programs and plans, such as MPT plan, steel erection plan, confined space program, fall protection plan, demolition plan, etc. (if not otherwise provided in the contract documents) and comply with all of its provisions.
- Conduct and document site-specific safety orientation for Contractor personnel to review the hazards associated with the project as identified in the Site Safety Plan and the specific safety procedures and



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controls that will be used to protect workers, the general public and property. The Project Safety Representative and/or Project Safety Manager will conduct this training prior to mobilization and provide documentation to the RE/CPM.

- 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.).
- Report unsafe or unhealthy conditions to the RE/CPM as soon as practical, but no more than 24 hours after discovery, and take prompt actions to remove or abate such conditions.
- Report any accidents involving injuries to workers or the general public, as well as property damage, to the RE/CPM within one (1) hour.
- Following an accident, the Contractor shall not remove or alter any equipment, structure, material, or evidence related to the accident. 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.
- Notify the RE/CPM within one (1) hour of the start of an inspection by any outside regulatory agency personnel, including OSHA, NYC DOB or others.
- Maintain all records pertaining to all required compliance documents and accident and injury reports.
- Address DDC recommendations on safety, which shall 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 must 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 must 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 safety program and site safety plan submittals; etc.)
- Criteria 6: OSHA violation history for the last three (3) years;
- Criteria 7: Contractor shall 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 Construction Safety Unit 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. SAFETY PROGRAM AND SITE SAFETY PLAN

Within thirty (30) days from the Award Date, or as otherwise directed, the Contractor shall submit the following: (1) Safety Program, and (2) Site Safety Plan. The Safety Program shall set forth the Contractor's overall safety policy, regulatory compliance plan and minimum safety standards. The Site Safety Plan shall 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 Safety Program and the Site Safety Plan are subject to review and acceptance by the Construction Safety Unit prior to the commencement of work at the site. Failure by the Contractor to submit an acceptable Site Safety Plan and Safety Program shall be grounds for default.

**Safety Program:** Corporate Safety Program established by the Contractor that includes the Contractor's overall safety policy, regulatory compliance plan and basic safety procedures covering all aspects of construction operations, performed by the Contractor. The Safety Program shall be a written document with a separate section describing each element of the Safety Program. The Safety Program shall have at minimum the following elements applicable to the Contractor's operations:

- Responsibility and Organization – Contractor's company organization chart, including titles, names, contact information, roles and responsibilities for key personnel, etc.
- Safety Training Program – Contractor's corporate training program.
- Hazard Corrective Actions – Criteria for safety inspections, identification of safety non-compliances, implementation and verification of corrective actions, forms to document safety inspections results, etc.
- Accident/Exposure Investigation
- Recordkeeping and Reporting Injuries – Responsible staff; reporting and recording criteria; OSHA 300 and 300A form completion, etc.
- Fire Protection and Prevention Program
- Housekeeping
- Illumination
- Sanitation
- Personal Protective Equipment (PPE) – Company policy for the use of head protection, foot protection, hearing protection, eye and face protection, protective clothing, and any additional protective equipment based on work tasks; PPE inspection and replacement policy.
- Hazard Communication Program
- Employee Emergency Action Plan
- Protection of Underground Facilities and Utilities
- Ionizing/Nonionizing Radiation
- Material Handling, Storage, Use and Disposal
- Tools – Hand and Power
- Signs, Signals, and Barricades
- Scaffold – Local Law 52 requirements, installation, use, inspection, dismantling, training and general safety requirements.
- Welding and Cutting
- Electrical Safety
- Fall Protection
- Cranes, Derrick, Hoists, Elevators, Conveyors
- Excavation Safety
- Concrete and Masonry Construction
- Maintenance and Protection of Traffic
- Steel Erection
- Demolition
- Blasting and the Use of Explosives
- Stairways and Ladders

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- Toxic and Hazardous Substances
- Alcohol and Drug Abuse Policy
- Rodents and Vermin
- Occupational Noise Exposure
- Confined Space Program – General confined Space Program: training requirements, confined space hazard evaluation procedure, atmospheric testing procedure, confined space classification, permit-required procedure, communication procedure, rescue procedure, forms, etc.
- Construction Vehicles/Heavy Equipment
- Dust Control Procedures

**Site Safety Plan:** The Site Safety Plan shall be a written document and shall apply to all project specific Contractor and subcontractor operations, and shall have at a minimum, the following elements with each element 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):

- Project Work Scope – Detailed information regarding work tasks that will be performed by contractor and subcontractors under the project.
- Responsibility and Organization – Contractor's organization chart with responsible staff for the project, including titles, names, contact information, roles and responsibilities.
- 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.
- Job Hazard Analysis (JHA) – Project specific Job Hazard Analysis including work tasks, identified hazards, hazard control methods (administrative, engineering, PPE), contractor's name, project id, location, name and signature of a certifying person, hazard assessment date.
- Protection of Public
- Hazard Corrective Actions – Responsible staff, forms, frequency of safety inspections and implementation of corrective actions.
- Accident/Exposure Investigation – Accident/incident notification procedure of DDC project staff. Project specific procedures for accident investigation and implementation of corrective actions.
- First Aid and Medical Attention – Responsible staff, location and inspection of First Aid kit, directions to local hospitals; emergency telephone numbers.
- Project Specific Fire Protection and Prevention Program.
- Project Specific Illumination Procedure.
- Project Specific Sanitation Procedure.
- Personal Protective Equipment (PPE)
- Hazard Communication Program – Responsible staff; training; SDS records, project specific list of chemical; location of the program and SDS records.
- 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.
- Employee Emergency Action Plan – Project specific: responsible staff, emergency alarm system, evacuation procedure, procedure to account for employees after evacuation, etc.
- Evacuation Plan – Project specific evacuation plan (drawing/scheme) with exists and evacuation routes.
- Protection of Underground Facilities and Utilities, including responsible staff.
- Ionizing/Nonionizing Radiation – Competent person, license and qualification requirements, type of radiation, employees exposure and protection, etc.
- Material Handling, Storage, Use and Disposal – Project specific information regarding material storage and disposal.
- Signs, Signals, and Barricades – Use of danger/warning signs, sidewalk closure, safety instruction signs, pedestrian fencing and barricades, etc.
- Scaffold – Project specific scaffold types, training, scaffold drawings, competent person, criteria for project specific scaffold, falling object protection.

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- 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, FDNY certificate requirements.
- Fall Protection – Project specific information regarding selected fall protection systems, fall protection plan.
- 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.
- Excavation Safety – Competent person, project specific protective system.
- Maintenance and Protection of Traffic Plan – Project specific MPT plan, flagmen training.
- Steel Erection – Site specific erection plan, requirements for applicable written notifications, competent person.
- 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.
- Blasting and the Use of Explosives – Project specific safety procedures, warning signs, training/qualification, transportation, storage and use of explosives, inspection.
- Toxic and Hazardous Substances – Safety procedures for substances to be used on project.
- Noise Mitigation Plan – Completed project specific Noise Mitigation Plan.
- Confined Space Program – Project specific Confined Space Program, responsible staff, training records, equipment information, rescue procedure, list of project specific confined spaces, forms.
- Construction Vehicles/Heavy Equipment – Type of construction vehicles/heavy equipment to be used on site.
- Dust Mitigation Plan – Completed project specific Dust Mitigation Plan.

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 must conduct a site and task assessment JHA to identify the major job steps 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 shall be communicated to all contractor/subcontractor personnel on site.

The initial Job Hazard Assessment form shall be included in the contractor's Site Safety Plan and the current form shall be available at the construction site for reference.

Certain DDC programs, such as Job Order Contracting System (JOCS), may not necessarily require Site Safety Plans. The JOCS contractor shall submit a Safety Program. The Site Safety Plan requirement for the JOCS contractor will be determined by QA&CS based on a project work scope, construction activities and project location. In addition, certain DDC Operating Units may establish client-specific program or safety requirements. The contractor's Site Safety Plan must address such client-specific program or safety requirements.

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

RE/CPM shall invite QA&CS Construction Safety Unit to the construction kick-off meeting. A QA&CS representative will participate in this meeting with the Contractor and RE/CPM prior to the start of the project for the purpose of:

- A. Reviewing the safety issues detailed in the contract.
- B. Reviewing the Site Safety Plan.
- C. Reviewing any new issues or information that was not previously addressed.
- D. Discussing planned inspections and audits of the site by QA&CS personnel.

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**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 Construction Safety Unit or other designated DDC representative or Consultant during regular, unannounced inspections of the job site. Field Exit Conferences will be held with the RE/CPM, Contractor Project Safety Representatives.
- B. The RE/CPM will continually monitor the safety and environmental performance of the contractor's employees and work methods. Deficiencies shall be brought to the attention of the contractor's representative on site for immediate correction. The DDC representative will maintain a written record of these deficiencies and have these records available upon request. Any critical deficiencies shall be immediately reported to QA&CS phone# (718) 391-1624 or (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 - QA&CS, or his/her designee will meet with the Contractor's Project Safety Representative and or Project Safety Manager, the DDC Project Manager, the RE/CPM, 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 to occur with inadequate attention by the contractor, this shall, among other remedies available, be grounds for default.
- E. The contractor shall within 1 hour inform the RE/CPM/CM of all accidents/incidents 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/CPM shall notify the Construction Safety Unit as per DDC's Construction Safety Emergency and Accident Notification and Response Protocol and shall maintain a record of all contractor accidents/incidents for the project.
- F. The Construction Safety Unit shall be notified 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 shall be a reason to rate a Contractor unsatisfactory which may be reflected in the City's Vendex system and will be considered for future procurement actions as set forth in the City's Procurement Policy Board Rules.

# NOTICE TO BIDDERS

The City of New York has issued a new Standard Construction Contract. The new Contract, which is incorporated in this bid, is different from the 2013 version previously used by the City. Some of the significant changes are listed below. In addition, this March 2017 version incorporates the Insurance Rider (Articles 22.1.1(c) and 22.3.3), the Paid Sick Leave Law Contract Rider (Article 35.5), and the Hiring and Employment Rider: HireNYC and Reporting Requirements (Article 35.6). This notice is only a partial listing. Please refer to the Contract itself for a full understanding of the changes and the actual text of the changes that were made. The text of the revised Standard Construction Contract is the controlling document if there are any discrepancies between this notice and the Standard Construction Contract.

**Significant changes include the following:**

- **ARTICLE 11 - DAMAGES CAUSED BY DELAYS:** Article 11 no longer provides for agencies to make determinations on claims for damages for delay or make payments for those claims through a change order. Instead claims will be submitted to the Comptroller in accordance with the standards in the Contract. The revised Article 11 also sets forth additional detail of what delay costs are compensable and how they are to be calculated.
- **ARTICLE 12 - COORDINATION WITH OTHER CONTRACTORS:** The March 2017 version revises Article 12.3 concerning the Engineer's failure to issue directions to an Other Contractor.
- **ARTICLE 14 - COMPLETION AND FINAL ACCEPTANCE OF THE WORK:** The March 2017 version clarifies Article 14.2.2 concerning the dates to complete punch list work.
- **ARTICLE 30 - NOTICE AND DOCUMENTATION OF COSTS AND DAMAGES; PRODUCTION OF FINANCIAL RECORDS:** The March 2017 version clarifies the relationship between the requirements in Article 30.1 concerning when the contractor must submit notice and documentation of claims for delay damages, extra work, and other claims and the requirements that are set forth in Articles 11 and 27.
- **ARTICLE 56 - CLAIMS AND ACTIONS THEREON:** The March 2017 version revises Article 56.2.2 concerning the time to commence an action arising out of the Commissioner's exercise of his/her right to complete punch list or unsatisfactory work.
- **ARTICLE 78 - EXAMINATION AND VIEWING OF SITE, CONSIDERATION OF OTHER SOURCES OF INFORMATION AND CHANGED SITE CONDITIONS:** The March 2017 version adds a new Article 78 requiring pre-bid viewing of the site and allowing the contractor to obtain a change order for extra work due to changed subsurface conditions.

**CITY OF NEW YORK**  
**STANDARD CONSTRUCTION CONTRACT**

**March 2017**

**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](http://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](http://www.nyc.gov/pip).<sup>1</sup> 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

<sup>1</sup> 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](http://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](mailto: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.<sup>2</sup> 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").

<sup>2</sup> 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 PSLL and the Rules, and as amended, if applicable, in the performance of this **Contract**. The **Contractor** further acknowledges that such compliance is a material term of this **Contract** and that failure to comply with the PSLL in performance of this **Contract** may result in its termination.

35.5.1(d) The **Contractor** must notify the **Agency Chief Contracting Officer** of the **Agency** with whom it is contracting in writing within ten (10) days of receipt of a complaint (whether oral or written) regarding the PSLL involving the performance of this **Contract**. Additionally, the **Contractor** must cooperate with DCA's education efforts and must comply with DCA's subpoenas and other document demands as set forth in the PSLL and Rules.

35.5.1(e) The PSLL is summarized below for the convenience of the **Contractor**. The **Contractor** is advised to review the PSLL and Rules in their entirety. On the website [www.nyc.gov/PaidSickLeave](http://www.nyc.gov/PaidSickLeave) there are links to the PSLL and the associated Rules as well as additional resources for employers, such as Frequently Asked Questions, timekeeping tools and model forms, and an event calendar of upcoming presentations and webinars at which the **Contractor** can get more information about how to comply with the PSLL. The **Contractor** acknowledges that it is responsible for compliance with the PSLL notwithstanding any inconsistent language contained herein.

#### 35.5.2 Pursuant to the PSLL and the Rules: Applicability, Accrual, and Use.

35.5.2(a) An employee who works within the City of New York for more than eighty hours in any consecutive 12-month period designated by the employer as its "calendar year" pursuant to the PSLL ("Year") must be provided sick time. Employers must provide a minimum of one hour of sick time for every 30 hours worked by an employee and compensation for such sick time must be provided at the greater of the employee's regular hourly rate or the minimum wage. Employers are not required to provide more than 40 hours of sick time to an employee in any Year.

35.5.2(b) An employee has the right to determine how much sick time he or she will use, provided that employers may set a reasonable minimum increment for the use of sick time not to exceed four hours per **Day**. In addition, an employee may carry over up to 40 hours of unused sick time to the following Year, provided that no employer is required to allow the use of more than forty hours of sick time in a Year or carry over unused paid sick time if the employee is paid for such unused sick time and the employer provides the employee with at least the legally required amount of paid sick time for such employee for the immediately subsequent Year on the first **Day** of such Year.

35.5.2(c) An employee entitled to sick time pursuant to the PSLL may use sick time for any of the following:

- i. such employee's mental illness, physical illness, injury, or health condition or the care of such illness, injury, or condition or such employee's need for medical diagnosis or preventive medical care;
- ii. such employee's care of a family member (an employee's child, spouse, domestic partner, parent, sibling, grandchild or grandparent, or the child or parent of an employee's spouse or domestic partner) who has a mental

- illness, physical illness, injury or health condition or who has a need for medical diagnosis or preventive medical care;
- iii. closure of such employee's place of business by order of a public official due to a public health emergency; or
  - iv. such employee's need to care for a child whose school or childcare provider has been closed due to a public health emergency.

35.5.2(d) An employer must not require an employee, as a condition of taking sick time, to search for a replacement. However, an employer may require an employee to provide: reasonable notice of the need to use sick time; reasonable documentation that the use of sick time was needed for a reason above if for an absence of more than three consecutive work days; and/or written confirmation that an employee used sick time pursuant to the PSL. 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 PSL 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 PSL 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 PSL 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 PSL 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 PSL. In addition, an employer may not interfere with any investigation, proceeding, or hearing pursuant to the PSL.

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 PSL. 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 PSL 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 PSL.

35.5.7 Enforcement and Penalties.

35.5.7(a) Upon receiving a complaint alleging a violation of the PSL, 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 PSL 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 PSL 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 PSL 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](http://www.nyc.gov/sbs), within thirty (30) days after the registration of this **Contract** pursuant to Section 328 of the New York City Charter. The **Contractor** shall provide information about the business, designate a primary contact and say whether it intends to hire for any entry to mid-level job opportunities arising from this **Contract** and located in New York City, and, if so, the approximate start date of the first hire.

35.6.2 Job Posting Requirements.

35.6.2(a) Once enrolled in HireNYC, the **Contractor** agrees to update the HireNYC portal with all entry to mid-level job opportunities arising from this **Contract** and located in New York City, if any, which shall be defined as jobs requiring no more than an associate degree, as provided by the New York State Department of Labor (see Column F of <https://labor.ny.gov/stats/2012-2022-NYS-Employment-Prospects.xls>). The information to be updated includes the types of entry and mid-level positions made available from the work arising from the **Contract** and located in New York City, the number of positions, the anticipated schedule of initiating the hiring process for these positions, and the contact information for the **Contractor's** representative charged with overseeing hiring. The **Contractor** must update the HireNYC portal with any hiring needs arising from the contract and located in New York City, and the requirements of the jobs to be filled, no less than three weeks prior to the intended first day of employment for each new position, except with the permission of SBS, not to be unreasonably withheld, and must also update the HireNYC portal as set forth below.

35.6.2(b) After enrollment through HireNYC and submission of relevant information, SBS will work with the **Contractor** to develop a recruitment plan which will outline the candidate screening process, and will provide clear instructions as to when, where, and how interviews will take place. HireNYC will screen applicants based on employer requirements and refer applicants whom it believes are qualified to the **Contractor** for interviews. The **Contractor** must interview referred applicants whom it believes are qualified.

35.6.2(c) After completing an interview of a candidate referred by HireNYC, the **Contractor** must provide feedback via the portal within twenty (20) business days to indicate which candidates were interviewed and hired, if any. In addition, the **Contractor** shall provide the start date of new hires, and additional information

reasonably related to such hires, within twenty (20) business days after the start date. In the event the **Contractor** does not have any job openings covered by this Rider in any given year, the **Contractor** shall be required to provide an annual update to HireNYC to that effect. For this purpose, the reporting year shall run from the date of the registration of the **Contract** pursuant to Charter section 328 and each anniversary date.

35.6.2(d) These requirements do not limit the **Contractor's** ability to assess the qualifications of prospective workers, and to make final hiring and retention decisions. No provision of this Article 35.6 shall be interpreted so as to require the **Contractor** to employ any particular worker.

35.6.2(e) In addition, the provisions of this Article 35.6 shall not apply to positions that the **Contractor** intends to fill with employees employed pursuant to the job retention provision of Section 22-505 of the Administrative Code of the City of New York. The **Contractor** shall not be required to report such openings with HireNYC. However, the **Contractor** shall enroll with the HireNYC system pursuant to Article 35.6.1, above, and, if such positions subsequently become open, then the remaining provisions of this Article 35.6 will apply.

35.6.3 Breach and Liquidated Damages. If the **Contractor** fails to comply with the terms of the **Contract** and this Article 35.6 (1) by not enrolling its business with HireNYC; (2) by not informing HireNYC, as required, of open positions; or (3) by failing to interview a qualified candidate, the **Agency** may assess liquidated damages in the amount of two-thousand five hundred dollars (\$2,500) per breach. For all other events of noncompliance with the terms of this Article 35.6, the **Agency** may assess liquidated damages in the amount of five hundred dollars (\$500) per breach. Furthermore, in the event the **Contractor** breaches the requirements of this Article 35.6 during the term of the **Contract**, the **City** may hold the **Contractor** in default of this **Contract**.

35.6.4 Audit Compliance. In addition to the auditing requirements set forth in other parts of the **Contract**, the **Contractor** shall permit SBS and the **City** to inspect any and all records concerning or relating to job openings or the hiring of individuals for work arising from the **Contract** and located in New York City. The **Contractor** shall permit an inspection within seven (7) business days of the request.

35.6.5 Other Reporting Requirements. The **Contractor** shall report to the **City**, on a monthly basis, all information reasonably requested by the **City** that is necessary for the **City** to comply with any reporting requirements imposed by **Law**, including any requirement that the **City** maintain a publicly accessible database. In addition, the **Contractor** agrees to comply with all reporting requirements imposed by **Law**, or as otherwise requested by the **City**.

35.6.6 Federal Hiring Requirements. If this **Contract** is federally funded (as indicated elsewhere in this **Contract**), the **Contractor** shall comply with all federal hiring requirements as may be set forth in this **Contract**, including, as applicable: (a) Section 3 of the HUD Act of 1968, which requires, to the greatest extent feasible, economic opportunities for 30 percent of new hires be given to low- and very low-income persons, particularly persons who are recipients of HUD assistance for housing and Executive Order 11246, which prohibits discrimination in employment due to race, color, religion, sex or national origin, and requires the implementation of goals for minority and female participation for work involving any construction trade.

## ARTICLE 36. NO DISCRIMINATION

36.1 The **Contractor** specifically agrees, as required by Labor Law Section 220-e, as amended, that:

36.1.1 In the hiring of employees for the performance of **Work** under this **Contract** or any subcontract hereunder, neither the **Contractor**, **Subcontractor**, nor any person acting on behalf of such **Contractor** or **Subcontractor**, shall by reason of race, creed, color or national origin discriminate against any citizen of the State of New York who is qualified and available to perform the **Work** to which the employment relates;

36.1.2 Neither the **Contractor**, **Subcontractor**, nor any person on its behalf shall, in any manner, discriminate against or intimidate any employee hired for the performance of **Work** under this **Contract** on account of race, creed, color or national origin;

36.1.3 There may be deducted from the amount payable to the **Contractor** by the **City** under this **Contract** a penalty of fifty (\$50.00) dollars for each person for each **Day** during which such person was discriminated against or intimidated in violation of the provisions of this **Contract**; and

36.1.4 This **Contract** may be cancelled or terminated by the **City** and all moneys due or to become due hereunder may be forfeited, for a second or any subsequent violation of the terms or conditions of this Article 36.

36.1.5 This Article 36 covers all construction, alteration and repair of any public building or public work occurring in the State of New York and the manufacture, sale, and distribution of materials, equipment, and supplies to the extent that such operations are performed within the State of New York pursuant to this **Contract**.

36.2 The **Contractor** specifically agrees, as required by Section 6-108 of the Administrative Code, as amended, that:

36.2.1 It shall be unlawful for any person engaged in the construction, alteration or repair of buildings or engaged in the construction or repair of streets or highways pursuant to a **Contract** with the **City** or engaged in the manufacture, sale or distribution of materials, equipment or supplies pursuant to a **Contract** with the **City** to refuse to employ or to refuse to continue in any employment any person on account of the race, color or creed of such person.

36.2.2 It shall be unlawful for any person or any servant, agent or employee of any person, described in Article 36.1.2, to ask, indicate or transmit, orally or in writing, directly or indirectly, the race, color or creed or religious affiliation of any person employed or seeking employment from such person, firm or corporation.

36.2.3 Breach of the foregoing provisions shall be deemed a violation of a material provision of this **Contract**.

36.2.4 Any person, or the employee, manager or owner of or officer of such firm or corporation who shall violate any of the provisions of this Article 36.2 shall, upon

conviction thereof, be punished by a fine of not more than one hundred (\$100.00) dollars or by imprisonment for not more than thirty (30) **Days**, or both.

36.3 This **Contract** is subject to the requirements of Executive Order No. 50 (1980) ("E.O. 50"), as revised, and the rules and regulations promulgated thereunder. No contract will be awarded unless and until these requirements have been complied with in their entirety. By signing this **Contract**, the **Contractor** agrees that it:

36.3.1 Will not engage in any unlawful discrimination against any employee or applicant for employment because of race, creed, color, national origin, sex, age, disability, marital status or sexual orientation with respect to all employment decisions including, but not limited to, recruitment, hiring, upgrading, demotion, downgrading, transfer, training, rates of pay or other forms of compensation, layoff, termination, and all other terms and conditions of employment; and

36.3.2 Will not engage in any unlawful discrimination in the selection of **Subcontractors** on the basis of the owner's race, color, creed, national origin, sex, age, disability, marital status or sexual orientation; and

36.3.3 Will state in all solicitations or advertisements for employees placed by or on behalf of the **Contractor** that all qualified applicants will receive consideration for employment without unlawful discrimination based on race, creed, color, national origin, sex, age, citizens status, disability, marital status, sexual orientation, or that it is an equal employment opportunity employer; and

36.3.4 Will send to each labor organization or representative of workers with which it has a collective bargaining agreement or other contract or memorandum of understanding, written notification of its equal employment opportunity commitments under E.O. 50 and the rules and regulations promulgated thereunder; and

36.3.5 Will furnish, before the award of the **Contract**, all information and reports, including an employment report, that are required by E.O. 50, the rules and regulations promulgated thereunder, and orders of the City Department of Business Services, Division of Labor Services (**DLS**) and will permit access to its books, records, and accounts by the **DLS** for the purposes of investigation to ascertain compliance with such rules, regulations, and orders.

36.4 The **Contractor** understands that in the event of its noncompliance with the nondiscrimination clauses of this **Contract** or with any of such rules, regulations, or orders, such noncompliance shall constitute a material breach of this **Contract** and noncompliance with E.O. 50 and the rules and regulations promulgated thereunder. After a hearing held pursuant to the rules of the **DLS**, the Director of the **DLS** may direct the **Commissioner** to impose any or all of the following sanctions:

36.4.1 Disapproval of the **Contractor**; and/or

36.4.2 Suspension or termination of the **Contract**; and/or

36.4.3 Declaring the **Contractor** in default; and/or

36.4.4 In lieu of any of the foregoing sanctions, the Director of the **DLS** may impose an employment program.

In addition to any actions taken under this **Contract**, failure to comply with E.O. 50 and the rules and regulations promulgated thereunder, in one or more instances, may result in a **City Agency** declaring the **Contractor** to be non-responsible in future procurements. The **Contractor** further agrees that it will refrain from entering into any **Contract** or **Contract** modification subject to E.O. 50 and the rules and regulations promulgated thereunder with a **Subcontractor** who is not in compliance with the requirements of E.O. 50 and the rules and regulations promulgated thereunder.

36.5 The **Contractor** specifically agrees, as required by Section 6-123 of the Administrative Code, that:

36.5.1 The **Contractor** will not engage in any unlawful discriminatory practice in violation of Title 8 of the Administrative Code; and

36.5.2 Any failure to comply with this Article 36.5 may subject the **Contractor** to the remedies set forth in Section 6-123 of the Administrative Code, including, where appropriate, sanctions such as withholding of payment, imposition of an employment program, finding the **Contractor** to be in default, cancellation of the **Contract**, or any other sanction or remedy provided by Law or **Contract**.

### **ARTICLE 37. LABOR LAW REQUIREMENTS**

37.1 The **Contractor** shall strictly comply with all applicable provisions of the Labor Law, as amended. Such compliance is a material term of this **Contract**.

37.2 The **Contractor** specifically agrees, as required by Labor Law Sections 220 and 220-d, as amended, that:

37.2.1 **Hours of Work:** No laborer, worker, or mechanic in the employ of the **Contractor**, **Subcontractor** or other person doing or contracting to do the whole or a part of the **Work** contemplated by this **Contract** shall be permitted or required to work more than eight (8) hours in any one (1) **Day**, or more than five (5) **Days** in any one (1) week, except as provided in the Labor Law and in cases of extraordinary emergency including fire, flood, or danger to life or property, or in the case of national emergency when so proclaimed by the President of the United States of America.

37.2.2 In situations in which there are not sufficient laborers, workers, and mechanics who may be employed to carry on expeditiously the **Work** contemplated by this **Contract** as a result of such restrictions upon the number of hours and **Days** of labor, and the immediate commencement or prosecution or completion without undue delay of the **Work** is necessary for the preservation of the **Site** and/or for the protection of the life and limb of the persons using the same, such laborers, workers, and mechanics shall be permitted or required to work more than eight (8) hours in any one (1) **Day**; or five (5) **Days** in any one (1) week; provided, however, that upon application of any **Contractor**, the **Commissioner** shall have first certified to the Commissioner of Labor of the State of New York (hereinafter "Commissioner of Labor") that such public **Work** is of an important nature and that a delay in carrying it to completion would result in serious disadvantage to the public; and provided, further, that such Commissioner of Labor shall have determined that such an emergency does in fact exist as provided in Labor Law Section 220.2.

37.2.3 Failure of the **Commissioner** to make such a certification to the Commissioner of Labor shall not entitle the **Contractor** to damages for delay or for any cause whatsoever.

37.2.4 Prevailing Rate of Wages: The wages to be paid for a legal day's **Work** to laborers, workers, or mechanics employed upon the **Work** contemplated by this **Contract** or upon any materials to be used thereon shall not be less than the "prevailing rate of wage" as defined in Labor Law Section 220, and as fixed by the **Comptroller** in the attached Schedule of Wage Rates and in updated schedules thereof. The prevailing wage rates and supplemental benefits to be paid are those in effect at the time the **Work** is being performed.

37.2.5 Requests for interpretation or correction in the Information for Bidders includes all requests for clarification of the classification of trades to be employed in the performance of the **Work** under this **Contract**. In the event that a trade not listed in the **Contract** is in fact employed during the performance of this **Contract**, the **Contractor** shall be required to obtain from the **Agency** the prevailing wage rates and supplementary benefits for the trades used and to complete the performance of this **Contract** at the price at which the **Contract** was awarded.

37.2.6 Minimum Wages: Except for employees whose wage is required to be fixed pursuant to Labor Law Section 220, all persons employed by the **Contractor** and any **Subcontractor** in the manufacture or furnishing of the supplies, materials, or equipment, or the furnishing of work, labor, or services, used in the performance of this **Contract**, shall be paid, without subsequent deduction or rebate unless expressly authorized by **Law**, not less than the sum mandated by **Law**.

37.3 Working Conditions: No part of the **Work**, labor or services shall be performed or rendered by the **Contractor** in any plants, factories, buildings or surroundings or under working conditions which are unsanitary or hazardous or dangerous to the health and safety of employees engaged in the performance of this **Contract**. Compliance with the safety, sanitary, and factory inspection **Laws** of the state in which the **Work** is to be performed shall be prima facie evidence of compliance with this Article 37.3.

37.4 Prevailing Wage Enforcement: The **Contractor** agrees to pay for all costs incurred by the **City** in enforcing prevailing wage requirements, including the cost of any investigation conducted by or on behalf of the **Agency** or the **Comptroller**, where the **City** discovers a failure to comply with any of the requirements of this Article 37 by the **Contractor** or its **Subcontractor(s)**. The **Contractor** also agrees that, should it fail or refuse to pay for any such investigation, the **Agency** is hereby authorized to deduct from a **Contractor's** account an amount equal to the cost of such investigation.

37.4.1 The Labor Law Section 220 and Section 220-d, as amended, provide that this **Contract** shall be forfeited and no sum paid for any **Work** done hereunder on a second conviction for willfully paying less than:

37.4.1(a) The stipulated prevailing wage scale as provided in Labor Law section 220, as amended, or

37.4.1(b) The stipulated minimum hourly wage scale as provided in Labor Law section 220-d, as amended.

37.4.2 For any breach or violation of either working conditions (Article 37.3) or minimum wages (Article 37.2.6) provisions, the party responsible therefor shall be liable to the **City** for liquidated damages, which may be withheld from any amounts due on any contracts with the **City** of such party responsible, or may be recovered in actions brought by the **City**

Corporation Counsel in the name of the **City**, in addition to damages for any other breach of this **Contract**, for a sum equal to the amount of any underpayment of wages due to any employee engaged in the performance of this **Contract**. In addition, the **Commissioner** shall have the right to cancel contracts and enter into other contracts for the completion of the original contract, with or without public letting, and the original **Contractor** shall be liable for any additional cost. All sums withheld or recovered as deductions, rebates, refunds, or underpayment of wages hereunder, shall be held in a special deposit account and shall be paid without interest, on order of the **Comptroller**, directly to the employees who have been paid less than minimum rates of pay as set forth herein and on whose account such sums were withheld or recovered, provided that no claims by employees for such payments shall be entertained unless made within two (2) years from the date of actual notice to the **Contractor** of the withholding or recovery of such sums by the **City**.

37.4.3 A determination by the **Comptroller** that a **Contractor** and/or its **Subcontractor** willfully violated Labor Law Section 220 will be forwarded to the **City's** five District Attorneys for review.

37.4.4 The **Contractor's** or **Subcontractor's** noncompliance with this Article 37.4 and Labor Law Section 220 may result in an unsatisfactory performance evaluation and the **Comptroller** may also find and determine that the **Contractor** or **Subcontractor** willfully violated the New York Labor Law.

37.4.4(a) An unsatisfactory performance evaluation for noncompliance with this Article 37.4 may result in a determination that the **Contractor** is a non-responsible bidder on subsequent procurements with the **City** and thus a rejection of a future award of a contract with the **City**, as well as any other sanctions provided for by Law.

37.4.4(b) Labor Law Section 220-b, as amended, provides that when two (2) final determinations have been rendered against a **Contractor** or **Subcontractor** within any consecutive six (6) year period determining that such **Contractor** or **Subcontractor** has willfully failed to pay the prevailing rate of wages or to provide supplements in accordance with the Labor Law and this Article 37.4, whether such failures were concurrent or consecutive and whether or not such final determinations concerning separate public works projects are rendered simultaneously, such **Contractor** or **Subcontractor** shall be ineligible to submit a bid on or be awarded any public works contract with the **City** for a period of five (5) years from the second final determination. If the final determination involves the falsification of payroll records or the kickback of wages or supplements, the **Contractor** or **Subcontractor** shall be ineligible to submit a bid on or be awarded any public works contract with the **City** for a period of five (5) years from the first final determination.

37.4.4(c) Labor Law Section 220, as amended, provides that the **Contractor** or **Subcontractor** found to have violated this Article 37.4 may be directed to make payment of wages or supplements including interest found to be due, and the **Contractor** or **Subcontractor** may be directed to make payment of a further sum as a civil penalty in an amount not exceeding twenty-five (25%) percent of the total amount found to be due.

37.5 The **Contractor** and its **Subcontractors** shall within ten (10) **Days** after mailing of a Notice of Award or written order, post in prominent and conspicuous places in each and every plant, factory, building, and structure where employees of the **Contractor** and its **Subcontractors** engaged in the

performance of this **Contract** are employed, notices furnished by the **City**, in relation to prevailing wages and supplements, minimum wages, and other stipulations contained in Sections 220 and 220-h of the Labor Law, and the **Contractor** and its **Subcontractors** shall continue to keep such notices posted in such prominent and conspicuous places until **Final Acceptance** of the supplies, materials, equipment, or **Work**, labor, or services required to be furnished or rendered under this **Contract**.

37.6 The **Contractor** shall strictly comply with all of the provisions of Articles 37.6.1 through 37.6.5, and provide for all workers, laborers or mechanics in its employ, the following:

37.6.1 **Notices Posted At Site:** Post, in a location designated by the **City**, schedules of prevailing wages and supplements for this **Project**, a copy of all re-determinations of such schedules for the **Project**, the Workers' Compensation Law Section 51 notice, all other notices required by Law to be posted at the **Site**, the **City** notice that this **Project** is a public works project on which each worker is entitled to receive the prevailing wages and supplements for the occupation at which he or she is working, and all other notices which the **City** directs the **Contractor** to post. The **Contractor** shall provide a surface for such notices which is satisfactory to the **City**. The **Contractor** shall maintain and keep current such notices in a legible manner and shall replace any notice or schedule which is damaged, defaced, illegible or removed for any reason. The **Contractor** shall post such notices before commencing any **Work** on the **Site** and shall maintain such notices until all **Work** on the **Site** is complete; and

37.6.2 **Daily Site Sign-in Sheets:** Maintain daily **Site** sign-in sheets, and require that **Subcontractors** maintain daily **Site** sign-in sheets for its employees, which include blank spaces for an employee's name to be both printed and signed, job title, date started and Social Security number, the time the employee began work and the time the employee left work, until **Final Acceptance** of the supplies, materials, equipment, or **Work**, labor, or services to be furnished or rendered under this **Contract** unless exception is granted by the **Comptroller** upon application by the **Agency**. In the alternative, subject to the approval of the **CCPO**, the **Contractor** and **Subcontractor** may maintain an electronic or biometric sign-in system, which provides the information required by this Article 37.6.2; and

37.6.3 **Individual Employee Information Notices:** Distribute a notice to each worker, laborer or mechanic employed under this **Contract**, in a form provided by the **Agency**, that this **Project** is a public works project on which each worker, laborer or mechanic is entitled to receive the prevailing rate of wages and supplements for the occupation at which he or she is working. If the total cost of the **Work** under this **Contract** is at least two hundred fifty thousand (\$250,000) dollars, such notice shall also include a statement that each worker, laborer or mechanic must be certified prior to performing any **Work** as having successfully completed a course in construction safety and health approved by the United States Department of Labor's Occupational Safety and Health Administration that is at least ten (10) hours in duration. Such notice shall be distributed to each worker before he or she starts performing any **Work** of this **Contract** and with the first paycheck after July first of each year. "Worker, laborer or mechanic" includes employees of the **Contractor** and all **Subcontractors** and all employees of suppliers entering the **Site**. At the time of distribution, the **Contractor** shall have each worker, laborer or mechanic sign a statement, in a form provided by the **Agency**, certifying that the worker has received the notice required by this Article 37.6.3, which signed statement shall be maintained with the payroll records required by this **Contract**; and

37.6.3(a) The **Contractor** and each **Subcontractor** shall notify each worker, laborer or mechanic employed under this **Contract** in writing of the prevailing rate of



wages for their particular job classification. Such notification shall be given to every worker, laborer, and mechanic on their first pay stub and with every pay stub thereafter; and

37.6.4 **Site Laminated Identification Badges:** The **Contractor** shall provide laminated identification badges which include a photograph of the worker's, laborer's or mechanic's face and indicate the worker's, laborer's or mechanic's name, trade, employer's name, and employment starting date (month/day/year). Further, the **Contractor** shall require as a condition of employment on the **Site**, that each and every worker, laborer or mechanic wear the laminated identification badge at all times and that it may be seen by any representative of the **City**. The **Commissioner** may grant a written waiver from the requirement that the laminated identification badge include a photograph if the **Contractor** demonstrates that the identity of an individual wearing a laminated identification badge can be easily verified by another method; and

37.6.5 **Language Other Than English Used On Site:** Provide the **ACCO** notice when three (3) or more employees (worker and/or laborer and/or mechanic) on the **Site**, at any time, speak a language other than English. The **ACCO** will then provide the **Contractor** the notices described in Article 37.6.1 in that language or languages as may be required. The **Contractor** is responsible for all distributions under this Article 37; and

37.6.6 **Provision of Records:** The **Contractor** and **Subcontractor(s)** shall produce within five (5) **Days** on the **Site** of the **Work** and upon a written order of the **Engineer**, the **Commissioner**, the **ACCO**, the **Agency EAO**, or the **Comptroller**, such records as are required to be kept by this Article 37.6; and

37.6.7 The **Contractor** and **Subcontractor(s)** shall pay employees by check or direct deposit. If this **Contract** is for an amount greater than one million (\$1,000,000) dollars, checks issued by the **Contractor** to covered employees shall be generated by a payroll service or automated payroll system (an in-house system may be used if approved by the **Agency**). For any subcontract for an amount greater than seven hundred fifty thousand (\$750,000) dollars, checks issued by a **Subcontractor** to covered employees shall be generated by a payroll service or automated payroll system (an in-house system may be used if approved by the **Agency**); and

37.6.8 The failure of the **Contractor** or **Subcontractor(s)** to comply with the provisions of Articles 37.6.1 through 37.6.7 may result in the **Commissioner** declaring the **Contractor** in default and/or the withholding of payments otherwise due under the **Contract**.

37.7 The **Contractor** and its **Subcontractors** shall keep such employment and payroll records as are required by Section 220 of the Labor Law. The failure of the **Contractor** or **Subcontractor(s)** to comply with the provisions of this Article 37.7 may result in the **Commissioner** declaring the **Contractor** in default and/or the withholding of payments otherwise due under the **Contract**.

37.8 At the time the **Contractor** makes application for each partial payment and for final payment, the **Contractor** shall submit to the **Commissioner** a written payroll certification, in the form provided by this **Contract**, of compliance with the prevailing wage, minimum wage, and other provisions and stipulations required by Labor Law Section 220 and of compliance with the training requirements of Labor Law Section 220-h set forth in Article 35.2. This certification of compliance shall be a condition precedent to payment and no payment shall be made to the **Contractor** unless and until each such certification shall have been submitted to and received by the **Commissioner**.

37.9 This **Contract** is executed by the **Contractor** with the express warranty and representation that the **Contractor** is not disqualified under the provisions of Section 220 of the Labor Law from the award of the **Contract**.

37.10 Any breach or violation of any of the foregoing shall be deemed a breach or violation of a material provision of this **Contract**, and grounds for cancellation thereof by the **City**.

### **ARTICLE 38. PAYROLL REPORTS**

38.1 The **Contractor** and its **Subcontractor(s)** shall maintain on the **Site** during the performance of the **Work** the original payrolls or transcripts thereof which the **Contractor** and its **Subcontractor(s)** are required to maintain and shall submit such original payrolls or transcripts, subscribed and affirmed by it as true, within thirty (30) **Days** after issuance of its first payroll, and every thirty (30) **Days** thereafter, pursuant to Labor Law Section 220(3-a)(a)(iii). The **Contractor** and **Subcontractor(s)** shall submit such original payrolls or transcripts along with each and every payment requisition. If payment requisitions are not submitted at least once a month, the **Contractor** and its **Subcontractor(s)** shall submit original payrolls and transcripts both along with its payment requisitions and independently of its payment requisitions.

38.2 The **Contractor** shall maintain payrolls or transcripts thereof for six (6) years from the date of completion of the **Work** on this **Contract**. If such payrolls and transcripts are maintained outside of New York City after the completion of the **Work** and their production is required pursuant to this Article 38, the **Contractor** shall produce such records in New York City upon request by the **City**.

38.3 The **Contractor** and **Subcontractor(s)** shall comply with any written order, direction, or request made by the **Engineer**, the **Commissioner**, the **ACCO**, the **Agency EAO**, the **Agency Labor Law Investigator(s)**, or the **Comptroller**, to provide to the requesting party any of the following information and/or records within five (5) **Days** of such written order, direction, or request:

38.3.1 Such original payrolls or transcripts thereof subscribed and affirmed by it as true and the statements signed by each worker pursuant to this Chapter VIII; and/or

38.3.2 Attendance sheets for each **Day** on which any employee of the **Contractor** and/or any of the **Subcontractor(s)** performed **Work** on the **Site**, which attendance sheet shall be in a form acceptable to the **Agency** and shall provide information acceptable to the **Agency** to identify each such employee; and/or

38.3.3 Any other information to satisfy the **Engineer**, the **Commissioner**, the **ACCO**, the **Agency EAO**, the **Agency Labor Law Investigator(s)** or the **Comptroller**, that this Chapter VIII and the Labor Law, as to the hours of employment and prevailing rates of wages and/or supplemental benefits, are being observed.

38.4 The failure of the **Contractor** or **Subcontractor(s)** to comply with the provisions of Articles 38.1 and/or 38.2 may result in the **Commissioner** declaring the **Contractor** in default and/or the withholding of payments otherwise due under the **Contract**.

### **ARTICLE 39. DUST HAZARDS**

39.1 Should a harmful dust hazard be created in performing the **Work** of this **Contract**, for the elimination of which appliances or methods have been approved by the Board of Standards and Appeals

of the City of New York, such appliances and methods shall be installed, maintained, and effectively operated during the continuance of such harmful dust hazard. Failure to comply with this provision after notice shall make this **Contract** voidable at the sole discretion of the **City**.

## **CHAPTER IX: PARTIAL AND FINAL PAYMENTS**

### **ARTICLE 40. CONTRACT PRICE**

40.1 The **City** shall pay, and the **Contractor** agrees to accept, in full consideration for the **Contractor's** performance of the **Work** subject to the terms and conditions hereof, the lump sum price or unit prices for which this **Contract** was awarded, plus the amount required to be paid for any **Extra Work** ordered by the **Commissioner** under Article 25, less credit for any **Work** omitted pursuant to Article 29.

### **ARTICLE 41. BID BREAKDOWN ON LUMP SUM**

41.1 Within fifteen (15) **Days** after the commencement date specified in the **Notice to Proceed** or **Order to Work**, unless otherwise directed by the **Resident Engineer**, the **Contractor** shall submit to the **Resident Engineer** a breakdown of its bid price, or of lump sums bid for items of the **Contract**, showing the various operations to be performed under the **Contract**, as directed in the progress schedule required under Article 9, and the value of each of such operations, the total of such items to equal the lump sum price bid. Said breakdown must be approved in writing by the **Resident Engineer**.

41.2 No partial payment will be approved until the **Contractor** submits a bid breakdown that is acceptable to the **Resident Engineer**.

41.3 The **Contractor** shall also submit such other information relating to the bid breakdown as directed by the **Resident Engineer**. Thereafter, the breakdown may be used only for checking the **Contractor's** applications for partial payments hereunder, but shall not be binding upon the **City**, the **Commissioner**, or the **Engineer** for any purpose whatsoever.

### **ARTICLE 42. PARTIAL PAYMENTS**

42.1 From time to time as the **Work** progresses satisfactorily, but not more often than once each calendar month (except where the **Commissioner** approves in writing the submission of invoices on a more frequent basis and for invoices relating to **Work** performed pursuant to a change order), the **Contractor** may submit to the **Engineer** a requisition for a partial payment in the prescribed form, which shall contain an estimate of the quantity and the fair value of the **Work** done during the payment period.

42.2 Partial payments may be made for materials, fixtures, and equipment in advance of their actual incorporation in the **Work**, as the **Commissioner** may approve, and upon the terms and conditions set forth in the General Conditions.

42.3 The **Contractor** shall also submit to the **Commissioner** in connection with every application for partial payment a verified statement in the form prescribed by the **Comptroller** setting forth the information required under Labor Law Section 220-a.

42.4 Within thirty (30) **Days** after receipt of a satisfactory payment application, and within sixty (60) **Days** after receipt of a satisfactory payment application in relation to **Work** performed pursuant to a change order, the **Engineer** will prepare and certify, and the **Commissioner** will approve, a voucher for a partial payment in the amount of such approved estimate, less any and all deductions authorized to be made by the **Commissioner** under the terms of this **Contract** or by **Law**.

#### **ARTICLE 43. PROMPT PAYMENT**

43.1 The Prompt Payment provisions of the **PPB** Rules in effect at the time of the bid will be applicable to payments made under this **Contract**. The provisions require the payment to the **Contractor** of interest on payments made after the required payment date, except as set forth in the **PPB** Rules.

43.2 The **Contractor** shall submit a proper invoice to receive payment, except where the **Contract** provides that the **Contractor** will be paid at predetermined intervals without having to submit an invoice for each scheduled payment.

43.3 Determination of interest due will be made in accordance with the **PPB** Rules.

43.4 If the **Contractor** is paid interest, the proportionate share(s) of that interest shall be forwarded by the **Contractor** to its **Subcontractor(s)**.

43.5 The **Contractor** shall pay each **Subcontractor** or **Materialman** not later than seven (7) **Days** after receipt of payment out of amounts paid to the **Contractor** by the **City** for **Work** performed by the **Subcontractor** or **Materialman** under this **Contract**.

43.5.1 If **Contractor** fails to make any payment to any **Subcontractor** or **Materialman** within seven (7) **Days** after receipt of payment by the **City** pursuant to this Article 43.5, then the **Contractor** shall pay interest on amounts due to such **Subcontractor** or **Materialman** at the rate of interest in effect on the date such payment is made by the **Contractor** computed in accordance with Section 756-b (1)(b) of the New York General Business Law. Accrual of interest shall commence on the **Day** immediately following the expiration of the seventh **Day** following receipt of payment by the **Contractor** from the **City** and shall end on the date on which payment is made.

43.6 The **Contractor** shall include in each of its subcontracts a provision requiring each **Subcontractor** to make payment to each of its **Subcontractors** or **Materialmen** for **Work** performed under this **Contract** in the same manner and within the same time period set forth above.

#### **ARTICLE 44. SUBSTANTIAL COMPLETION PAYMENT**

44.1 The **Contractor** shall submit with the **Substantial Completion** requisition:

44.1.1 A final verified statement of any pending Article 27 disputes in accordance with the **PPB** Rules and this **Contract** and any and all alleged claims against the **City**, in any way connected with or arising out of this **Contract** (including those as to which details may have been furnished pursuant to Articles 11, 27, 28, and 30) setting forth with respect to each such claim the total amount thereof, the various items of labor and materials included therein, and the alleged value of each item; and if the alleged claim be one for delay, the alleged cause of each such delay, the period or periods of time, giving the dates when the

**Contractor** claims the performance of the **Work** or a particular part thereof was delayed, and an itemized statement and breakdown of the amount claimed for each such delay.

44.1.1(a) With respect to each such claim, the **Commissioner**, the **Comptroller** and, in the event of litigation, the **City Corporation Counsel** shall have the same right to inspect, and to make extracts or copies of, the **Contractor's** books, vouchers, records, etc., as is referred to in Articles 11, 27, 28, and 30. Nothing contained in this Article 44.1.1(a) is intended to or shall relieve the **Contractor** from the obligation of complying strictly with Articles 11, 27, 28, and 30. The **Contractor** is warned that unless such claims are completely set forth as herein required, the **Contractor** upon acceptance of the **Substantial Completion** payment pursuant to this Article 44, will have waived any such claims.

**44.1.2 A Final Approved Punch List.**

44.1.3 Where required, a request for an extension of time to achieve **Substantial Completion** or final extension of time.

44.2 The **Commissioner** shall issue a voucher calling for payment of any part or all of the balance due for **Work** performed under the **Contract**, including monies retained under Article 21, less any and all deductions authorized to be made by the **Commissioner**, under this **Contract** or by **Law**, and less twice the amount the **Commissioner** considers necessary to ensure the completion of the balance of the **Work** by the **Contractor**. Such a payment shall be considered a partial and not a final payment. No **Substantial Completion** payment shall be made under this Article 44 where the **Contractor** failed to complete the **Work** within the time fixed for such completion in the Schedule A of the General Conditions, or within the time to which completion may have been extended, until an extension or extensions of time for the completion of **Work** have been acted upon pursuant to Article 13.

44.3 No further partial payments shall be made to the **Contractor** after **Substantial Completion**, except the **Substantial Completion** payment and payment pursuant to any **Contractor's** requisition that were properly filed with the **Commissioner** prior to the date of **Substantial Completion**; however, the **Commissioner** may grant a waiver for further partial payments after the date of **Substantial Completion** to permit payments for change order **Work** and/or release of retainage and deposits pursuant to Articles 21 and 24. Such waiver shall be in writing.

44.4 The **Contractor** acknowledges that nothing contained in this Article 44 is intended to or shall in any way diminish the force and effect of Article 13.

**ARTICLE 45. FINAL PAYMENT**

45.1 After completion and **Final Acceptance** of the **Work**, the **Contractor** shall submit all required certificates and documents, together with a requisition for the balance claimed to be due under the **Contract**, less the amount authorized to be retained for maintenance under Article 24. Such submission shall be within 90 days of the date of the **Commissioner's** written determination of **Final Acceptance**, or within such additional time as may be granted by the **Commissioner** in writing. If the **Contractor** fails to submit all required certificates and documents within the time allowed, no payment of the balance claimed shall be made to the **Contractor** and the **Contractor** shall be deemed to have forfeited its right to payment of any balance claimed. A verified statement similar to that required in connection with applications for partial payments shall also be submitted to the **Commissioner**.

45.2 Amended Verified Statement of Claims: The **Contractor** shall also submit with the final requisition any amendments to the final verified statement of any pending dispute resolution procedures in accordance with the **PPB Rules** and this **Contract** and any and all alleged claims against the **City**, in any way connected with or arising out of this **Contract** (including those as to which details may have been furnished pursuant to Articles 11, 27, 28, and 30) that have occurred subsequent to **Substantial Completion**, setting forth with respect to each such claim the total amount thereof, the various items of labor and materials included therein, and the alleged value of each such item; and if the alleged claim be one for delay, the alleged cause of each such delay, the period or periods of time, giving the dates when the **Contractor** claims the performance of the **Work** or a particular part thereof was delayed, and an itemized statement and breakdown of the amount claimed for each such delay. With reference to each such claim, the **Commissioner**, the **Comptroller** and, in the event of litigation, the **City Corporation Counsel** shall have the same right to inspect, and to make extracts or copies of, the **Contractor's** books, vouchers, records, etc., as is referred to in Articles 11, 27, 28, and 30. Nothing contained in this Article 45.2, is intended to or shall relieve the **Contractor** from the obligation of complying strictly with Articles 11, 27, 28, and 30. The **Contractor** is warned that unless such claims are completely set forth as herein required, the **Contractor**, upon acceptance of the Final Payment pursuant to Article 46, will have waived any such claims.

45.3 Preparation of Final Voucher: Upon determining the balance due hereunder other than on account of claims, the **Engineer** will prepare and certify, for the **Commissioner's** approval, a voucher for final payment in that amount less any and all deductions authorized to be made by the **Commissioner** under this **Contract** or by **Law**. In the case of a lump sum **Contract**, the **Commissioner** shall certify the voucher for final payment within thirty (30) **Days** from the date of completion and acceptance of the **Work**, provided all requests for extensions of time have been acted upon.

45.3.1 All prior certificates and vouchers upon which partial payments were made, being merely estimates made to enable the **Contractor** to prosecute the **Work** more advantageously, shall be subject to correction in the final voucher, and the certification of the **Engineer** thereon and the approval of the **Commissioner** thereof, shall be conditions precedent to the right of the **Contractor** to receive any money hereunder. Such final voucher shall be binding and conclusive upon the **Contractor**.

45.3.2 Payment pursuant to such final voucher, less any deductions authorized to be made by the **Commissioner** under this **Contract** or by **Law**, shall constitute the final payment, and shall be made by the **Comptroller** within thirty (30) **Days** after the filing of such voucher in his/her office.

45.4 The **Contractor** acknowledges that nothing contained in this Article 45 is intended to or shall in any way diminish the force and effect of Article 13.

#### **ARTICLE 46. ACCEPTANCE OF FINAL PAYMENT**

46.1 The acceptance by the **Contractor**, or by anyone claiming by or through it, of the final payment, whether such payment be made pursuant to any judgment of any court, or otherwise, shall constitute and operate as a release of the **City** from any and all claims of and liability to the **Contractor** for anything heretofore done or furnished for the **Contractor** relating to or arising out of this **Contract** and the **Work** done hereunder, and for any prior act, neglect or default on the part of the **City** or any of its officials, agents or employees, excepting only a claim against the **City** for the amounts deducted or retained in accordance with the terms and provisions of this **Contract** or by **Law**, and excepting any claims, not otherwise waived, or any pending dispute resolution procedures which are contained in the

verified statement filed with the **Contractor's** substantial and final requisitions pursuant to Articles 44 and 45.

46.2 The **Contractor** is warned that the execution by it of a release, in connection with the acceptance of the final payment, containing language purporting to reserve claims other than those herein specifically excepted from the operation of this Article 46, or those for amounts deducted by the **Commissioner** from the final requisition or from the final payment as certified by the **Engineer** and approved by the **Commissioner**, shall not be effective to reserve such claims, anything stated to the **Contractor** orally or in writing by any official, agent or employee of the **City** to the contrary notwithstanding.

46.3 Should the **Contractor** refuse to accept the final payment as tendered by the **Comptroller**, it shall constitute a waiver of any right to interest thereon.

46.4 The **Contractor**, however, shall not be barred by this Article 46 from commencing an action for breach of **Contract** to the extent permitted by **Law** and by the terms of the **Contract** for any claims that are contained in the verified statement filed with the **Contractor's** substantial and final requisitions pursuant to Articles 44 and 45 or that arose after submission of the final payment requisition, provided that a detailed and verified statement of claim is served upon the contracting **Agency** and **Comptroller** not later than forty (40) **Days** after the making of such final payment by electronic funds transfer (EFT) or the mailing of such final payment. The statement shall specify the items upon which the claim will be based and any such claim shall be limited to such items.

#### **ARTICLE 47. APPROVAL BY PUBLIC DESIGN COMMISSION**

47.1 All works of art, including paintings, mural decorations, stained glass, statues, bas-reliefs, and other sculptures, monuments, fountains, arches, and other structures of a permanent character intended for ornament or commemoration, and every design of the same to be used in the performance of this **Contract**, and the design of all bridges, approaches, buildings, gates, fences, lamps, or structures to be erected, pursuant to the terms of this **Contract**, shall be submitted to the Art Commission, d/b/a the Public Design Commission of the City of New York, and shall be approved by the Public Design Commission prior to the erection or placing in position of the same. The final payment shall not become due or payable under this **Contract** unless and until the Public Design Commission shall certify that the design for the **Work** herein contracted for has been approved by the said Public Design Commission, and that the same has been executed in substantial accordance with the design so approved, pursuant to the provisions of Chapter 37, Section 854 of the **City Charter**, as amended.

### **CHAPTER X: CONTRACTOR'S DEFAULT**

#### **ARTICLE 48. COMMISSIONER'S RIGHT TO DECLARE CONTRACTOR IN DEFAULT**

48.1 In addition to those instances specifically referred to in other Articles herein, the **Commissioner** shall have the right to declare the **Contractor** in default of this **Contract** if:

48.1.1 The **Contractor** fails to commence **Work** when notified to do so by the **Commissioner**; or if

48.1.2 The **Contractor** shall abandon the **Work**; or if

48.1.3 The **Contractor** shall refuse to proceed with the **Work** when and as directed by the **Commissioner**; or if

48.1.4 The **Contractor** shall, without just cause, reduce its working force to a number which, if maintained, would be insufficient, in the opinion of the **Commissioner**, to complete the **Work** in accordance with the progress schedule; or if

48.1.5 The **Contractor** shall fail or refuse to increase sufficiently such working force when ordered to do so by the **Commissioner**; or if

48.1.6 The **Contractor** shall sublet, assign, transfer, convert or otherwise dispose of this **Contract** other than as herein specified; or sell or assign a majority interest in the **Contractor**; or if

48.1.7 The **Contractor** fails to secure and maintain all required insurance; or if

48.1.8 A receiver or receivers are appointed to take charge of the **Contractor's** property or affairs; or if

48.1.9 The **Commissioner** shall be of the opinion that the **Contractor** is or has been unnecessarily or unreasonably or willfully delaying the performance and completion of the **Work**, or the award of necessary subcontracts, or the placing of necessary material and equipment orders; or if

48.1.10 The **Commissioner** shall be of the opinion that the **Contractor** is or has been willfully or in bad faith violating any of the provisions of this **Contract**; or if

48.1.11 The **Commissioner** shall be of the opinion that the **Work** cannot be completed within the time herein provided therefor or within the time to which such completion may have been extended; provided, however, that the impossibility of timely completion is, in the **Commissioner's** opinion, attributable to conditions within the **Contractor's** control; or if

48.1.12 The **Work** is not completed within the time herein provided therefor or within the time to which the **Contractor** may be entitled to have such completion extended; or if

48.1.13 Any statement or representation of the **Contractor** in the **Contract** or in any document submitted by the **Contractor** with respect to the **Work**, the **Project**, or the **Contract** (or for purposes of securing the **Contract**) was untrue or incorrect when made; or if

48.1.14 The **Contractor** or any of its officers, directors, partners, five (5%) percent shareholders, principals, or other persons substantially involved in its activities, commits any of the acts or omissions specified as the grounds for debarment in the **PPB Rules**.

48.2 Before the **Commissioner** shall exercise his/her right to declare the **Contractor** in default, the **Commissioner** shall give the **Contractor** an opportunity to be heard, upon not less than two (2) **Days'** notice.



#### **ARTICLE 49. EXERCISE OF THE RIGHT TO DECLARE DEFAULT**

49.1 The right to declare the **Contractor** in default for any of the grounds specified or referred to in Article 48 shall be exercised by sending the **Contractor** a notice, signed by the **Commissioner**, setting forth the ground or grounds upon which such default is declared (hereinafter referred to as a "Notice of Default").

49.2 The **Commissioner's** determination that the **Contractor** is in default shall be conclusive, final, and binding on the parties and such a finding shall preclude the **Contractor** from commencing a plenary action for any damages relating to the **Contract**. If the **Contractor** protests the determination of the **Commissioner**, the **Contractor** may commence an action in a court of competent jurisdiction of the State of New York under Article 78 of the New York Civil Practice Law and Rules.

#### **ARTICLE 50. QUITTING THE SITE**

50.1 Upon receipt of such notice the **Contractor** shall immediately discontinue all further operations under this **Contract** and shall immediately quit the **Site**, leaving untouched all plant, materials, equipment, tools, and supplies then on the **Site**.

#### **ARTICLE 51. COMPLETION OF THE WORK**

51.1 The **Commissioner**, after declaring the **Contractor** in default, may then have the **Work** completed by such means and in such manner, by contract with or without public letting, or otherwise, as he/she may deem advisable, utilizing for such purpose such of the **Contractor's** plant, materials, equipment, tools, and supplies remaining on the **Site**, and also such **Subcontractors**, as he/she may deem advisable.

51.2 After such completion, the **Commissioner** shall make a certificate stating the expense incurred in such completion, which shall include the cost of re-letting and also the total amount of liquidated damages (at the rate provided for in the **Contract**) from the date when the **Work** should have been completed by the **Contractor** in accordance with the terms hereof to the date of actual completion of the **Work**. Such certificate shall be binding and conclusive upon the **Contractor**, its sureties, and any person claiming under the **Contractor**, as to the amount thereof.

51.3 The expense of such completion, including any and all related and incidental costs, as so certified by the **Commissioner**, and any liquidated damages assessed against the **Contractor**, shall be charged against and deducted out of monies which are earned by the **Contractor** prior to the date of default. Should the expense of such completion, as certified by the **Commissioner**, exceed the total sum which would have been payable under the **Contract** if it had been completed by the **Contractor**, any excess shall be paid by the **Contractor**.

#### **ARTICLE 52. PARTIAL DEFAULT**

52.1 In case the **Commissioner** shall declare the **Contractor** in default as to a part of the **Work** only, the **Contractor** shall discontinue such part, shall continue performing the remainder of the **Work** in strict conformity with the terms of this **Contract**, and shall in no way hinder or interfere with any **Other Contractor(s)** or persons whom the **Commissioner** may engage to complete the **Work** as to which the **Contractor** was declared in default.

52.2 The provisions of this Chapter relating to declaring the **Contractor** in default as to the entire **Work** shall be equally applicable to a declaration of partial default, except that the **Commissioner** shall be entitled to utilize for completion of the part of the **Work** as to which the **Contractor** was declared in default only such plant, materials, equipment, tools, and supplies as had been previously used by the **Contractor** on such part.

### **ARTICLE 53. PERFORMANCE OF UNCOMPLETED WORK**

53.1 In completing the whole or any part of the **Work** under the provisions of this Chapter X, the **Commissioner** shall have the power to depart from or change or vary the terms and provisions of this **Contract**, provided, however, that such departure, change or variation is made for the purpose of reducing the time or expense of such completion. Such departure, change or variation, even to the extent of accepting a lesser or different performance, shall not affect the conclusiveness of the **Commissioner's** certificate of the cost of completion referred to in Article 51, nor shall it constitute a defense to an action to recover the amount by which such certificate exceeds the amount which would have been payable to the **Contractor** hereunder but for its default.

### **ARTICLE 54. OTHER REMEDIES**

54.1 In addition to the right to declare the **Contractor** in default pursuant to this Chapter X, the **Commissioner** shall have the absolute right, in his/her sole discretion and without a hearing, to complete or cause to be completed in the same manner as described in Articles 51 and 53, any or all unsatisfactory or uncompleted punch list **Work** that remains after the completion date specified in the **Final Approved Punch List**. A written notice of the exercise of this right shall be sent to the **Contractor** who shall immediately quit the **Site** in accordance with the provisions of Article 50.

54.2 The expense of completion permitted under Article 54.1, including any and all related and incidental costs, as so certified by the **Commissioner**, shall be charged against and deducted out of monies which have been earned by the **Contractor** prior to the date of the exercise of the right set forth in Article 54.1; the balance of such monies, if any, subject to the other provisions of this **Contract**, to be paid to the **Contractor** without interest after such completion. Should the expense of such completion, as certified by the **Commissioner**, exceed the total sum which would have been payable under the **Contract** if it had been completed by the **Contractor**, any excess shall be paid by the **Contractor**.

54.3 The previous provisions of this Chapter X shall be in addition to any and all other remedies available under **Law** or in equity.

54.4 The exercise by the **City** of any remedy set forth herein shall not be deemed a waiver by the **City** of any other legal or equitable remedy contained in this **Contract** or provided under **Law**.

## **CHAPTER XI: MISCELLANEOUS PROVISIONS**

### **ARTICLE 55. CONTRACTOR'S WARRANTIES**

55.1 In consideration of, and to induce, the award of this **Contract** to the **Contractor**, the **Contractor** represents and warrants:

55.1.1 That it is financially solvent, sufficiently experienced and competent to perform the **Work**; and

55.1.2 That the facts stated in its bid and the information given by it pursuant to the Information for Bidders is true and correct in all respects; and

55.1.3 That it has read and complied with all requirements set forth in the **Contract**.

#### **ARTICLE 56. CLAIMS AND ACTIONS THEREON**

56.1 Any claim, that is not subject to dispute resolution under the **PPB Rules** or this **Contract**, against the **City** for damages for breach of **Contract** shall not be made or asserted in any action, unless the **Contractor** shall have strictly complied with all requirements relating to the giving of notice and of information with respect to such claims, as herein before provided.

56.2 Nor shall any action be instituted or maintained on any such claims unless such action is commenced within six (6) months after **Substantial Completion**; except that:

56.2.1 Any claims arising out of events occurring after **Substantial Completion** and before **Final Acceptance** of the **Work** shall be asserted within six (6) months of **Final Acceptance** of the **Work**;

56.2.2 If the **Commissioner** exercises his/her right to complete or cause to complete any or all unsatisfactory or uncompleted punch list **Work** that remains after the completion date specified in the **Final Approved Punch List** pursuant to Article 54, any such action shall be commenced within six (6) months from the date the **Commissioner** notifies the **Contractor** in writing that he/she has exercised such right. Any claims for monies deducted, retained or withheld under the provisions of this **Contract** shall be asserted within six (6) months after the date when such monies otherwise become due and payable hereunder; and

56.2.3 If the **Commissioner** exercises his/her right to terminate the **Contract** pursuant to Article 64, any such action shall be commenced within six (6) months of the date the **Commissioner** exercises said right.

#### **ARTICLE 57. INFRINGEMENT**

57.1 The **Contractor** shall be solely responsible for and shall defend, indemnify, and hold the **City** harmless from any and all claims (even if the allegations of the lawsuit are without merit) and judgments for damages and from costs and expenses to which the **City** may be subject to or which it may suffer or incur allegedly arising out of or in connection with any infringement by the **Contractor** of any copyright, trade secrets, trademark or patent rights or any other property or personal right of any third party by the **Contractor** and/or its **Subcontractors** in the performance or completion of the **Work**. Insofar as the facts or **Law** relating to any claim would preclude the **City** from being completely indemnified by the **Contractor**, the **City** shall be partially indemnified by the **Contractor** to the fullest extent permitted by **Law**.

## **ARTICLE 58. NO CLAIM AGAINST OFFICIALS, AGENTS OR EMPLOYEES**

58.1 No claim whatsoever shall be made by the **Contractor** against any official, agent or employee of the **City** for, or on account of, anything done or omitted to be done in connection with this **Contract**.

## **ARTICLE 59. SERVICE OF NOTICES**

59.1 The **Contractor** hereby designates the business address, fax number, and email address specified in its bid, as the place where all notices, directions or other communications to the **Contractor** may be delivered, or to which they may be mailed. Any notice, direction, or communication from either party to the other shall be in writing and shall be deemed to have been given when (i) delivered personally; (ii) sent by certified mail, return receipt requested; (iii) delivered by overnight or same day courier service in a properly addressed envelope with confirmation; or (iv) sent by fax or email and, unless receipt of the fax or e-mail is acknowledged by the recipient by fax or e-mail, deposited in a post office box regularly maintained by the United States Postal Service in a properly addressed, postage pre-paid envelope.

59.2 **Contractor's** notice address, email address, or fax number may be changed at any time by an instrument in writing, executed and acknowledged by the **Contractor**, and delivered to the **Commissioner**.

59.3 Nothing herein contained shall, however, be deemed to preclude or render inoperative the service of any notice, direction or other communication upon the **Contractor** personally, or, if the **Contractor** is a corporation, upon any officer thereof.

## **ARTICLE 60. UNLAWFUL PROVISIONS DEEMED STRICKEN FROM CONTRACT**

60.1 If this **Contract** contains any unlawful provision not an essential part of the **Contract** and which shall not appear to have been a controlling or material inducement to the making thereof, the same shall be deemed of no effect and shall, upon notice by either party, be deemed stricken from the **Contract** without affecting the binding force of the remainder.

## **ARTICLE 61. ALL LEGAL PROVISIONS DEEMED INCLUDED**

61.1 It is the intent and understanding of the parties to this **Contract** that each and every provision of **Law** required to be inserted in this **Contract** shall be and is inserted herein. Furthermore, it is hereby stipulated that every such provision is to be deemed to be inserted herein, and if, through mistake or otherwise, any such provision is not inserted, or is not inserted in correct form, then this **Contract** shall forthwith upon the application of either party be amended by such insertion so as to comply strictly with the **Law** and without prejudice to the rights of either party hereunder.

## **ARTICLE 62. TAX EXEMPTION**

62.1 The **City** is exempt from payment of Federal, State, and local taxes, including sales and compensating use taxes of the State of New York and its cities and counties on all tangible personal property sold to the **City** pursuant to the provisions of this **Contract**. These taxes are not to be included in bids. However, this exemption does not apply to tools, machinery, equipment or other property leased by or to the **Contractor**, **Subcontractor** or **Materialman** or to tangible personal property which, even

though it is consumed, is not incorporated into the completed **Work** (consumable supplies) and tangible personal property that the **Contractor** is required to remove from the **Site** during or upon completion of the **Work**. The **Contractor** and its **Subcontractors** and **Materialmen** shall be responsible for and pay any and all applicable taxes, including sales and compensating use taxes, on such leased tools, machinery, equipment or other property and upon all such consumable supplies and tangible personal property that the **Contractor** is required to remove from the **Site** during or upon completion of the **Work**.

62.2 The **Contractor** agrees to sell and the **City** agrees to purchase all tangible personal property, other than consumable supplies and other tangible personal property that the **Contractor** is required to remove from the **Site** during or upon completion of the **Work**, that is required, necessary or proper for or incidental to the construction of the **Project** covered by this **Contract**. The sum paid under this **Contract** for such tangible personal property shall be in full payment and consideration for the sale of such tangible personal property.

62.2.1 The **Contractor** agrees to construct the **Project** and to perform all **Work**, labor and services rendered, necessary, proper or incidental thereto for the sum shown in the bid for the performance of such **Work**, labor, and services, and the sum so paid pursuant to this **Contract** for such **Work**, labor, and services, shall be in full consideration for the performance by the **Contractor** of all its duties and obligations under this **Contract** in connection with said **Work**, labor, and services.

62.3 20 NYCRR Section 541.3(d) provides that a **Contractor's** purchases of tangible personal property that is either incorporated into real property owned by a governmental entity or purchased for and sold to a governmental entity are exempt from sales and use tax. The **City** shall not pay sales tax for any such tangible personal property that it purchases from the **Contractor** pursuant to the **Contract**. With respect to such tangible personal property, the **Contractor**, at the request of the **City**, shall furnish to the **City** such bills of sale and other instruments as may be required by the **City**, properly executed, acknowledged and delivered assuring to the **City** title to such tangible personal property, free of liens and/or encumbrances, and the **Contractor** shall mark or otherwise identify all such tangible personal property as the property of the **City**.

62.4 Title to all tangible personal property to be sold by the **Contractor** to the **City** pursuant to the provisions of the **Contract** shall immediately vest in and become the sole property of the **City** upon delivery of such tangible personal property to the **Site**. Notwithstanding such transfer of title, the **Contractor** shall have the full and continuing responsibility to install such tangible personal property in accordance with the provisions of this **Contract**, protect it, maintain it in a proper condition and forthwith repair, replace and make good any damage thereto, theft or disappearance thereof, and furnish additional tangible personal property in place of any that may be lost, stolen or rendered unusable, without cost to the **City**, until such time as the **Work** covered by the **Contract** is fully accepted by the **City**. Such transfer of title shall in no way affect any of the **Contractor's** obligations hereunder. In the event that, after title has passed to the **City**, any of the tangible personal property is rejected as being defective or otherwise unsatisfactory, title to all such tangible personal property shall be deemed to have been transferred back to the **Contractor**.

62.5 The purchase by **Subcontractors** or **Materialmen** of tangible personal property to be sold hereunder shall be a purchase or procurement for resale to the **Contractor** (either directly or through other **Subcontractors**) and therefore not subject to the aforesaid sales and compensating use taxes, provided that the subcontracts and purchase agreements provide for the resale of such tangible personal property and that such subcontracts and purchase agreements are in a form similar to this **Contract** with respect to the separation of the sale of consumable supplies and tangible personal property that the

**Contractor** is required to remove from the **Site** during or upon completion of the **Work** from the **Work** and labor, services, and any other matters to be provided, and provided further that the subcontracts and purchase agreements provide separate prices for tangible personal property and all other services and matters. Such separation shall actually be followed in practice, including the separation of payments for tangible personal property from the payments for other **Work** and labor and other things to be provided.

62.6 The **Contractor** and its **Subcontractors** and **Materialmen** shall furnish a **Contractor Exempt Purchase Certificate** to all persons, firms or corporations from which they purchase tangible personal property for the performance of the **Work** covered by this **Contract**.

62.7 In the event any of the provisions of this Article 62 shall be deemed to be in conflict with any other provisions of this **Contract** or create any ambiguity, then the provisions of this Article 62 shall control.

### **ARTICLE 63. INVESTIGATION(S) CLAUSE**

63.1 The parties to this **Contract** agree to cooperate fully and faithfully with any investigation, audit or inquiry conducted by a United States, a State of New York (State) or a **City** governmental agency or authority that is empowered directly or by designation to compel the attendance of witnesses and to examine witnesses under oath, or conducted by the Inspector General of a governmental agency that is a party in interest to the transaction, submitted bid, submitted proposal, contract, lease, permit or license that is the subject of the investigation, audit or inquiry.

63.2 If any person who has been advised that his/her statement, and any information from such statement, will not be used against him/her in any subsequent criminal proceeding refuses to testify before a grand jury or other governmental agency or authority empowered directly or by designation to compel the attendance of witnesses and to examine witnesses under oath concerning the award of or performance under any transaction, agreement, lease, permit, contract, or license entered into with the **City**, the State, or any political subdivision or public authority thereof, or the Port Authority of New York and New Jersey, or any local development corporation within the **City**, or any public benefit corporation organized under the **Laws** of the State of New York, or;

63.3 If any person refuses to testify for a reason other than the assertion of his/her privilege against self incrimination in an investigation, audit or inquiry conducted by a **City** or State governmental agency or authority empowered directly or by designation to compel the attendance of witnesses and to take testimony under oath, or by the Inspector General of the governmental agency that is a party in interest in, and is seeking testimony concerning the award of, or performance under any transaction, agreement, lease, permit, contract, or license entered into with the **City**, the State, or any political subdivision thereof or any local development corporation within the **City**, then;

63.4 The **Commissioner** whose **Agency** is a party in interest to the transaction, submitted bid, submitted proposal, contract, lease, permit, or license shall convene a hearing, upon not less than five (5) **Days'** written notice to the parties involved to determine if any penalties should attach for the failure of a person to testify.

63.5 If any non-governmental party to the hearing requests an adjournment, the **Commissioner** who convened the hearing may, upon granting the adjournment, suspend any contract, lease, permit, or license, pending the final determination pursuant to Article 63.7 without the **City** incurring any penalty or damages for delay or otherwise.

63.6 The penalties which may attach after a final determination by the **Commissioner** may include but shall not exceed:

63.6.1 The disqualification for a period not to exceed five (5) years from the date of an adverse determination for any person, or any entity of which such person was a member at the time the testimony was sought, from submitting bids for, or transacting business with, or entering into or obtaining any contract, lease, permit or license with or from the **City**; and/or

63.6.2 The cancellation or termination of any and all such existing **City** contracts, leases, permits or licenses that the refusal to testify concerns and that have not been assigned as permitted under this **Contract**, nor the proceeds of which pledged, to an unaffiliated and unrelated institutional lender for fair value prior to the issuance of the notice scheduling the hearing, without the **City** incurring any penalty or damages on account of such cancellation or termination; monies lawfully due for goods delivered, work done, rentals, or fees accrued prior to the cancellation or termination shall be paid by the **City**.

63.7 The **Commissioner** shall consider and address in reaching his/her determination and in assessing an appropriate penalty the factors in Articles 63.7.1 and 63.7.2. The **Commissioner** may also consider, if relevant and appropriate, the criteria established in Articles 63.7.3 and 63.7.4, in addition to any other information which may be relevant and appropriate:

63.7.1 The party's good faith endeavors or lack thereof to cooperate fully and faithfully with any governmental investigation or audit, including but not limited to the discipline, discharge, or disassociation of any person failing to testify, the production of accurate and complete books and records, and the forthcoming testimony of all other members, agents, assignees or fiduciaries whose testimony is sought.

63.7.2 The relationship of the person who refused to testify to any entity that is a party to the hearing, including but not limited to, whether the person whose testimony is sought has an ownership interest in the entity and/or the degree of authority and responsibility the person has within the entity.

63.7.3 The nexus of the testimony sought to the subject entity and its contracts, leases, permits or licenses with the **City**.

63.7.4 The effect a penalty may have on an unaffiliated and unrelated party or entity that has a significant interest in an entity subject to penalties under Article 63.6, provided that the party or entity has given actual notice to the **Commissioner** upon the acquisition of the interest, or at the hearing called for in Article 63.4, gives notice and proves that such interest was previously acquired. Under either circumstance the party or entity shall present evidence at the hearing demonstrating the potential adverse impact a penalty will have on such person or entity.

#### 63.8 Definitions:

63.8.1 The term "license" or "permit" as used in this Article 63 shall be defined as a license, permit, franchise or concession not granted as a matter of right.

63.8.2 The term "person" as used in this Article 63 shall be defined as any natural person doing business alone or associated with another person or entity as a partner, director, officer, principal or employee.

63.8.3 The term "entity" as used in this Article 63 shall be defined as any firm, partnership, corporation, association, joint venture, or person that receives monies, benefits, licenses, leases, or permits from or through the **City** or otherwise transacts business with the **City**.

63.8.4 The term "member" as used in this Article 63 shall be defined as any person associated with another person or entity as a partner, director, officer, principal or employee.

63.9 In addition to and notwithstanding any other provision of this **Contract**, the **Commissioner** may in his/her sole discretion terminate this **Contract** upon not less than three (3) **Days'** written notice in the event the **Contractor** fails to promptly report in writing to the **Commissioner** of the Department of Investigations ("DOI") of the **City** any solicitation of money, goods, requests for future employment or other benefit or thing of value, by or on behalf of any employee of the **City** or other person, firm, corporation or entity for any purpose which may be related to the procurement or obtaining of this **Contract** by the **Contractor**, or affecting the performance of this **Contract**.

#### **ARTICLE 64. TERMINATION BY THE CITY**

64.1 In addition to termination pursuant to any other article of this **Contract**, the **Commissioner** may, at any time, terminate this **Contract** by written notice to the **Contractor**. In the event of termination, the **Contractor** shall, upon receipt of such notice, unless otherwise directed by the **Commissioner**:

64.1.1 Stop **Work** on the date specified in the notice;

64.1.2 Take such action as may be necessary for the protection and preservation of the **City's** materials and property;

64.1.3 Cancel all cancelable orders for material and equipment;

64.1.4 Assign to the **City** and deliver to the **Site** or another location designated by the **Commissioner**, any non-cancelable orders for material and equipment that is not capable of use except in the performance of this **Contract** and has been specifically fabricated for the sole purpose of this **Contract** and not incorporated in the **Work**;

64.1.5 Take no action which will increase the amounts payable by the **City** under this **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](http://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](http://www.nyc.gov/buycertified), by emailing DSBS at [buyer@sbs.nyc.gov](mailto: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](http://www.nyc.gov/getcertified), emailing [MWBE@sbs.nyc.gov](mailto: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](mailto: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: 

Commissioner

CONTRACTOR:

By: 

(Member of Firm or Officer of Corporation)

Title: 

(Where Contractor is a Corporation, add):  
Attest:

  
Secretary

(Seal)

ACKNOWLEDGEMENT OF PRINCIPAL, IF A CORPORATION

State of NY County of Queens ss:

On this 13 day of March, 2018, before me personally came Mohammed A. Caga to me known who, being by me duly sworn did depose and say that he resides at 45 E 72 St 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.

MARIA JOHNSTON  
Notary Public, State of New York  
No. 01J06351081  
Qualified in Queens County  
Commission Expires Nov. 28, 2020

[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:

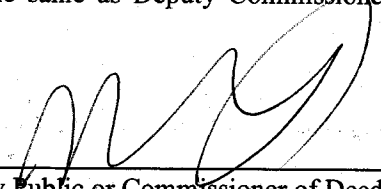
On this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_, before me personally appeared \_\_\_\_\_ to me known, and known to me to be the person described in and who executed the foregoing instrument; and acknowledged that he executed the same.

\_\_\_\_\_  
Notary Public or Commissioner of Deeds

ACKNOWLEDGEMENT BY COMMISSIONER

State of New York County of Queens ss:

On this 15<sup>th</sup> day of March, 2018, before me personally came Eric MacFarlane  
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

**MARIA JOHNSTON**  
Notary Public, State of New York  
No. 01JO6351081  
Qualified in Queens County  
Commission Expires Nov. 28, 2020

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

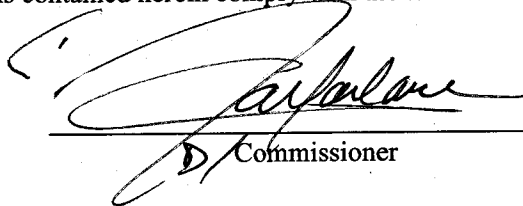
Seventy two million seven hundred  
twenty one thousand nine hundred Fifty  
four and thirty five cents

Dollars (\$ 72,721,954.35 )

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.

  
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**

**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 Boulevard, 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

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 Two Million Seven Hundred Twenty One Thousand Nine Hundred Fifty Four and 35/100

( \$ 72,721,954.35 ) 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

Project ID: SE823 - Construction of Sanitary and Storm Sewers and Appurtenances in 229th Street Between

145th Avenue and 147th Avenue, ETC, Borough of Queens, City of New York

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 12th day of March, 2018.

(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: \_\_\_\_\_

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 13TH day of MAY, 2018, before me personally came MICHAEL A. CAPRESSO to me known, who, being by me duly sworn did depose and say that he resides at 15 E 72ND ST 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.

DIANE C. DERIN  
Notary Public, State of New York  
ID: 0105048152  
Qualified in Queens County  
Commission Expires August 14, 2021

[Signature]  
Notary Public or Commissioner of Deeds

**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 **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 Sagistano, Vincent A. Walsh, Michelle Wannamaker and Mia Woo-Warren** 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 3<sup>rd</sup> day of **March, 2017**.

*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 3<sup>rd</sup> day of **March, 2017** 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



KATHERINE J. ADELAAR  
NOTARY PUBLIC OF NEW JERSEY  
No. 2310885  
Commission Expires July 16, 2019

*Katherine J. Adelaar*

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 Companies are duly licensed and authorized to transact surety business in all 50 of the United States of America and the District of Columbia and are authorized by the U.S. Treasury Department; further, Federal and Vigilant are licensed in the U.S. Virgin Islands, and Federal is licensed in Guam, Puerto Rico, and each of the Provinces of Canada except Prince Edward Island; and
- (iii) 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 **March 12, 2018**



*Dawn M. Chloros*

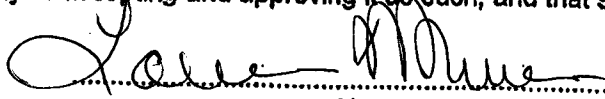
Dawn M. Chloros, Assistant Secretary

IN THE EVENT YOU WISH TO NOTIFY US OF A CLAIM, 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

ACKNOWLEDGMENT OF SURETY COMPANY

STATE OF ..New York..... }  
COUNTY OF ..Nassau..... } ss

On this ..March 12, 2018....., 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

NY acknowledgement

LAURAJEAN MURTAGH  
Notary Public, State of New York  
No. 01MU6319758  
Qualified in Nassau County  
Commission Expires 02/23/2019

# FEDERAL INSURANCE COMPANY

## STATEMENT OF ASSETS, LIABILITIES AND SURPLUS TO POLICYHOLDERS

Statutory Basis

DECEMBER 31, 2016

(in thousands of dollars)

ASSETS		LIABILITIES AND SURPLUS TO POLICYHOLDERS	
Cash and Short Term Investments.....	\$ (86,990)	Outstanding Losses and Loss Expenses .....	\$ 11,482,308
United States Government, State and Municipal Bonds .....	8,135,311	Unearned Premiums.....	2,723,875
Other Bonds.....	5,471,330	Ceded Reinsurance Premiums Payable.....	566,868
Stocks .....	130,689	Provision for Reinsurance .....	29,339
Other Invested Assets.....	1,289,903	Other Liabilities.....	1,144,976
 TOTAL INVESTMENTS .....	 14,940,243	 TOTAL LIABILITIES .....	 15,947,366
Investments in Affiliates:			
Chubb Investment Holdings, Inc. ....	3,727,406	Capital Stock.....	20,980
Pacific Indemnity Company.....	2,926,619	Paid-In Surplus.....	3,106,809
Executive Risk Indemnity Inc.....	1,250,965	Unassigned Funds .....	8,296,020
Great Northern Insurance Company .....	504,162	 SURPLUS TO POLICYHOLDERS.....	 11,423,809
Vigilant Insurance Company.....	319,505		
Chubb European Investment Holdings, SLP .	277,361		
Chubb Custom Insurance Company.....	214,956		
Chubb National Insurance Company .....	162,929		
Chubb Indemnity Insurance Company.....	163,668		
Other Affiliates .....	70,204		
Premiums Receivable .....	1,510,107		
Other Assets .....	1,303,050		
 TOTAL ADMITTED ASSETS .....	 \$ 27,371,175	 TOTAL LIABILITIES AND SURPLUS TO POLICYHOLDERS.....	 \$ 27,371,175

Investments are valued in accordance with requirements of the National Association of Insurance Commissioners. At December 31, 2016, investments with a carrying value of \$565,702,495 were deposited with government authorities as required by law.

State, County & City of New York, — ss:

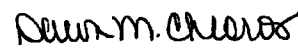
Dawn M. Chloros, Assistant Secretary of the Federal Insurance Company

being duly sworn, deposes and says that the foregoing Statement of Assets, Liabilities and Surplus to Policyholders of said Federal Insurance Company on December 31, 2016 is true and correct and is a true abstract of the Annual Statement of said Company as filed with the Secretary of the Treasury of the United States for the 12 months ending December 31, 2016.

Subscribed and sworn to before me  
this March 3, 2017.

  
Notary Public

JEANETTE SHIPSEY  
Notary Public, State of New York  
No. 02SH5074142  
Qualified in Nassau County  
Commission Expires March 10, 2019

  
Assistant Secretary

**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 Boulevard, 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

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 Two Million Seven Hundred Twenty One Thousand Nine Hundred Fifty Four and 35/100

(\$ 72,721,954.35 ) 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

Project ID: SE823 - Construction of Sanitary and Storm Sewers and Appurtenances in 229th Street Between

145th Avenue and 147th Avenue, ETC, Borough of Queens, City of New York

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

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

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

**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

12th day of March 20 18

(Seal)

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

Principal

By: 

(Seal)

Surety  
Federal Insurance Company

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 \$472,933.00

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 13TH day of MARCH, 20 18 before me personally came MARCEL A. DEBASSO

to me known, who, being by me duly sworn did depose and say that he resides at 45 FZADSI AVE NY

; that he/she is the president of the corporation described in and which executed the foregoing instrument; 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. 010E5048152  
Qualified in Queens County 2021  
Commission Expires August 14

**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.

CITY OF NEW YORK  
DDC

107

STANDARD CONSTRUCTION CONTRACT  
March 2017



# 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 **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 Sagistano, Vincent A. Walsh, Michelle Wannamaker and Mia Woo-Warren** 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 3<sup>rd</sup> day of **March, 2017**.

*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 3<sup>rd</sup> day of **March, 2017** 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



KATHERINE J. ADELAAR  
NOTARY PUBLIC OF NEW JERSEY  
No. 2316985  
Commission Expires July 16, 2019

*Katherine J. Adelaar*

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 Companies are duly licensed and authorized to transact surety business in all 50 of the United States of America and the District of Columbia and are authorized by the U.S. Treasury Department; further, Federal and Vigilant are licensed in the U.S. Virgin Islands, and Federal is licensed in Guam, Puerto Rico, and each of the Provinces of Canada except Prince Edward Island; and
- (iii) 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 **March 12, 2018**



*Dawn M. Chloros*

Dawn M. Chloros, Assistant Secretary

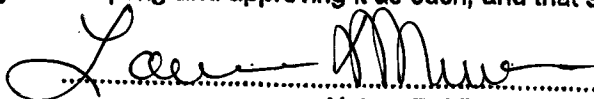
IN THE EVENT YOU WISH TO NOTIFY US OF A CLAIM, VERIFY THE AUTHENTICITY OF THIS BOND OR NOTIFY US OF ANY OTHER MATTER, PLEASE CONTACT US AT:

Telephone (908) 903-3493 Fax (908) 903-3656 e-mail: surety@chubb.com

ACKNOWLEDGMENT OF SURETY COMPANY

STATE OF ..New York..... }  
COUNTY OF ..Nassau..... } ss

On this ..March 12, 2018....., 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

NY acknowledgement

LAURAJEAN MURTAGH  
Notary Public, State of New York  
No. 01MU6319758  
Qualified in Nassau County  
Commission Expires 02/23/2019

# FEDERAL INSURANCE COMPANY

## STATEMENT OF ASSETS, LIABILITIES AND SURPLUS TO POLICYHOLDERS

Statutory Basis

DECEMBER 31, 2016

(in thousands of dollars)

ASSETS		LIABILITIES AND SURPLUS TO POLICYHOLDERS	
Cash and Short Term Investments.....	\$ (86,990)	Outstanding Losses and Loss Expenses .....	\$ 11,482,308
United States Government, State and Municipal Bonds .....	8,135,311	Unearned Premiums.....	2,723,875
Other Bonds.....	5,471,330	Ceded Reinsurance Premiums Payable.....	566,868
Stocks.....	130,689	Provision for Reinsurance .....	29,339
Other Invested Assets.....	1,289,903	Other Liabilities.....	1,144,976
			<u>15,947,366</u>
 TOTAL INVESTMENTS .....	 14,940,243	 TOTAL LIABILITIES .....	 15,947,366
 Investments in Affiliates:			
Chubb Investment Holdings, Inc. ....	3,727,406	Capital Stock.....	20,980
Pacific Indemnity Company.....	2,926,619	Paid-In Surplus.....	3,106,809
Executive Risk Indemnity Inc.....	1,250,965	Unassigned Funds .....	8,296,020
Great Northern Insurance Company .....	504,162		
Vigilant Insurance Company.....	319,505		
Chubb European Investment Holdings, SLP .	277,361	SURPLUS TO POLICYHOLDERS .....	11,423,809
Chubb Custom Insurance Company .....	214,956		
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Investments are valued in accordance with requirements of the National Association of Insurance Commissioners.  
At December 31, 2016, investments with a carrying value of \$565,702,495 were deposited with government authorities  
as required by law.

State, County & City of New York, — ss:

Dawn M. Chloros, Assistant Secretary \_\_\_\_\_ of the Federal Insurance Company

being duly sworn, deposes and says that the foregoing Statement of Assets, Liabilities and Surplus to Policyholders of said Federal Insurance Company on December 31, 2016 is true and correct and is a true abstract of the Annual Statement of said Company as filed with the Secretary of the Treasury of the United States for the 12 months ending December 31, 2016.

Subscribed and sworn to before me  
this March 3, 2017.

*Jeanette Shipsey*  
\_\_\_\_\_  
Notary Public

JEANETTE SHIPSEY  
Notary Public, State of New York  
No. 02SH5074142  
Qualified in Nassau County  
Commission Expires March 10, 2019

*Dawn M. Chloros*  
\_\_\_\_\_  
Assistant Secretary



# CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)  
03/14/2018

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).

<b>PRODUCER</b> Construction Risk Partners a JLT Group Company Campus View Plaza 1250 Route 28, Suite 201 Branchburg, NJ 08876	1-908-566-1010	<b>CONTACT NAME:</b> Kimberly Bernard <b>PHONE (A/C, No, Ext):</b> 516-962-8170 <b>FAX (A/C, No):</b> 516-962-8180 <b>E-MAIL ADDRESS:</b> certs@constructionriskpartners.com														
<b>INSURED</b> C.A.C. Industries, Inc.  54-08 Vernon Boulevard  Long Island City, NY 11101		<table border="1"><thead><tr><th>INSURER(S) AFFORDING COVERAGE</th><th>NAIC #</th></tr></thead><tbody><tr><td>INSURER A: TRAVELERS IND CO</td><td>25658</td></tr><tr><td>INSURER B: TRAVELERS PROP CAS CO OF AMER</td><td>25674</td></tr><tr><td>INSURER C: ASPEN AMER INS CO</td><td></td></tr><tr><td>INSURER D: STARR IND &amp; LIAB CO</td><td>38318</td></tr><tr><td>INSURER E: INDIAN HARBOR INS CO</td><td>36940</td></tr><tr><td>INSURER F:</td><td></td></tr></tbody></table>	INSURER(S) AFFORDING COVERAGE	NAIC #	INSURER A: TRAVELERS IND CO	25658	INSURER B: TRAVELERS PROP CAS CO OF AMER	25674	INSURER C: ASPEN AMER INS CO		INSURER D: STARR IND & LIAB CO	38318	INSURER E: INDIAN HARBOR INS CO	36940	INSURER F:	
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INSURER D: STARR IND & LIAB CO	38318															
INSURER E: INDIAN HARBOR INS CO	36940															
INSURER F:																

**COVERAGES****CERTIFICATE NUMBER:** 52281709**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"/> PROJECT <input type="checkbox"/> LOC OTHER:			VTC2K-CO-4E994751-IND-17	06/29/17	06/29/18	EACH OCCURRENCE \$ 1,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 300,000 MED EXP (Any one person) \$ 10,000 PERSONAL & ADV INJURY \$ 1,000,000 GENERAL AGGREGATE \$ 2,000,000 PRODUCTS - COMP/OP AGG \$ 2,000,000 \$
A	<input checked="" type="checkbox"/> AUTOMOBILE LIABILITY <input checked="" type="checkbox"/> ANY AUTO <input type="checkbox"/> OWNED AUTOS ONLY <input type="checkbox"/> HIRED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> NON-OWNED AUTOS ONLY	X	X	VT1NK-CAP-4E994763-IND-17	706/29/17	06/29/18	COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ \$
B	<input checked="" type="checkbox"/> UMBRELLA LIAB <input checked="" type="checkbox"/> OCCUR <input type="checkbox"/> EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE DED RETENTION \$ 10,000	X	X	VTSMJ-CUP-4E994775-TIL-17	706/29/17	06/29/18	EACH OCCURRENCE \$ 5,000,000 AGGREGATE \$ 5,000,000 \$
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below						PER STATUTE OTH-ER E.L. EACH ACCIDENT \$ E.L. DISEASE - EA EMPLOYEE \$ E.L. DISEASE - POLICY LIMIT \$
C	Property Contents			IMAEG5Q17	06/29/17	06/29/18	Limit 40,000
D	Excess Liability			1000023768	06/29/17	06/29/18	Occurrence/Agg 10M/10M
E	Professional			CEO7446413	06/29/17	06/29/18	Occurrence/Agg 2,000,000


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

Re: FMS ID: SE-823, E-PIN: 85017B0085001, DDC PIN: 8502017SE009C

Construction of storm sanitary and combined in 229th Street between 145th Avenue and 147th Avenue, Borough of Queens City of New York, including its officials and employees and National Grid are included as Additional Insured as respects to ongoing and completed operations arising out of work performed by the named insured.

Waiver of Subrogation applies as required by contract. Thirty (30) Days Notice of Cancellation/Non-Renewal applies as per written contract.

**CERTIFICATE HOLDER****CANCELLATION**

City of New York Department of Design & Construction  30-30 Thompson 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  
52281709



# New York State Insurance Fund

Workers' Compensation & Disability Benefits Specialists Since 1914

199 CHURCH STREET, NEW YORK, N.Y. 10007-1100

## CERTIFICATE OF WORKERS' COMPENSATION INSURANCE



SCAN TO VALIDATE  
AND SUBSCRIBE

\*\*\*\*\* 113082726  
C.A.C. INDUSTRIES INC  
54-08 VERNON BLVD  
LONG ISLAND CITY NY 11101

POLICYHOLDER  
C.A.C. INDUSTRIES INC  
54-08 VERNON BLVD  
LONG ISLAND CITY NY 11101

CERTIFICATE HOLDER SE-823  
CITY OF NEW YORK DEPT OF  
DESIGN & CONSTRUCTION  
30-30 THOMSON AVENUE  
LONG ISLAND CITY NY 11101

POLICY NUMBER	CERTIFICATE NUMBER	POLICY PERIOD	DATE
G1394 246-1	346756	06/29/2017 TO 06/29/2018	3/14/2018

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, AND, WITH RESPECT TO OPERATIONS OUTSIDE OF NEW YORK, TO THE POLICYHOLDER'S REGULAR NEW YORK STATE EMPLOYEES ONLY.

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: 219186660



**Workers'  
Compensation  
Board**

**CERTIFICATE OF INSURANCE COVERAGE**  
**under the NYS 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**

<b>1a. Legal Name and Address of Insured (Use street address only)</b> C A C INDUSTRIES INC 54 08 VERNON BLVD. LONG ISLAND CITY, NY 11101  <b>Work Location Of Insured (Only required If coverage Is specifically limited To certain locations In New York State, i.e., a Wrap-Up Policy)</b>	<b>1b. Business Telephone Number Of Insured</b>  <b>1c. Federal Employer Identification Number of Insured Or Social Security Number</b>  11-3082726
<b>2. Name and Address of the Entity Requesting Proof of Coverage (Entity Being Listed as the Certificate Holder)</b>  City of New York Department of Design & Construction 30-30 Thomson Avenue Long Island City, NY 11101	<b>3a. Name of Insurance Carrier</b>  WESCO INSURANCE COMPANY  <b>3b. Policy Number of entity listed in box "1a.":</b>  0136443  <b>3c. Policy effective period:</b>  3/14/2018 to 12/31/2019

**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 3/14/2018 By Kathleen L. Diaz

(Signature of insurance carrier's authorized representative or NYS Licensed Insurance Agent of that insurance carrier)

Telephone Number 800-535-2711 Title Vice President

**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 \_\_\_\_\_ Title \_\_\_\_\_

**Please Note:** Only insurance carriers licensed to write NYS disability and paid family leave benefits insurance policies and NYS licensed insurance agents of those insurance carriers are authorized to issue Form DB-120.1. **Insurance brokers are NOT authorized to issue this form.**

DB-120.1 (9-17)



## Additional Instructions for Form DB-120.1

By signing this form, the insurance carrier identified in Box 3 on this form is certifying that it is insuring the business referenced in box "1a" for disability and/or paid family leave benefits under the New York State Disability and Paid Family Leave Benefits Law. The Insurance Carrier or its licensed agent will send this Certificate of Insurance to the entity listed as the certificate holder in Box 2.

The insurance carrier must notify the above certificate holder and the Workers' Compensation Board within 10 days IF a policy is cancelled due to nonpayment of premiums or within 30 days IF there are reasons other than nonpayment of premiums that cancel the policy or eliminate the insured from coverage indicated on this Certificate. (These notices may be sent by regular mail.) Otherwise, this Certificate is valid for one year after this form is approved by the insurance carrier or its licensed agent, or until the policy expiration date listed in Box 3c, whichever is earlier.

This certificate is issued as a matter of information only and confers no rights upon the certificate holder. This certificate does not amend, extend or alter the coverage afforded by the policy listed, nor does it confer any rights or responsibilities beyond those contained in the referenced policy.

This certificate may be used as evidence of a Disability and/or Paid Family Leave Benefits contract of insurance only while the underlying policy is in effect.

**Please Note: Upon the cancellation of the disability and/or paid family leave benefits policy indicated on this form, if the business continues to be named on a permit, license or contract issued by a certificate holder, the business must provide that certificate holder with a new Certificate of NYS Disability and/or Paid Family Leave Benefits Coverage or other authorized proof that the business is complying with the mandatory coverage requirements of the New York State Disability and Paid Family Leave Benefits Law.**

### DISABILITY AND PAID FAMILY LEAVE BENEFITS LAW

#### §220. Subd. 8

(a) The head of a state or municipal department, board, commission or office authorized or required by law to issue any permit for or in connection with any work involving the employment of employees in employment as defined in this article, and notwithstanding any general or special statute requiring or authorizing the issue of such permits, shall not issue such permit unless proof duly subscribed by an insurance carrier is produced in a form satisfactory to the chair, that the payment of disability benefits and after January first, two thousand and twenty-one, the payment of family leave benefits for all employees has been secured as provided by this article. Nothing herein, however, shall be construed as creating any liability on the part of such state or municipal department, board, commission or office to pay any disability benefits to any such employee if so employed.

(b) The head of a state or municipal department, board, commission or office authorized or required by law to enter into any contract for or in connection with any work involving the employment of employees in employment as defined in this article and notwithstanding any general or special statute requiring or authorizing any such contract, shall not enter into any such contract unless proof duly subscribed by an insurance carrier is produced in a form satisfactory to the chair, that the payment of disability benefits and after January first, two thousand eighteen, the payment of family leave benefits for all employees has been secured as provided by this article.

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.

Construction Risk Partners

[Name of broker or agent (typewritten)]

1250 Route 28, Suite 201, Branchburg, NJ 08876

[Address of broker or agent (typewritten)]

EGilbert@constructionriskpartners.com

[Email address of broker or agent (typewritten)]

516-962-8184 / 516-962-8180

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

*Evan Gilbert*

[Signature of authorized official, broker, or agent]

Evan Gilbert, Acct Mgr

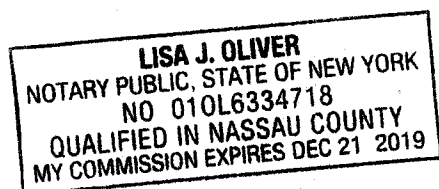
[Name and title of authorized official, broker, or agent (typewritten)]

State of NY)  
) ss.:  
County of Nassau)

Sworn to before me this 14 day of March, 2018

*Lisa J. Oliver*

NOTARY PUBLIC FOR THE STATE OF NY





**OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE**

**LABOR LAW §220 PREVAILING WAGE SCHEDULE**

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 §220 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 contracts.

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 works contracts. Contractors are advised to review the Comptroller's Prevailing Wage Schedule before bidding on public works contracts. Contractors with questions concerning trade classifications, prevailing rates or prevailing practices with respect to public works 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 works 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 works 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 [www.comptroller.nyc.gov](http://www.comptroller.nyc.gov). 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 [www.comptroller.nyc.gov](http://www.comptroller.nyc.gov).

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  
§220 PREVAILING WAGE SCHEDULE**

Prevailing rates and ratios for apprentices are attached to this schedule in the Appendix. 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 employed on a public work project. Workers who are not journey persons or not registered apprentices pursuant to Labor Law §220 (3-e) may not be substituted for apprentices and must be paid as journey persons.

Public Work construction, reconstruction, demolition, excavation, rehabilitation, repair, renovation, alteration, or improvement contracts 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 <http://www.nyc.gov/html/mocs/html/vendors/pla.shtml>.

All the provisions of Labor Law section 220 remain applicable to PLA work including, but not limited to, the enforcement of prevailing wage requirements by the Comptroller; 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.**

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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE

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**OFFICE OF THE COMPTROLLER, CITY OF NEW YORK**  
**§220 PREVAILING WAGE SCHEDULE**

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OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE

## **ASBESTOS HANDLER**

(Hazardous Material; Disturbs, removes, encapsulates, repairs, or encloses friable asbestos material)

### **Asbestos Handler**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$36.00**

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

(Local #78 and Local #12A)

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## **BLASTER**

### **Blaster**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$46.27**

Supplemental Benefit Rate per Hour: **\$47.99**

### **Blaster (Hydraulic)**

Effective Period: 7/1/2017 - 6/30/2018

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
\$220 PREVAILING WAGE SCHEDULE

Wage Rate per Hour: \$47.15  
Supplemental Benefit Rate per Hour: \$47.99

**Blaster - Trac Drill Hydraulic**

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate per Hour: \$41.29  
Supplemental Benefit Rate per Hour: \$47.99

**Blaster - Wagon: Air Trac: Quarry Bar: Drillrunners**

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate per Hour: \$40.46  
Supplemental Benefit Rate per Hour: \$47.99

**Blaster - Operators of Jack Hammers**

Chippers: Spaders: Concrete Breakers: and all other pneumatic tools of like usage: Walk Behind Self Propelled Hydraulic Asphalt and Concrete Breakers: Hydro (Water) Demolition

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate per Hour: \$39.34  
Supplemental Benefit Rate per Hour: \$47.99

**Blaster - Powder Carriers**

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate per Hour: \$35.17  
Supplemental Benefit Rate per Hour: \$47.99

**Blaster - Hydraulic Trac Drill Chuck Tender**

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate per Hour: \$33.81  
Supplemental Benefit Rate per Hour: \$47.99

**Blaster - Chuck Tender & Nipper**

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate per Hour: \$33.00  
Supplemental Benefit Rate per Hour: \$47.99

**Blaster - Magazine Keepers: (Watch Person)**

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate per Hour: \$18.22  
Supplemental Benefit Rate per Hour: \$47.99

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE

## Overtime Description

### Magazine Keepers:

Time and one half for work performed in excess of forty (40) hours per week and for work performed on Saturdays, Sundays and Holidays.

### All Other Employees:

Time and one-half for the first two hours of overtime Monday through Friday, the first ten hours, the first ten hours of work on Saturday and for Make-up Time. Double time for all hours over ten Monday through Saturday (except make-up hours) and for all hours worked on Sunday and Holidays.

## 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

None

## Shift Rates

A single shift shall be 8 hours plus an unpaid lunch, starting at 8:00 A.M (or between 6:00 A.M. and 10:00 A.M. on weekdays). When two (2) shifts are employed, each shift shall be 8 hours plus ½ hour unpaid lunch. When three (3) 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 (½) hour is allowed for mealtime. When two (2) or more shifts are employed, single time will be paid for each shift. The first 8 hours of any and all work performed Monday through Friday inclusive of any off-shift shall be at the single time rate.

(Local #29)

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## BOILERMAKER

### Boilermaker

Effective Period: 7/1/2017 - 12/31/2017

Wage Rate per Hour: **\$55.23**

Supplemental Benefit Rate per Hour: **\$42.96**

Supplemental Note: For time and one half overtime - \$63.82 For double overtime - \$84.68

Effective Period: 1/1/2018 - 6/30/2018

Wage Rate per Hour: **\$57.17**

Supplemental Benefit Rate per Hour: **\$43.62**

Supplemental Note: For time and one half overtime - \$64.81 For double overtime - \$86.00

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE

## Overtime Description

For Repair and Maintenance work:

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

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

For New Construction work:

Double time the regular rate after an 8 hour day.

Double time the regular time rate for Saturday.

Double time the regular rate for Sunday.

## Overtime Holidays

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

New Year's Day

President's Day

Memorial Day

Independence Day

Columbus Day

Election Day

Veteran's Day

Thanksgiving Day

Christmas Day

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

Labor Day

## Paid Holidays

Good Friday

Day after Thanksgiving

Day before Christmas

Day before New Year's Day

## Shift Rates

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)

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## BRICKLAYER

### Bricklayer

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$55.10



OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE

Supplemental Benefit Rate per Hour: \$31.20

**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

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: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$52.50

Supplemental Benefit Rate per Hour: \$46.28

**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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE

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)

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

**Heavy Construction Work**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$52.63

Supplemental Benefit Rate per Hour: \$49.66

**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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE

**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)

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

**Carpenter High Rise A**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$50.78

Supplemental Benefit Rate per Hour: \$41.49

**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: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$39.07

Supplemental Benefit Rate per Hour: \$16.65

**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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
\$220 PREVAILING WAGE SCHEDULE

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)

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**CARPENTER - SIDEWALK SHED, SCAFFOLD AND HOIST**

**Carpenter - Hod Hoist**

(Assisted by Mason Tender)

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$50.50

Supplemental Benefit Rate per Hour: \$39.46

**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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE

## 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)

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## CEMENT & CONCRETE WORKER

### Cement & Concrete Worker

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$42.48

Supplemental Benefit Rate per Hour: \$26.00

Supplemental Note: \$29.50 on Saturdays; \$33.00 on Sundays & Holidays

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

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$32.00

Supplemental Benefit Rate per Hour: \$18.00

Supplemental Note: \$19.50 on Saturdays; \$21.00 on Sundays & Holidays

### Overtime Description

Time and one half the regular rate after 7 hour day (time and one half the regular rate after an 8 hour day when working with Dockbuilders on pile cap forms and for work below street level to the top of the foundation wall, not to exceed 2 feet or 3 feet above the sidewalk-brick shelf, when working on the foundation and structure.)

### Overtime

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

### Overtime Holidays

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

New Year's Day

President's Day

Good Friday

Memorial Day

Independence Day

Labor Day

Columbus Day

Presidential Election Day

Thanksgiving Day

Christmas Day

### Paid Holidays

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
\$220 PREVAILING WAGE SCHEDULE

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)

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## CEMENT MASON

### Cement Mason

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$42.62**

Supplemental Benefit Rate per Hour: **\$38.96**

Supplemental Note: For time and one half overtime - \$48.21; For double overtime - \$57.46

### 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)

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## **CORE DRILLER**

### **Core Driller**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$38.82**

Supplemental Benefit Rate per Hour: **\$24.66**

### **Core Driller Helper**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$30.96**

Supplemental Benefit Rate per Hour: **\$24.66**

### **Core Driller Helper(Third year in the industry)**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$27.86**

Supplemental Benefit Rate per Hour: **\$24.66**

### **Core Driller Helper (Second year in the industry)**

Effective Period: 7/1/2017 - 6/30/2018

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

Supplemental Benefit Rate per Hour: **\$24.66**

### **Core Driller Helper (First year in the industry)**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$21.67**

Supplemental Benefit Rate per Hour: **\$24.66**

## **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

**OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE**

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)

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## **DERRICKPERSON AND RIGGER**

### **Derrick Person & Rigger**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$46.86**

Supplemental Benefit Rate per Hour: **\$51.40**

Supplemental Note: The above supplemental rate applies for work performed in Manhattan, Bronx, Brooklyn and Queens. \$52.82 - For work performed in Staten Island.

### **Derrick Person & Rigger - Site Work**

Assists the Stone Mason-Setter in the setting of stone

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$40.29**

Supplemental Benefit Rate per Hour: **\$39.23**

### **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



OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE

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)

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**DIVER**

**Diver (Marine)**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$66.66

Supplemental Benefit Rate per Hour: \$49.66

**Diver Tender (Marine)**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$47.34

Supplemental Benefit Rate per Hour: \$49.66

**Overtime**

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

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

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

**Overtime Holidays**

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

New Year's Day

President's Day

Memorial Day

Independence Day

Labor Day

Columbus Day

Presidential Election Day

Thanksgiving Day

Christmas Day

**Paid Holidays**

None

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
\$220 PREVAILING WAGE SCHEDULE

## 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)

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## DOCKBUILDER - PILE DRIVER

### Dockbuilder - Pile Driver

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$52.63

Supplemental Benefit Rate per Hour: \$49.66

### 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)

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OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE

## **DRIVER: TRUCK (TEAMSTER)**

### **Driver - Dump Truck**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$41.18**

Supplemental Benefit Rate per Hour: **\$44.79**

Supplemental Note: Over 40 hours worked: at time and one half rate - \$19.94; at double time rate - \$26.58

### **Driver - Tractor Trailer**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$42.22**

Supplemental Benefit Rate per Hour: **\$45.40**

Supplemental Note: Over 40 hours worked: at time and one half rate - \$17.55; at double time rate - \$23.40

### **Driver - Euclid & Turnapull Operator**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$42.78**

Supplemental Benefit Rate per Hour: **\$45.40**

Supplemental Note: Over 40 hours worked: at time and one half rate - \$17.55 at double time rate - \$23.40

## **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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
\$220 PREVAILING WAGE SCHEDULE

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 hours allowing for one half hour for lunch and receive 9 hours pay for 8 hours of work.

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### Driver Redi-Mix (Sand & Gravel)

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$38.40

Supplemental Benefit Rate per Hour: \$42.12

Supplemental Note: Over 40 hours worked: time and one half rate \$15.99, double time rate \$21.33

### Overtime Description

For Paid Holidays: Employees working two (2) days in the calendar week in which the holiday falls are to 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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE

Election Day  
Thanksgiving Day  
Christmas Day

(Local #282)

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## **ELECTRICIAN**

(Including all low voltage cabling carrying data; video; and voice in combination with data and or video.)

### **Electrician "A" (Regular Day / Day Shift)**

Effective Period: 7/1/2017 - 5/9/2018

Wage Rate per Hour: \$56.00

Supplemental Benefit Rate per Hour: \$54.35

Effective Period: 5/10/2018 - 6/30/2018

Wage Rate per Hour: \$56.00

Supplemental Benefit Rate per Hour: \$55.72

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

Effective Period: 7/1/2017 - 5/9/2018

Wage Rate per Hour: \$84.00

Supplemental Benefit Rate per Hour: \$57.86

Effective Period: 5/10/2018 - 6/30/2018

Wage Rate per Hour: \$84.00

Supplemental Benefit Rate per Hour: \$59.23

### **Electrician "A" (Swing Shift)**

Effective Period: 7/1/2017 - 5/9/2018

Wage Rate per Hour: \$65.71

Supplemental Benefit Rate per Hour: \$61.94

Effective Period: 5/10/2018 - 6/30/2018

Wage Rate per Hour: \$65.71

Supplemental Benefit Rate per Hour: \$63.52

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

Effective Period: 7/1/2017 - 5/9/2018

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
\$220 PREVAILING WAGE SCHEDULE

Wage Rate per Hour: **\$98.57**  
Supplemental Benefit Rate per Hour: **\$66.05**

Effective Period: 5/10/2018 - 6/30/2018  
Wage Rate per Hour: **\$98.57**  
Supplemental Benefit Rate per Hour: **\$67.64**

**Electrician "A" (Graveyard Shift)**

Effective Period: 7/1/2017 - 5/9/2018  
Wage Rate per Hour: **\$73.60**  
Supplemental Benefit Rate per Hour: **\$68.33**

Effective Period: 5/10/2018 - 6/30/2018  
Wage Rate per Hour: **\$73.60**  
Supplemental Benefit Rate per Hour: **\$70.09**

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

Effective Period: 7/1/2017 - 5/9/2018  
Wage Rate per Hour: **\$110.40**  
Supplemental Benefit Rate per Hour: **\$72.95**

Effective Period: 5/10/2018 - 6/30/2018  
Wage Rate per Hour: **\$110.40**  
Supplemental Benefit Rate per Hour: **\$74.70**

**Overtime**

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

**Overtime Holidays**

Time and one half the regular rate for work on a holiday.

New Year's Day  
Martin Luther King Jr. Day  
President's Day  
Memorial Day  
Independence Day  
Labor Day  
Columbus Day  
Veteran's Day  
Thanksgiving Day  
Day after Thanksgiving  
Christmas Day

**Paid Holidays**

None

**Shift Rates**

**OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE**

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 \$25.67 and effective 5/10/18 \$25.92.

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### **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: 7/1/2017 - 5/9/2018

Wage Rate per Hour: **\$28.50**

Supplemental Benefit Rate per Hour: **\$22.10**

First and Second Year "M" Wage Rate Per Hour: **\$24.00**

First and Second Year "M" Supplemental Rate: **\$19.80**

Effective Period: 5/10/2018 - 6/30/2018

Wage Rate per Hour: **\$29.00**

Supplemental Benefit Rate per Hour: **\$22.65**

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

First and Second Year "M" Supplemental Rate: **\$20.30**

### **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: 7/1/2017 - 5/9/2018

Wage Rate per Hour: **\$42.75**

Supplemental Benefit Rate per Hour: **\$23.89**

First and Second Year "M" Wage Rate Per Hour: **\$36.00**

First and Second Year "M" Supplemental Rate: **\$21.30**

Effective Period: 5/10/2018 - 6/30/2018

Wage Rate per Hour: **\$43.50**

Supplemental Benefit Rate per Hour: **\$24.47**

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

First and Second Year "M" Supplemental Rate: **\$21.84**

### **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.

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE

### **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)

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## **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: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$32.40

Supplemental Benefit Rate per Hour: \$16.10

Supplemental Note: \$14.60 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  
§220 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)

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## ELECTRICIAN-STREET LIGHTING WORKER

### Electrician - Electro Pole Electrician

Effective Period: 7/1/2017 - 5/15/2018

Wage Rate per Hour: \$56.00

Supplemental Benefit Rate per Hour: \$56.26

Effective Period: 5/16/2018 - 6/30/2018

Wage Rate per Hour: \$56.00

Supplemental Benefit Rate per Hour: \$57.63

### Electrician - Electro Pole Foundation Installer

Effective Period: 7/1/2017 - 5/15/2018

Wage Rate per Hour: \$41.54

Supplemental Benefit Rate per Hour: \$41.02

Effective Period: 5/16/2018 - 6/30/2018

Wage Rate per Hour: \$42.16

Supplemental Benefit Rate per Hour: \$42.19

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE

**Electrician - Electro Pole Maintainer**

Effective Period: 7/1/2017 - 5/16/2018

Wage Rate per Hour: **\$35.58**

Supplemental Benefit Rate per Hour: **\$36.89**

Effective Period: 5/17/2018 - 6/30/2018

Wage Rate per Hour: **\$36.11**

Supplemental Benefit Rate per Hour: **\$37.93**

**Overtime Description**

Electrician - Electro Pole Electrician: Time and one half the regular rate after a 7 hour day and after 5 consecutive days worked per week.

Electrician - Electro Pole Foundation Installer: Time and one half the regular rate after 8 hours within a 24 hour period and Saturday and Sunday.

Electrician - Electro Pole Maintainer: Time and one half the regular rate after a 7 hour day and after 5 consecutive days worked per week. Saturdays and Sundays may be used as a make-up day at straight time when a day is lost during the week to inclement weather.

**Overtime Holidays**

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

New Year's Day

Martin Luther King Jr. Day

President's Day

Memorial Day

Independence Day

Labor Day

Columbus Day

Veteran's Day

Thanksgiving Day

Day after Thanksgiving

Christmas Day

**Paid Holidays**

None

(Local #3)

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**ELEVATOR CONSTRUCTOR**

**Elevator Constructor**

Effective Period: 7/1/2017 - 3/16/2018

Wage Rate per Hour: **\$62.64**

Supplemental Benefit Rate per Hour: **\$34.25**

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE

Effective Period: 3/17/2018 - 6/30/2018

Wage Rate per Hour: **\$64.48**

Supplemental Benefit Rate per Hour: **\$35.85**

### 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

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)

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## ELEVATOR REPAIR & MAINTENANCE

### Elevator Service/Modernization Mechanic

Effective Period: 7/1/2017 - 3/16/2018

Wage Rate per Hour: **\$49.14**

Supplemental Benefit Rate per Hour: **\$34.11**

Effective Period: 3/17/2018 - 6/30/2018

Wage Rate per Hour: **\$50.49**

Supplemental Benefit Rate per Hour: **\$35.71**

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE

### **Overtime Description**

For Scheduled Service Work: Double time - work scheduled in advance by two or more workers performed on Sundays, Holidays, and between midnight and 7:00am.

### **Overtime**

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

Time and one half the regular rate for Saturday.

Time and one half the regular rate for Sunday.

Time and one half the regular rate for work on a holiday plus the day's pay.

### **Paid Holidays**

New Year's Day

President's Day

Good Friday

Memorial Day

Independence Day

Labor Day

Columbus Day

Veteran's Day

Thanksgiving Day

Day after Thanksgiving

Christmas Day

### **Shift Rates**

Afternoon shift - regularly hourly rate plus a (15%) fifteen percent differential. Graveyard shift - time and one half the regular rate.

### **Vacation**

Employer contributes 8% of regular basic hourly rate as vacation pay for employees with more than 15 years of service, and 6% for employees with 5 to 15 years of service, and 4% for employees with less than 5 years of service.

(Local #1)

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## **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: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$67.32**

Supplemental Benefit Rate per Hour: **\$36.87**

Supplemental Note: \$66.34 on overtime

Shift Wage Rate: **\$107.71**

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE

**Engineer - Heavy Construction Operating Engineer II**

Backhoes, Basin Machines, Groover, Mechanical Sweepers, Bobcat, Boom Truck, Barrier Transport (Barrier Mover) & machines of similar nature. Operation of Churn Drills and machines of a similar nature, Stetco Silent Hoist and machines of similar nature, Vac-Alls, Meyers Machines, John Beam and machines of a similar nature, Ross Carriers and Travel Lifts and machines of a similar nature, Bulldozers, Scrapers and Turn-a-Pulls: Tugger Hoists (Used exclusively for handling excavated material); Tractors with attachments, Hyster and Roustabout Cranes, Cherrypickers. Austin Western, Grove and machines of a similar nature, Scoopmobiles, Monorails, Conveyors, Trenchers: Loaders-Rubber Tired and Tractor: Barber Greene and Eimco Loaders and Eimco Backhoes; Mighty Midget and similar breakers and Tampers, Curb and Gutter Pavers and Motor Patrol, Motor Graders and all machines of a similar nature. Locomotives 10 Tons or under. Mini-Max, Break-Tech and machines of a similar nature; Milling machines, robotic and demolition machines and machines of a similar nature, shot blaster, skid steer machines and machines of a similar nature including bobcat, pile rig rubber-tired excavator (37,000 lbs. and under), 2 man auger.

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$65.31

Supplemental Benefit Rate per Hour: \$36.87

Supplemental Note: \$66.34 on overtime

Shift Wage Rate: \$104.50

**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: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$61.93

Supplemental Benefit Rate per Hour: \$36.87

Supplemental Note: \$66.34 on overtime

Shift Wage Rate: \$99.09

**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; vermeer.

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$65.00

Supplemental Benefit Rate per Hour: \$36.87

Supplemental Note: \$66.34 on overtime

Shift Wage Rate: \$104.00

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**Engineer - Heavy Construction Maintenance Engineer II**

On Base Mounted Tower Cranes

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$85.53

Supplemental Benefit Rate per Hour: \$36.87

Supplemental Note: \$66.34 on overtime

Shift Wage Rate: \$136.85

**Engineer - Heavy Construction Maintenance Engineer III**

On Generators, Light Towers

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$42.73

Supplemental Benefit Rate per Hour: \$36.87

Supplemental Note: \$66.34 on overtime

Shift Wage Rate: \$68.37

**Engineer - Heavy Construction Maintenance Engineer IV**

On Pumps and Mixers including mud sucking

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$43.86

Supplemental Benefit Rate per Hour: \$36.87

Supplemental Note: \$66.34 on overtime

Shift Wage Rate: \$70.18

**Engineer - Heavy Construction Oilers I**

Gradalls, Cold Planer Grader, Concrete Pumps, Driving Truck Cranes, Driving and Operating Fuel and Grease Trucks.

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$58.57

Supplemental Benefit Rate per Hour: \$36.87

Supplemental Note: \$66.34 on overtime

Shift Wage Rate: \$93.71

**Engineer - Heavy Construction Oilers II**

All gasoline, electric, diesel or air operated Shovels, Draglines, Backhoes, Keystones, Pavers, Gunite Machines, Battery of Compressors, Crawler Cranes, two-person Trenching Machines.

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$40.36

Supplemental Benefit Rate per Hour: \$36.87

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Supplemental Note: \$66.34 on overtime  
Shift Wage Rate: \$64.58

**Engineer - Steel Erection Maintenance Engineers**

Derrick, Travelers, Tower, Crawler Tower and Climbing Cranes

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate per Hour: \$61.13  
Supplemental Benefit Rate per Hour: \$35.41  
Supplemental Note: \$63.67 on overtime  
Shift Wage Rate: \$97.81

**Engineer - Steel Erection Oiler I**

On a Truck Crane

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate per Hour: \$57.21  
Supplemental Benefit Rate per Hour: \$35.41  
Supplemental Note: \$63.67 on overtime  
Shift Wage Rate: \$91.54

**Engineer - Steel Erection Oiler II**

On a Crawler Crane

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate per Hour: \$43.54  
Supplemental Benefit Rate per Hour: \$35.41  
Supplemental Note: \$63.67 on overtime  
Shift Wage Rate: \$69.66

**Overtime Description**

On jobs of more than one shift, if the next shift employee fails to report for work through any cause over which the employer has no control, the employee on duty who works the next shift continues to work at the single time rate.

**Overtime**

Double time the regular rate after an 8 hour day.  
Double time the regular time rate for Saturday.  
Double time the regular rate for Sunday.  
Double time the regular rate for work on the following holiday(s).

**Paid Holidays**

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

**OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
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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

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### **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: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$58.30**

Supplemental Benefit Rate per Hour: **\$35.41**

Supplemental Note: \$63.67 on overtime

### **Engineer - Building Work Maintenance Engineers II**

On Pumps, Generators, Mixers and Heaters

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$45.28**

Supplemental Benefit Rate per Hour: **\$35.41**

Supplemental Note: \$63.67 on overtime

### **Engineer - Building Work Oilers I**

All gasoline, electric, diesel or air operated Gradealls: Concrete Pumps, Overhead Cranes in Power Houses: Their duties shall be to assist the Engineer in oiling, greasing and repairing of all machines; Driving Truck Cranes: Driving and Operating Fuel and Grease Trucks, Cherrypickers (hydraulic cranes) over 70,000 GVW, and machines of a similar nature.

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$55.42**

Supplemental Benefit Rate per Hour: **\$35.41**

Supplemental Note: \$63.67 on overtime

### **Engineer - Building Work Oilers II**

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

Effective Period: 7/1/2017 - 6/30/2018



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Wage Rate per Hour: \$41.16

Supplemental Benefit Rate per Hour: \$35.41

Supplemental Note: \$63.67 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)

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## ENGINEER - CITY SURVEYOR AND CONSULTANT

### Party Chief

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$38.18

Supplemental Benefit Rate per Hour: \$20.15

Supplemental Note: Overtime Benefit Rate - \$27.65 per hour (time & one half) \$35.15 per hour (double time).

### Instrument Person

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$31.47

Supplemental Benefit Rate per Hour: \$20.15

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Supplemental Note: Overtime Benefit Rate - \$27.65 per hour (time & one half) \$35.15 per hour (double time).

**Rodperson**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$27.24**

Supplemental Benefit Rate per Hour: **\$20.15**

Supplemental Note: Overtime Benefit Rate - \$27.65 per hour (time & one half) \$35.15 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)

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**ENGINEER - FIELD (BUILDING CONSTRUCTION)**

(Construction of Building Projects, Concrete Superstructures, etc.)

**Field Engineer - BC Party Chief**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$60.10**

Supplemental Benefit Rate per Hour: **\$32.15**

Supplemental Note: Overtime Benefit Rate - \$44.90 per hour (time & one half) \$57.65 per hour (double time).

**Field Engineer - BC Instrument Person**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$46.69**

Supplemental Benefit Rate per Hour: **\$32.15**

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Supplemental Note: Overtime Benefit Rate - \$44.90 per hour (time & one half) \$57.65 per hour (double time).

**Field Engineer - BC Rodperson**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$30.20

Supplemental Benefit Rate per Hour: \$32.15

Supplemental Note: Overtime Benefit Rate - \$44.90 per hour (time & one half) \$57.65 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)

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**ENGINEER - FIELD (HEAVY CONSTRUCTION)**

(Construction of Roads, Tunnels, Bridges, Sewers, Building Foundations, Engineering Structures etc.)

**Field Engineer - HC Party Chief**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$70.25

Supplemental Benefit Rate per Hour: \$34.18

Supplemental Note: Overtime benefit rate - \$47.82 per hour (time & one half), \$61.46 per hour (double time).

**Field Engineer - HC Instrument Person**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$51.64

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Supplemental Benefit Rate per Hour: **\$34.18**

Supplemental Note: Overtime benefit rate - \$47.82 per hour (time & one half), \$61.46 per hour (double time).

**Field Engineer - HC Rodperson**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$43.37**

Supplemental Benefit Rate per Hour: **\$34.18**

Supplemental Note: Overtime benefit rate - \$47.82 per hour (time & one half), \$61.46 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)

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**ENGINEER - FIELD (STEEL ERECTION)**

**Field Engineer - Steel Erection Party Chief**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$63.64**

Supplemental Benefit Rate per Hour: **\$33.04**

Supplemental Note: Overtime benefit rate - \$46.11 per hour (time & one half), \$59.18 per hour (double time).

**Field Engineer - Steel Erection Instrument Person**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$49.59**

Supplemental Benefit Rate per Hour: **\$33.04**

Supplemental Note: Overtime benefit rate - \$46.11 per hour (time & one half), \$59.18 per hour (double time).

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**Field Engineer - Steel Erection Rodperson**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$33.20

Supplemental Benefit Rate per Hour: \$33.04

Supplemental Note: Overtime benefit rate - \$46.11 per hour (time & one half), \$59.18 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)

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**ENGINEER - OPERATING**

**Operating Engineer - Road & Heavy Construction I**

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

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$76.60

Supplemental Benefit Rate per Hour: \$31.10

Supplemental Note: \$56.50 overtime hours

Shift Wage Rate: \$122.56

**Operating Engineer - Road & Heavy Construction II**

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

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Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate per Hour: **\$79.28**  
Supplemental Benefit Rate per Hour: **\$31.10**  
Supplemental Note: \$56.50 overtime hours  
Shift Wage Rate: **\$126.85**

**Operating Engineer - Road & Heavy Construction III**

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

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate per Hour: **\$81.80**  
Supplemental Benefit Rate per Hour: **\$31.10**  
Supplemental Note: \$56.50 overtime hours  
Shift Wage Rate: **\$130.88**

**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: 7/1/2017 - 6/30/2018  
Wage Rate per Hour: **\$79.85**  
Supplemental Benefit Rate per Hour: **\$31.10**  
Supplemental Note: \$56.50 overtime hours  
Shift Wage Rate: **\$127.76**

**Operating Engineer - Road & Heavy Construction V**

Pile Drivers & Rigs (employing Dock Builder foreperson): Derrick Boats, Tunnel Shovels.

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate per Hour: **\$78.29**  
Supplemental Benefit Rate per Hour: **\$31.10**  
Supplemental Note: \$56.50 overtime hours  
Shift Wage Rate: **\$125.26**

**Operating Engineer - Road & Heavy Construction VI**

Mixers (Concrete with loading attachment), Concrete Pavers, Cableways, Land Derricks, Power Houses (Low Air Pressure Units).

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate per Hour: **\$74.42**  
Supplemental Benefit Rate per Hour: **\$31.10**  
Supplemental Note: \$56.50 overtime hours  
Shift Wage Rate: **\$119.07**

**Operating Engineer - Road & Heavy Construction VII**

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Barrier Movers , Barrier Transport and Machines of a Similar Nature.

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$60.22

Supplemental Benefit Rate per Hour: \$31.10

Supplemental Note: \$56.50 overtime hours

Shift Wage Rate: \$96.35

**Operating Engineer - Road & Heavy Construction VIII**

Utility Compressors

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$46.88

Supplemental Benefit Rate per Hour: \$31.10

Supplemental Note: \$56.50 overtime hours

Shift Wage Rate: \$58.92

**Operating Engineer - Road & Heavy Construction IX**

Horizontal Boring Rig

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$70.79

Supplemental Benefit Rate per Hour: \$31.10

Supplemental Note: \$56.50 overtime hours

Shift Wage Rate: \$113.26

**Operating Engineer - Road & Heavy Construction X**

Elevators (manually operated as personnel hoist).

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$65.12

Supplemental Benefit Rate per Hour: \$31.10

Supplemental Note: \$56.50 overtime hours

Shift Wage Rate: \$104.19

**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: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$50.73

Supplemental Benefit Rate per Hour: \$31.10

Supplemental Note: \$56.50 overtime hours

Shift Wage Rate: \$81.17

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**Operating Engineer - Road & Heavy Construction XII**

All Drills and Machines of a similar nature.

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$75.19**

Supplemental Benefit Rate per Hour: **\$31.10**

Supplemental Note: \$56.50 overtime hours

Shift Wage Rate: **\$120.30**

**Operating Engineer - Road & Heavy Construction XIII**

Concrete Pumps, Concrete Plant, Stone Crushers, Double Drum Hoist, Power Houses (other than above).

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$72.84**

Supplemental Benefit Rate per Hour: **\$31.10**

Supplemental Note: \$56.50 overtime hours

Shift Wage Rate: **\$116.54**

**Operating Engineer - Road & Heavy Construction XIV**

Concrete Mixer

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$69.67**

Supplemental Benefit Rate per Hour: **\$31.10**

Supplemental Note: \$56.50 overtime hours

Shift Wage Rate: **\$111.47**

**Operating Engineer - Road & Heavy Construction XV**

Compressors (Portable Single or two in Battery, not over 100 feet apart), Pumps (River Cofferdam) and Welding Machines, Push Button Machines, All Engines Irrespective of Power (Power-Pac) used to drive auxiliary equipment, Air, Hydraulic, etc.

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$47.18**

Supplemental Benefit Rate per Hour: **\$31.10**

Supplemental Note: \$56.50 overtime hours

Shift Wage Rate: **\$75.49**

**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: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$66.56**

Supplemental Benefit Rate per Hour: **\$31.10**



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Supplemental Note: \$56.50 overtime hours  
Shift Wage Rate: \$106.50

**Operating Engineer - Road & Heavy Construction XVII**

On-Site concrete plant engineer, On-site Asphalt Plant Engineer, and Vibratory console.

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate per Hour: \$67.07  
Supplemental Benefit Rate per Hour: \$31.10  
Supplemental Note: \$56.50 overtime hours  
Shift Wage Rate: \$107.31

**Operating Engineer - Road & Heavy Construction XVIII**

Tower Crane

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate per Hour: \$95.98  
Supplemental Benefit Rate per Hour: \$31.10  
Supplemental Note: \$56.50 overtime hours  
Shift Wage Rate: \$153.57

**Operating Engineer - Paving I**

Asphalt Spreaders, Autogrades (C.M.I.), Roto/Mil

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate per Hour: \$74.42  
Supplemental Benefit Rate per Hour: \$31.10  
Supplemental Note: \$56.50 overtime hours  
Shift Wage Rate: \$119.07

**Operating Engineer - Paving II**

Asphalt Roller

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate per Hour: \$72.50  
Supplemental Benefit Rate per Hour: \$31.10  
Supplemental Note: \$56.50 overtime hours  
Shift Wage Rate: \$116.00

**Operating Engineer - Paving III**

Asphalt Plants

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate per Hour: \$61.43

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Supplemental Benefit Rate per Hour: **\$31.10**  
Supplemental Note: \$56.50 overtime hours  
Shift Wage Rate: **\$98.29**

**Operating Engineer - Concrete I**

Cranes

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate per Hour: **\$79.50**  
Supplemental Benefit Rate per Hour: **\$31.10**  
Supplemental Note: \$56.50 overtime hours

**Operating Engineer - Concrete II**

Compressors

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate per Hour: **\$47.54**  
Supplemental Benefit Rate per Hour: **\$31.10**  
Supplemental Note: \$56.50 overtime hours

**Operating Engineer - Concrete III**

Micro-traps (Negative Air Machines), Vac-All Remediation System.

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate per Hour: **\$63.66**  
Supplemental Benefit Rate per Hour: **\$31.10**  
Supplemental Note: \$56.50 overtime hours

**Operating Engineer - Steel Erection I**

Three Drum Derricks

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate per Hour: **\$82.23**  
Supplemental Benefit Rate per Hour: **\$31.10**  
Supplemental Note: \$56.50 overtime hours  
Shift Wage Rate: **\$131.57**

**Operating Engineer - Steel Erection II**

Cranes, 2 Drum Derricks, Hydraulic Cranes, Fork Lifts and Boom Trucks.

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate per Hour: **\$79.04**  
Supplemental Benefit Rate per Hour: **\$31.10**  
Supplemental Note: \$56.50 overtime hours  
Shift Wage Rate: **\$126.46**

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**Operating Engineer - Steel Erection III**

Compressors, Welding Machines.

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$47.14

Supplemental Benefit Rate per Hour: \$31.10

Supplemental Note: \$56.50 overtime hours

Shift Wage Rate: \$75.42

**Operating Engineer - Steel Erection IV**

Compressors - Not Combined with Welding Machine.

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$44.91

Supplemental Benefit Rate per Hour: \$31.10

Supplemental Note: \$56.50 overtime hours

Shift Wage Rate: \$71.86

**Operating Engineer - Building Work I**

Forklifts, Plaster (Platform machine), Plaster Bucket, Concrete Pump and all other equipment used for hoisting material.

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$62.87

Supplemental Benefit Rate per Hour: \$31.10

Supplemental Note: \$56.50 overtime hours

**Operating Engineer - Building Work II**

Compressors, Welding Machines (Cutting Concrete-Tank Work), Paint Spraying, Sandblasting, Pumps (with the exclusion of Concrete Pumps), All Engines irrespective of Power (Power-Pac) used to drive Auxiliary Equipment, Air, Hydraulic, Jacking System, etc.

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$47.01

Supplemental Benefit Rate per Hour: \$31.10

Supplemental Note: \$56.50 overtime hours

**Operating Engineer - Building Work III**

Double Drum

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$71.60

Supplemental Benefit Rate per Hour: \$31.10

Supplemental Note: \$56.50 overtime hours

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**Operating Engineer - Building Work IV**

Stone Derrick, Cranes, Hydraulic Cranes Boom Trucks.

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$75.87

Supplemental Benefit Rate per Hour: \$31.10

Supplemental Note: \$56.50 overtime hours

**Operating Engineer - Building Work V**

Dismantling and Erection of Cranes, Relief Engineer.

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$69.88

Supplemental Benefit Rate per Hour: \$31.10

Supplemental Note: \$56.50 overtime hours

**Operating Engineer - Building Work VI**

4 Pole Hoist, Single Drum Hoists.

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$69.14

Supplemental Benefit Rate per Hour: \$31.10

Supplemental Note: \$56.50 overtime hours

**Operating Engineer - Building Work VII**

Rack & Pinion and House Cars

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$54.92

Supplemental Benefit Rate per Hour: \$31.10

Supplemental Note: \$56.50 overtime hours

For New House Car projects Wage Rate per Hour \$43.77

**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).

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE

### **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)

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## **FLOOR COVERER**

(Interior vinyl composition tile, sheath vinyl linoleum and wood parquet tile including site preparation and synthetic turf not including site preparation)

### **Floor Coverer**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$50.50

Supplemental Benefit Rate per Hour: \$45.88

### **Overtime**

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

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

### **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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE

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 8:00 A.M. to the end of the shift at the straight time of pay. The second shift will receive one hour at double time rate for the last hour of the shift. (eight for seven, nine for eight).

(Carpenters District Council)

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## **GLAZIER**

(New Construction, Remodeling, and Alteration)

### **Glazier**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$44.70

Supplemental Benefit Rate per Hour: \$40.99

Supplemental Note: Supplemental Benefit Overtime Rate: \$50.09

### **Overtime Description**

An optional 8th hour can be worked at straight time rate. If 9th hour is worked, then both hours or more (8th & 9th or more) will be at the double time rate of pay.

### **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  
Thanksgiving Day  
Day after Thanksgiving  
Christmas Day

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
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**Paid Holidays**

None

**Shift Rates**

Shifts shall be any 7 hours beyond 4:00 P.M. for which the glazier shall receive 8 hours pay for 7 hours worked.

(Local #1281)

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**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 \$127,628. Except where enumerated (i.e. plate glass windows) does not apply to non-residential buildings.)

**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: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$24.13

Supplemental Benefit Rate per Hour: \$21.12

**Overtime**

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

Double time the regular rate for Sunday.

Time and one half the regular 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

(Local #1281)

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## HEAT AND FROST INSULATOR

### Heat & Frost Insulator

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$58.38

Supplemental Benefit Rate per Hour: \$39.46

### 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.

Off hour work in occupied or retail buildings may be worked on weekdays with an increment of \$1.00 per hour and eight hours pay for seven (7) hours worked. Double time will apply for over seven (7) hours worked on weekdays, weekends or holidays.

(Local #12) (BCA)

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OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
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**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: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$36.33**

Supplemental Benefit Rate per Hour: **\$29.22**

**House Wrecker - Tier B**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$25.56**

Supplemental Benefit Rate per Hour: **\$21.63**

**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

President's Day

Memorial Day

Independence Day

Labor Day

Thanksgiving Day

Christmas Day

**Paid Holidays**

None

(Mason Tenders District Council)

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**IRON WORKER - ORNAMENTAL**

**Iron Worker - Ornamental**

Effective Period: 7/1/2017 - 6/30/2018

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
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Wage Rate per Hour: **\$44.20**

Supplemental Benefit Rate per Hour: **\$51.57**

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)

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## IRON WORKER - STRUCTURAL

### Iron Worker - Structural

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$50.05**

Supplemental Benefit Rate per Hour: **\$72.53**

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  
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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)

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**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: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$41.50**

Supplemental Benefit Rate per Hour: **\$40.63**

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
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### **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)

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## **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 (Above 6 years experience)**

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate per Hour: \$28.75  
Supplemental Benefit Rate per Hour: \$15.55

### **Landscaper (3 - 6 years experience)**

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate per Hour: \$27.75  
Supplemental Benefit Rate per Hour: \$15.55

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
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**Landscaper (up to 3 years experience)**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$25.25

Supplemental Benefit Rate per Hour: \$15.55

**Groundperson**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$25.25

Supplemental Benefit Rate per Hour: \$15.55

**Tree Remover / Pruner**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$33.75

Supplemental Benefit Rate per Hour: \$15.55

**Landscaper Sprayer (Pesticide Applicator)**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$23.75

Supplemental Benefit Rate per Hour: \$15.55

**Watering - Plant Maintainer**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$18.72

Supplemental Benefit Rate per Hour: \$15.55

**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  
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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)

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## **MARBLE MECHANIC**

### **Marble Setter**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$52.74**

Supplemental Benefit Rate per Hour: **\$38.67**

### **Marble Finisher**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$41.46**

Supplemental Benefit Rate per Hour: **\$36.64**

### **Marble Polisher**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$37.93**

Supplemental Benefit Rate per Hour: **\$28.33**

### **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

Memorial Day

Independence Day

Labor Day

Columbus Day

Veteran's Day

Thanksgiving Day

Day after Thanksgiving

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
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Christmas Day

**Paid Holidays**

None

(Local #7)

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**MASON TENDER**

**Mason Tender**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$37.90

Supplemental Benefit Rate per Hour: \$30.59

**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.

(Local #79)

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## **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: 7/1/2017 - 6/30/2018

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

Supplemental Benefit Rate per Hour: **\$24.25**

### **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: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$25.38**

Supplemental Benefit Rate per Hour: **\$18.57**

### **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)

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## **METALLIC LATHER**

### **Metallic Lather**

Effective Period: 7/1/2017 - 6/30/2018



OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
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Wage Rate per Hour: \$46.28

Supplemental Benefit Rate per Hour: \$42.92

Supplemental Note: Supplemental benefits for overtime are paid at the appropriate overtime rate.

### 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)

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## MILLWRIGHT

### Millwright

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$51.50

Supplemental Benefit Rate per Hour: \$52.41

### Overtime

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

Time and one half the regular rate for Saturday.

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
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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)

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## MOSAIC MECHANIC

### Mosaic Mechanic - Mosaic & Terrazzo Mechanic

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$46.86

Supplemental Benefit Rate per Hour: \$40.65

Supplemental Note: Supplemental benefits for overtime to be paid at the rate of \$51.67 per hour.

### Mosaic Mechanic - Mosaic & Terrazzo Finisher

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$45.26

Supplemental Benefit Rate per Hour: \$40.63

Supplemental Note: Supplemental benefits for overtime to be paid at the rate of \$51.65 per hour.

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**Mosaic Mechanic - Machine Operator Grinder**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$45.26**

Supplemental Benefit Rate per Hour: **\$40.63**

Supplemental Note: Supplemental benefits for overtime to be paid at the rate of \$51.65 per hour.

**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)

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**PAINTER**

**Painter - Brush & Roller**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$42.50**

Supplemental Benefit Rate per Hour: **\$28.62**

Supplemental Note: \$ 33.25 on overtime

**Spray & Scaffold / Decorative / Sandblast**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$45.50**

Supplemental Benefit Rate per Hour: **\$28.62**

Supplemental Note: \$ 33.25 on overtime

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### 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)

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## PAINTER - METAL POLISHER

### METAL POLISHER

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$29.73

Supplemental Benefit Rate per Hour: \$7.06

### METAL POLISHER - NEW CONSTRUCTION

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$30.68

Supplemental Benefit Rate per Hour: \$7.06

### METAL POLISHER - SCAFFOLD OVER 34 FEET

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$33.23

Supplemental Benefit Rate per Hour: \$7.06

### 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

**OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
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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

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**PAINTER - STRIPER**

**Striper (paint)**

Effective Period: 7/1/2017 - 6/30/2018

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: 7/1/2017 - 6/30/2018

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**

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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  
Good Friday  
Memorial Day  
Independence Day  
Labor Day  
Columbus Day  
Presidential Election Day  
Thanksgiving Day  
Day after Thanksgiving  
Christmas Day

**Shift Rates**

Employees hired before April 1, 2003: 15% night shift premium differential for work commenced at 9:00 PM or later.

**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. 2 Personal Days except employees hired after 4/1/12 who do not have 2 years of service.

(Local #917)

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**PAINTER - STRUCTURAL STEEL**

**Painters on Structural Steel**

Effective Period: 7/1/2017 - 9/30/2017

Wage Rate per Hour: **\$49.50**

Supplemental Benefit Rate per Hour: **\$37.08**

Effective Period: 10/1/2017 - 6/30/2018

Wage Rate per Hour: **\$50.00**

Supplemental Benefit Rate per Hour: **\$38.33**

**Painter - Power Tool**

Effective Period: 7/1/2017 - 9/30/2017

Wage Rate per Hour: **\$55.50**

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE

Supplemental Benefit Rate per Hour: **\$37.08**

Overtime Wage Rate: \$6.00 above the "Painters on Structural Steel" overtime rate.

Effective Period: 10/1/2017 - 6/30/2018

Wage Rate per Hour: **\$56.00**

Supplemental Benefit Rate per Hour: **\$38.33**

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.

### **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)

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## **PAPERHANGER**

### **Paperhanger**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$44.89**

Supplemental Benefit Rate per Hour: **\$31.13**

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.

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE

Time and one half the regular rate for Sunday.

### **Overtime Holidays**

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

New Year's Day  
President's Day  
Memorial Day  
Independence Day  
Labor Day  
Thanksgiving Day  
Day after Thanksgiving  
Christmas Day

### **Paid Holidays**

None

### **Shift Rates**

Evening shift - 4:30 P.M. to 12:00 Midnight (regular rate of pay); any work performed before 7:00 A.M. shall be at time and one half the regular base rate of pay.

(District Council of Painters #9)

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## **PAVER AND ROADBUILDER**

### **Paver & Roadbuilder - Formsetter**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$45.85

Supplemental Benefit Rate per Hour: \$40.98

### **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 before the installation of rubberized materials and similar surfaces; installation and repair of temporary construction fencing; slurry seal coating, maintenance of safety surfaces; play equipment installation, and other related work.

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$41.98

Supplemental Benefit Rate per Hour: \$40.98

### **Production Paver & Roadbuilder - Screed Person**



**OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
\$220 PREVAILING WAGE SCHEDULE**

(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: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$46.45**

Supplemental Benefit Rate per Hour: **\$40.98**

**Production Paver & Roadbuilder - Raker**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$45.85**

Supplemental Benefit Rate per Hour: **\$40.98**

**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: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$42.37**

Supplemental Benefit Rate per Hour: **\$40.98**

**Overtime Description**

If an employee works New Year's Day or Christmas Day, they receive the single time rate plus 25%.

**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

**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  
\$220 PREVAILING WAGE SCHEDULE

(Local #1010)

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## PLASTERER

### Plasterer

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$44.93**

Supplemental Benefit Rate per Hour: **\$25.15**

### 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 alteration work during regular work hours, in a building occupied by tenants, said work shall proceed on a shift basis: however work over seven (7) hours in any twenty four (24) hour period, the time after seven (7) hours shall be considered overtime.

The second shift shall start at a time between 3:30 p.m. and 7:00 p.m. and shall consist of seven (7) working hours and shall receive eight (8) hours of wages and benefits at the straight time rate. The workers on the second shift shall be allowed one-half ( $\frac{1}{2}$ ) hour to eat with this time being included in the seven (7) hours of work.

(Local #262)

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OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE

## **PLASTERER - TENDER**

### **Plasterer - Tender**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$37.90**

Supplemental Benefit Rate per Hour: **\$30.59**

### **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)

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## **PLUMBER**

### **Plumber**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$67.25**

Supplemental Benefit Rate per Hour: **\$31.80**

Supplemental Note: Supplemental benefit contributions are to be made at the applicable overtime rates.

### **Plumber - Temporary Services**

**OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE**

**Temporary Services** - When there are no Plumbers on the job site, there may be three shifts designed to cover the entire twenty-four hour period, including weekends if necessary, at the following rate straight time.

**Effective Period:** 7/1/2017 - 6/30/2018

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

**Supplemental Benefit Rate per Hour:** \$25.36

### **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)

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## **PLUMBER (MECHANICAL EQUIPMENT AND SERVICE)**

(Mechanical Equipment and Service work shall include any repair and/or replacement of the present plumbing system.)

### **Plumber**

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$41.20

Supplemental Benefit Rate per Hour: \$15.41

**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)

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**PLUMBER (RESIDENTIAL RATES FOR 1, 2 AND 3 FAMILY HOME CONSTRUCTION)**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$46.66

Supplemental Benefit Rate per Hour: \$22.95

**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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
\$220 PREVAILING WAGE SCHEDULE

Thanksgiving Day  
Day after Thanksgiving  
Christmas Day

**Paid Holidays**

None

**Shift Rates**

30% shift premium shall be paid for wages and fringe benefits for 4:00 pm and midnight shifts Monday to Friday.  
50% shift premium shall be paid for wages and fringe benefits for 4:00 pm and midnight shift work performed on weekends. For shift work on holidays, double time wages and fringe benefits shall be paid.

(Plumbers Local #1)

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**PLUMBER: PUMP & TANK**  
**Oil Trades (Installation and Maintenance)**

**Plumber - Pump & Tank**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$64.22

Supplemental Benefit Rate per Hour: \$23.21

**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**

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE

All work outside the regular workday (8:00 A.M. to 3:30 P.M.) is to be paid at time and one half the regular hourly rate

(Plumbers Local #1)

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**POINTER, WATERPROOFER, CAULKER, SANDBLASTER,  
STEAMBLASTER**  
(Exterior Building Renovation)

**Journey person**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$52.57**

Supplemental Benefit Rate per Hour: **\$25.80**

**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)

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OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE

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## ROOFER

### Roofer

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$41.50**

Supplemental Benefit Rate per Hour: **\$32.27**

### 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)

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## SHEET METAL WORKER

### Sheet Metal Worker

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$48.90**

Supplemental Benefit Rate per Hour: **\$48.00**

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.)



OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$39.12

Supplemental Benefit Rate per Hour: \$48.00

**Sheet Metal Worker - Duct Cleaner**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$12.90

Supplemental Benefit Rate per Hour: \$8.07

**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)

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**SHEET METAL WORKER - SPECIALTY**  
**(Decking & Siding)**

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE

**Sheet Metal Specialty Worker**

The first worker to perform this work must be paid at the rate of the Sheet Metal Worker. The second and third workers shall be paid the Specialty Worker Rate. The ratio of One Sheet Metal Worker, then Two Specialty Workers shall be utilized thereafter.

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$44.57**

Supplemental Benefit Rate per Hour: **\$25.02**

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)

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**SHIPYARD WORKER**

**Shipyard Mechanic - First Class**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$28.12**

Supplemental Benefit Rate per Hour: **\$3.03**

**Shipyard Mechanic - Second Class**

Effective Period: 7/1/2017 - 6/30/2018

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
\$220 PREVAILING WAGE SCHEDULE

Wage Rate per Hour: \$23.35  
Supplemental Benefit Rate per Hour: \$2.85

**Shipyard Laborer - First Class**

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate per Hour: \$20.96  
Supplemental Benefit Rate per Hour: \$2.76

**Shipyard Laborer - Second Class**

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate per Hour: \$15.24  
Supplemental Benefit Rate per Hour: \$2.54

**Shipyard Dockhand - First Class**

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate per Hour: \$22.89  
Supplemental Benefit Rate per Hour: \$2.83

**Shipyard Dockhand - Second Class**

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate per Hour: \$16.51  
Supplemental Benefit Rate per Hour: \$2.58

**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

## **SIGN ERECTOR**

**(Sheet Metal, Plastic, Electric, and Neon)**

### **Sign Erector**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$47.67**

Supplemental Benefit Rate per Hour: **\$50.67**

### **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

Washington's Birthday

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)

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## **STEAMFITTER**

### **Steamfitter I**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$55.50**

Supplemental Benefit Rate per Hour: **\$55.29**

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE

Supplemental Note: Overtime supplemental benefit rate: \$109.84

**Steamfitter -Temporary Services**

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: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$42.18**

Supplemental Benefit Rate per Hour: **\$44.84**

**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.

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**Steamfitter II**

For heating, ventilation, air conditioning and mechanical public works contracts with a dollar value not to exceed \$15,000,000 and for fire protection/sprinkler public works contracts not to exceed \$1,500,000.

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$55.50**

Supplemental Benefit Rate per Hour: **\$55.29**

Supplemental Note: Overtime supplemental benefit rate: \$109.84

**Steamfitter -Temporary Services**

**OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 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: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$42.18**

Supplemental Benefit Rate per Hour: **\$44.84**

### **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 thirty percent premium together with fringe 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

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## **STEAMFITTER - REFRIGERATION AND AIR CONDITIONER (Maintenance and Installation Service Person)**

### **Refrigeration and Air Conditioner Mechanic**

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate per Hour: \$39.50  
Supplemental Benefit Rate per Hour: \$15.81

**Refrigeration and Air Conditioner Service Person V**

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate per Hour: \$32.46  
Supplemental Benefit Rate per Hour: \$14.16

**Refrigeration and Air Conditioner Service Person IV**

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate per Hour: \$26.89  
Supplemental Benefit Rate per Hour: \$12.80

**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: 7/1/2017 - 6/30/2018  
Wage Rate per Hour: \$23.08  
Supplemental Benefit Rate per Hour: \$11.79

**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: 7/1/2017 - 6/30/2018  
Wage Rate per Hour: \$19.14  
Supplemental Benefit Rate per Hour: \$10.85

**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: 7/1/2017 - 6/30/2018  
Wage Rate per Hour: \$14.00  
Supplemental Benefit Rate per Hour: \$9.76

**Overtime**

Time and one half the regular rate after an 8 hour day.  
Time and one half the regular rate for Saturday.  
Double time the regular rate for Sunday.

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
\$220 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)

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## STONE MASON - SETTER

### Stone Mason - Setter

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$53.62

Supplemental Benefit Rate per Hour: \$41.65

### 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  
Washington's Birthday  
Good Friday



OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE

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)

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## **TAPER**

### **Drywall Taper**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$47.82

Supplemental Benefit Rate per Hour: \$22.68

### **Overtime**

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

Time and one half the regular rate for Saturday.

Time and one half the regular rate for Sunday.

### **Overtime Holidays**

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

New Year's Day

Martin Luther King Jr. Day

President's Day

Good Friday

Memorial Day

Independence Day

Labor Day

Columbus Day

Thanksgiving Day

Christmas Day

### **Paid Holidays**

Any worker who reports to work on Christmas Eve or New Year's Eve pursuant to his employer's instruction shall be entitled to three (3) hours afternoon pay without working.

(Local #1974)

## **TELECOMMUNICATION WORKER**

**(Voice Installation Only)**

### **Telecommunication Worker**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$40.35**

Supplemental Benefit Rate per Hour: **\$13.19**

Supplemental Note: The above rate applies for Manhattan, Bronx, Brooklyn, Queens. \$12.64 for Staten Island only.

### **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

Lincoln's Birthday

Washington's Birthday

Memorial Day

Independence Day

Labor Day

Columbus Day

Election Day

Veteran's Day

Thanksgiving Day

Christmas Day

### **Paid Holidays**

New Year's Day

Lincoln's Birthday

Washington's Birthday

Memorial Day

Independence Day

Labor Day

Columbus Day

Election Day

Veteran's Day

Thanksgiving Day

Christmas Day

Employees have the option of observing either Martin Luther King's Birthday or the day after Thanksgiving instead of Lincoln's Birthday

### **Shift Rates**

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE

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.)

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## TILE FINISHER

### Tile Finisher

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$41.13

Supplemental Benefit Rate per Hour: \$31.18

### Overtime

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

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

### Overtime Holidays

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

New Year's Day

President's Day

Good Friday

Memorial Day

Independence Day

Labor Day

Columbus Day

Veteran's Day

Thanksgiving Day

Day after Thanksgiving

Christmas Day

### Paid Holidays

None

### Shift Rates

Off shift work day (work performed outside the regular 8:00 A.M. to 3:30 P.M. workday): shift differential of one and one quarter (1¼) times the regular straight time rate of pay for the seven hours of actual off-shift work.

(Local #7)

## **TILE LAYER - SETTER**

### **Tile Layer - Setter**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$53.19**

Supplemental Benefit Rate per Hour: **\$35.35**

### **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)

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## **TIMBERPERSON**

### **Timberperson**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$48.00**

Supplemental Benefit Rate per Hour: **\$49.16**

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 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.

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)

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## **TUNNEL WORKER**

### **Blasters, Mucking Machine Operators (Compressed Air Rates)**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$62.37

Supplemental Benefit Rate per Hour: \$52.39

### **Tunnel Workers (Compressed Air Rates)**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$60.21

Supplemental Benefit Rate per Hour: \$50.65

### **Top Nipper (Compressed Air Rates)**

Effective Period: 7/1/2017 - 6/30/2018

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
\$220 PREVAILING WAGE SCHEDULE

Wage Rate per Hour: \$59.11

Supplemental Benefit Rate per Hour: \$49.74

**Outside Lock Tender, Outside Gauge Tender, Muck Lock Tender (Compressed Air Rates)**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$58.04

Supplemental Benefit Rate per Hour: \$48.81

**Bottom Bell & Top Bell Signal Person: Shaft Person (Compressed Air Rates)**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$58.04

Supplemental Benefit Rate per Hour: \$48.81

**Changehouse Attendant: Powder Watchperson (Compressed Air Rates)**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$50.87

Supplemental Benefit Rate per Hour: \$46.11

**Blasters (Free Air Rates)**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$59.52

Supplemental Benefit Rate per Hour: \$50.03

**Tunnel Workers (Free Air Rates)**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$56.97

Supplemental Benefit Rate per Hour: \$47.89

**All Others (Free Air Rates)**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$52.63

Supplemental Benefit Rate per Hour: \$44.29

**Microtunneling (Free Air Rates)**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$45.58

Supplemental Benefit Rate per Hour: \$38.31

**Overtime Description**

**OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE**

**For Repair-Maintenance Work on Existing Equipment and Facilities - Time and one half the regular rate after a 7 hour day, or for Saturday, or for Sunday. Double time the regular rate for work on a holiday.  
For Small-Bore Micro Tunneling Machines - Time and one-half the regular rate shall be paid for all overtime.**

**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  
Election Day  
Veteran's Day  
Thanksgiving Day  
Christmas Day

(Local #147)

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**WELDER**

**TO BE PAID AT THE RATE OF THE JOURNEYPERSON IN THE TRADE  
PERFORMING THE WORK.**

**OFFICE OF THE COMPTROLLER**

**CITY OF NEW YORK**

**220 APPRENTICESHIP PREVAILING WAGE SCHEDULE**

**APPENDIX**

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 employed on a public work project.

Any employee listed on a payroll at an apprentice wage rate, who is not registered as above, shall be paid the journey person wage rate for the classification of work he 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  
§220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

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## **ASBESTOS HANDLER**

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

### **Asbestos Handler (First 1000 Hours)**

Effective Period: 7/1/2017 - 6/30/2018

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

Supplemental Benefit Rate Per Hour: \$14.25

### **Asbestos Handler (Second 1000 Hours)**

Effective Period: 7/1/2017 - 6/30/2018

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

Supplemental Benefit Rate Per Hour: \$14.25

### **Asbestos Handler (Third 1000 Hours)**

Effective Period: 7/1/2017 - 6/30/2018

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

Supplemental Benefit Rate Per Hour: \$14.25

### **Asbestos Handler (Fourth 1000 Hours)**

Effective Period: 7/1/2017 - 6/30/2018

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

Supplemental Benefit Rate Per Hour: \$14.25

(Local #78)

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## **BOILERMAKER**

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

### **Boilermaker (First Year)**

Effective Period: 7/1/2017 - 6/30/2018

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

Supplemental Benefit Rate Per Hour: \$30.84

Effective 1/1/2018 - Supplemental Benefit Rate Per Hour: \$31.26

### **Boilermaker (Second Year: 1st Six Months)**

Effective Period: 7/1/2017 - 6/30/2018

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
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Wage Rate Per Hour: 70% of Journeyperson's rate  
Supplemental Benefit Rate Per Hour: \$32.57  
Effective 1/1/2018 - Supplemental Benefit Rate Per Hour: \$33.02

**Boilermaker (Second Year: 2nd Six Months)**

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate Per Hour: 75% of Journeyperson's rate  
Supplemental Benefit Rate Per Hour: \$34.29  
Effective 1/1/2018 - Supplemental Benefit Rate Per Hour: \$34.78

**Boilermaker (Third Year: 1st Six Months)**

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate Per Hour: 80% of Journeyperson's rate  
Supplemental Benefit Rate Per Hour: \$36.03  
Effective 1/1/2018- Supplemental Benefit Rate Per Hour: \$36.56

**Boilermaker (Third Year: 2nd Six Months)**

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate Per Hour: 85% of Journeyperson's rate  
Supplemental Benefit Rate Per Hour: \$37.76  
Effective 1/1/2018 - Supplemental Benefit Rate Per Hour: \$38.32

**Boilermaker (Fourth Year: 1st Six Months)**

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate Per Hour: 90% of Journeyperson's rate  
Supplemental Benefit Rate Per Hour: \$39.51  
Effective 1/1/2018 - Supplemental Benefit Rate Per Hour: \$40.09

**Boilermaker (Fourth Year: 2nd Six Months)**

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate Per Hour: 95% of Journeyperson's rate  
Supplemental Benefit Rate Per Hour: \$41.22  
Effective 1/1/2018- Supplemental Benefit Rate Per Hour: \$41.84

(Local #5)

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**BRICKLAYER**

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

**Bricklayer (First 750 Hours)**

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
\$220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate Per Hour: 50% of Journeyperson's rate  
Supplemental Benefit Rate Per Hour: \$18.80

**Bricklayer (Second 750 Hours)**

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate Per Hour: 60% of Journeyperson's rate  
Supplemental Benefit Rate Per Hour: \$18.80

**Bricklayer (Third 750 Hours)**

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate Per Hour: 70% of Journeyperson's rate  
Supplemental Benefit Rate Per Hour: \$18.80

**Bricklayer (Fourth 750 Hours)**

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate Per Hour: 80% of Journeyperson's rate  
Supplemental Benefit Rate Per Hour: \$18.80

**Bricklayer (Fifth 750 Hours)**

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate Per Hour: 90% of Journeyperson's rate  
Supplemental Benefit Rate Per Hour: \$18.80

**Bricklayer (Sixth 750 Hours)**

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate Per Hour: 95% of Journeyperson's rate  
Supplemental Benefit Rate Per Hour: \$18.80

(Bricklayer District Council)

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**CARPENTER**

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

**Carpenter (First Year)**

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate Per Hour: 40% of Journeyperson's rate  
Supplemental Benefit Rate Per Hour For Building Apprentice: \$31.34

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

Supplemental Benefit Rate Per Hour For Heavy Apprentice: \$33.03

**Carpenter (Second Year)**

Effective Period: 7/1/2017 - 6/30/2018

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

Supplemental Benefit Rate Per Hour For Building Apprentice: \$31.34

Supplemental Benefit Rate Per Hour For Heavy Apprentice: \$33.03

**Carpenter (Third Year)**

Effective Period: 7/1/2017 - 6/30/2018

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

Supplemental Benefit Rate Per Hour For Building Apprentice: \$31.34

Supplemental Benefit Rate Per Hour For Heavy Apprentice: \$33.03

**Carpenter (Fourth Year)**

Effective Period: 7/1/2017 - 6/30/2018

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

Supplemental Benefit Rate Per Hour For Building Apprentice: \$31.34

Supplemental Benefit Rate Per Hour For Heavy Apprentice: \$33.03

(Carpenters District Council)

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**CARPENTER - HIGH RISE CONCRETE FORMS**

(Ratio of Apprentice to Journeyperson: 1 to 1, 2 to 5)

**Carpenter - High Rise (First Year)**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$16.86

Supplemental Benefit Rate per Hour: \$16.20

**Carpenter - High Rise (Second Year)**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$23.16

Supplemental Benefit Rate per Hour: \$16.33

**Carpenter - High Rise (Third Year)**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$29.61

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
\$220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

Supplemental Benefit Rate per Hour: \$16.46

**Carpenter - High Rise (Fourth Year)**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$37.07

Supplemental Benefit Rate per Hour: \$16.61

(Carpenters District Council)

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**CEMENT MASON**

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

**Cement Mason (First Year)**

Effective Period: 7/1/2017 - 6/30/2018

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

**Cement Mason (Second Year)**

Effective Period: 7/1/2017 - 6/30/2018

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

**Cement Mason (Third Year)**

Effective Period: 7/1/2017 - 6/30/2018

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

(Local #780)

---

**CEMENT AND CONCRETE WORKER**

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

**Cement & Concrete Worker (First 1333 hours)**

Effective Period: 7/1/2017 - 6/30/2018

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

Supplemental Benefit Rate Per Hour: \$17.75

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

**Cement & Concrete Worker (Second 1333 hours)**

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate Per Hour: 65% of Journeyperson's rate  
Supplemental Benefit Rate Per Hour: \$23.03

**Cement & Concrete Worker (Last 1334 hours)**

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate Per Hour: 80% of Journeyperson's rate  
Supplemental Benefit Rate Per Hour: \$24.30

**Cement & Concrete Worker (Hired after 2/6/2016 - First 1334 hours)**

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate Per Hour: \$16.96  
Supplemental Benefit Rate Per Hour: \$11.80

**Cement & Concrete Worker (Hired after 2/6/2016 - Second 1334 hours)**

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate Per Hour: \$22.08  
Supplemental Benefit Rate Per Hour: \$16.49

**Cement & Concrete Worker (Hired after 2/6/2016 - Last 1334 hours)**

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate Per Hour: \$27.20  
Supplemental Benefit Rate Per Hour: \$17.33

(Cement Concrete Workers District Council)

---

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

**Derrickperson & Rigger (stone) - First Year**

Effective Period: 7/1/2017 - 6/30/2018  
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: 7/1/2017 - 6/30/2018  
Wage Rate Per Hour: 70% of Journeyperson's rate

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

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

**Derrickperson & Rigger (stone) - Second Year: 2nd Six Months**

Effective Period: 7/1/2017 - 6/30/2018

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: 7/1/2017 - 6/30/2018

Wage Rate Per Hour: 90% of Journeyperson's rate

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

(Local #197)

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**DOCKBUILDER/PILE DRIVER**

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

**Dockbuilder/Pile Driver (First Year)**

Effective Period: 7/1/2017 - 6/30/2018

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

Supplemental Benefit Rate Per Hour: \$33.03

**Dockbuilder/Pile Driver (Second Year)**

Effective Period: 7/1/2017 - 6/30/2018

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

Supplemental Benefit Rate Per Hour: \$33.03

**Dockbuilder/Pile Driver (Third Year)**

Effective Period: 7/1/2017 - 6/30/2018

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

Supplemental Benefit Rate Per Hour: \$33.03

**Dockbuilder/Pile Driver (Fourth Year)**

Effective Period: 7/1/2017 - 6/30/2018

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

Supplemental Benefit Rate Per Hour: \$33.03

(Carpenters District Council)



## **ELECTRICIAN**

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

### **Electrician (First Term: 0-6 Months)**

Effective Period: 7/1/2017 - 5/9/2018

Wage Rate per Hour: **\$14.00**

Supplemental Benefit Rate per Hour: **\$12.37**

Overtime Supplemental Rate Per Hour: **\$13.29**

Effective Period: 5/10/2018 - 6/30/2018

Wage Rate per Hour: **\$14.50**

Supplemental Benefit Rate per Hour: **\$12.63**

Overtime Supplemental Rate Per Hour: **\$13.58**

### **Electrician (First Term: 7-12 Months)**

Effective Period: 7/1/2017 - 5/9/2018

Wage Rate per Hour: **\$15.00**

Supplemental Benefit Rate per Hour: **\$12.88**

Overtime Supplemental Rate Per Hour: **\$13.87**

Effective Period: 5/10/2018 - 6/30/2018

Wage Rate per Hour: **\$15.50**

Supplemental Benefit Rate per Hour: **\$13.14**

Overtime Supplemental Rate Per Hour: **\$14.16**

### **Electrician (Second Term: 0-6 Months)**

Effective Period: 7/1/2017 - 5/9/2018

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

Supplemental Benefit Rate per Hour: **\$13.39**

Overtime Supplemental Rate Per Hour: **\$14.44**

Effective Period: 5/10/2018 - 6/30/2018

Wage Rate per Hour: **\$16.50**

Supplemental Benefit Rate per Hour: **\$13.64**

Overtime Supplemental Rate Per Hour: **\$14.73**

### **Electrician (Second Term: 7-12 Months)**

Effective Period: 7/1/2017 - 5/9/2018

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

Supplemental Benefit Rate per Hour: **\$13.90**

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Overtime Supplemental Rate Per Hour: \$15.02

Effective Period: 5/10/2018 - 6/30/2018

Wage Rate per Hour: \$17.50

Supplemental Benefit Rate per Hour: \$14.15

Overtime Supplemental Rate Per Hour: \$15.31

**Electrician (Third Term: 0-6 Months)**

Effective Period: 7/1/2017 - 5/9/2018

Wage Rate per Hour: \$18.00

Supplemental Benefit Rate per Hour: \$14.41

Overtime Supplemental Rate Per Hour: \$15.59

Effective Period: 5/10/2018 - 6/30/2018

Wage Rate per Hour: \$18.50

Supplemental Benefit Rate per Hour: \$14.66

Overtime Supplemental Rate Per Hour: \$15.88

**Electrician (Third Term: 7-12 Months)**

Effective Period: 7/1/2017 - 5/9/2018

Wage Rate per Hour: \$19.00

Supplemental Benefit Rate per Hour: \$14.92

Overtime Supplemental Rate Per Hour: \$16.17

Effective Period: 5/10/2018 - 6/30/2018

Wage Rate per Hour: \$19.50

Supplemental Benefit Rate per Hour: \$15.17

Overtime Supplemental Rate Per Hour: \$16.45

**Electrician (Fourth Term: 0-6 Months)**

Effective Period: 7/1/2017 - 5/9/2018

Wage Rate per Hour: \$20.00

Supplemental Benefit Rate per Hour: \$15.43

Overtime Supplemental Rate Per Hour: \$16.74

Effective Period: 5/10/2018 - 6/30/2018

Wage Rate per Hour: \$20.50

Supplemental Benefit Rate per Hour: \$15.68

Overtime Supplemental Rate Per Hour: \$17.03

**Electrician (Fourth Term: 7-12 Months)**

Effective Period: 7/1/2017 - 5/9/2018

Wage Rate per Hour: \$22.00

Supplemental Benefit Rate per Hour: \$16.44

Overtime Supplemental Rate Per Hour: \$17.89

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
\$220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

Effective Period: 5/10/2018 - 6/30/2018

Wage Rate per Hour: \$22.50

Supplemental Benefit Rate per Hour: \$16.70

Overtime Supplemental Rate Per Hour: \$18.18

**Electrician (Fifth Term: 0-12 Months)**

Effective Period: 7/1/2017 - 5/9/2018

Wage Rate per Hour: \$24.00

Supplemental Benefit Rate per Hour: \$19.80

Overtime Supplemental Rate Per Hour: \$21.30

Effective Period: 5/10/2018 - 6/30/2018

Wage Rate per Hour: \$24.50

Supplemental Benefit Rate per Hour: \$20.30

Overtime Supplemental Rate Per Hour: \$21.84

**Electrician (Fifth Term: 13-18 Months)**

Effective Period: 7/1/2017 - 5/9/2018

Wage Rate per Hour: \$28.50

Supplemental Benefit Rate per Hour: \$22.10

Overtime Supplemental Rate Per Hour: \$23.89

Effective Period: 5/10/2018 - 6/30/2018

Wage Rate per Hour: \$29.00

Supplemental Benefit Rate per Hour: \$22.65

Overtime Supplemental Rate Per Hour: \$24.47

**Overtime Description**

Overtime Wage paid at time and one half the regular rate

(Local #3)

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**ELEVATOR CONSTRUCTOR**

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

**Elevator (Constructor) - First Year**

Effective Period: 7/1/2017 - 3/16/2018

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

Supplemental Rate Per Hour: \$29.88

Effective Period: 3/17/2018 - 6/30/2018

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

Wage Rate Per Hour: 50% of Journeyperson's rate  
Supplemental Rate Per Hour: \$31.35

**Elevator (Constructor) - Second Year**

Effective Period: 7/1/2017 - 3/16/2018  
Wage Rate Per Hour: 55% of Journeyperson's rate  
Supplemental Rate Per Hour: \$30.31

Effective Period: 3/17/2018 - 6/30/2018  
Wage Rate Per Hour: 55% of Journeyperson's rate  
Supplemental Rate Per Hour: \$31.80

**Elevator (Constructor) - Third Year**

Effective Period: 7/1/2017 - 3/16/2018  
Wage Rate Per Hour: 65% of Journeyperson's rate  
Supplemental Rate Per Hour: \$31.19

Effective Period: 3/17/2018 - 6/30/2018  
Wage Rate Per Hour: 65% of Journeyperson's rate  
Supplemental Rate Per Hour: \$32.70

**Elevator (Constructor) - Fourth Year**

Effective Period: 7/1/2017 - 3/16/2018  
Wage Rate Per Hour: 75% of Journeyperson's rate  
Supplemental Rate Per Hour: \$32.07

Effective Period: 3/17/2018 - 6/30/2018  
Wage Rate Per Hour: 75% of Journeyperson's rate  
Supplemental Rate Per Hour: \$33.60

(Local #1)

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**ELEVATOR REPAIR & MAINTENANCE**

**(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 2)**

**Elevator Service/Modernization Mechanic (First Year)**

Effective Period: 7/1/2017 - 3/16/2018  
Wage Rate Per Hour: 50% of Journeyperson's rate  
Supplemental Benefit Per Hour: \$29.80

Effective Period: 3/17/2018 - 6/30/2018  
Wage Rate Per Hour: 50% of Journeyperson's rate

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Supplemental Benefit Per Hour: \$31.28

**Elevator Service/Modernization Mechanic (Second Year)**

Effective Period: 7/1/2017 - 3/16/2018

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

Supplemental Benefit Per Hour: \$30.23

Effective Period: 3/17/2018 - 6/30/2018

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

Supplemental Benefit Per Hour: \$31.72

**Elevator Service/Modernization Mechanic (Third Year)**

Effective Period: 7/1/2017 - 3/16/2018

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

Supplemental Benefit Per Hour: \$31.09

Effective Period: 3/17/2018 - 6/30/2018

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

Supplemental Benefit Per Hour: \$32.60

**Elevator Service/Modernization Mechanic (Fourth Year)**

Effective Period: 7/1/2017 - 3/16/2018

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

Supplemental Benefit Per Hour: \$31.95

Effective Period: 3/17/2018 - 6/30/2018

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

Supplemental Benefit Per Hour: \$33.49

(Local #1)

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**ENGINEER**

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

**Engineer - First Year**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$24.77

Supplemental Benefit Rate per Hour: \$24.62

**Engineer - Second Year**

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Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate per Hour: \$30.97  
Supplemental Benefit Rate per Hour: \$24.62

**Engineer - Third Year**

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate per Hour: \$34.06  
Supplemental Benefit Rate per Hour: \$24.62

**Engineer - Fourth Year**

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate per Hour: \$37.16  
Supplemental Benefit Rate per Hour: \$24.62

(Local #15)

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**ENGINEER - OPERATING**

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

**Operating Engineer - First Year**

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate Per Hour 40% of Journeyperson's Rate  
Supplemental Benefit Per Hour: \$20.85

**Operating Engineer - Second Year**

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate Per Hour: 50% of Journeyperson's Rate  
Supplemental Benefit Per Hour: \$20.85

**Operating Engineer - Third Year**

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate Per Hour: 60% of Journeyperson's Rate  
Supplemental Benefit Per Hour: \$20.85

(Local #14)

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## **FLOOR COVERER**

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

### **Floor Coverer (First Year)**

Effective Period: 7/1/2017 - 6/30/2018

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

Supplemental Rate Per Hour: \$31.14

### **Floor Coverer (Second Year)**

Effective Period: 7/1/2017 - 6/30/2018

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

Supplemental Rate Per Hour: \$31.14

### **Floor Coverer (Third Year)**

Effective Period: 7/1/2017 - 6/30/2018

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

Supplemental Rate Per Hour: \$31.14

### **Floor Coverer (Fourth Year)**

Effective Period: 7/1/2017 - 6/30/2018

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

Supplemental Rate Per Hour: \$31.14

(Carpenters District Council)

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## **GLAZIER**

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

### **Glazier (First Year)**

Effective Period: 7/1/2017 - 6/30/2018

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

Supplemental Rate Per Hour: \$15.26

### **Glazier (Second Year)**

Effective Period: 7/1/2017 - 6/30/2018

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

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Supplemental Rate Per Hour: \$25.36

**Glazier (Third Year)**

Effective Period: 7/1/2017 - 6/30/2018

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

Supplemental Rate Per Hour: \$28.62

**Glazier (Fourth Year)**

Effective Period: 7/1/2017 - 6/30/2018

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

Supplemental Rate Per Hour: \$34.67

(Local #1281)

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**HEAT & FROST INSULATOR**

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

**Heat & Frost Insulator (First Year)**

Effective Period: 7/1/2017 - 6/30/2018

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

**Heat & Frost Insulator (Second Year)**

Effective Period: 7/1/2017 - 6/30/2018

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

**Heat & Frost Insulator (Third Year)**

Effective Period: 7/1/2017 - 6/30/2018

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

**Heat & Frost Insulator (Fourth Year)**

Effective Period: 7/1/2017 - 6/30/2018

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

(Local #12)

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**HOUSE WRECKER  
(TOTAL DEMOLITION)**

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

**House Wrecker - First Year**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$21.17

Supplemental Benefit Rate per Hour: \$18.54

**House Wrecker - Second Year**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$22.32

Supplemental Benefit Rate per Hour: \$18.54

**House Wrecker - Third Year**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$23.97

Supplemental Benefit Rate per Hour: \$18.54

**House Wrecker - Fourth Year**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$26.53

Supplemental Benefit Rate per Hour: \$18.54

(Mason Tenders District Council)

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**IRON WORKER - ORNAMENTAL**

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

**Iron Worker (Ornamental) - 1st Ten Months**

Effective Period: 7/1/2017 - 6/30/2018

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

Supplemental Rate Per Hour: \$39.40

**Iron Worker (Ornamental) - 11 -16 Months**

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Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate Per Hour: 55% of Journeyperson's rate  
Supplemental Rate Per Hour: \$40.62

**Iron Worker (Ornamental) - 17 - 22 Months**

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate Per Hour: 60% of Journeyperson's rate  
Supplemental Rate Per Hour: \$41.83

**Iron Worker (Ornamental) - 23 - 28 Months**

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate Per Hour: 70% of Journeyperson's rate  
Supplemental Rate Per Hour: \$44.27

**Iron Worker (Ornamental) - 29 - 36 Months**

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate Per Hour: 80% of Journeyperson's rate  
Supplemental Rate Per Hour: \$46.70

(Local #580)

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**IRON WORKER - STRUCTURAL**

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

**Iron Worker (Structural) - 1st Six Months**

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate per Hour: \$26.12  
Supplemental Benefit Rate per Hour: \$50.22

**Iron Worker (Structural) - 7- 18 Months**

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate per Hour: \$26.72  
Supplemental Benefit Rate per Hour: \$50.22

**Iron Worker (Structural) - 19 - 36 months**

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate per Hour: \$27.32

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

Supplemental Benefit Rate per Hour: \$50.22

(Local #40 and #361)

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**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: 7/1/2017 - 6/30/2018

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

Supplemental Rate Per Hour: \$40.63

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

Effective Period: 7/1/2017 - 6/30/2018

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

Supplemental Rate Per Hour: \$40.63

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

Effective Period: 7/1/2017 - 6/30/2018

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

Supplemental Rate Per Hour: \$40.63

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

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate Per Hour: 90% of Journeyman's rate

Supplemental Rate Per Hour: \$40.63

(Local #731)

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## **MARBLE MECHANICS**

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

### **Cutters & Setters - First 750 Hours**

Effective Period: 7/1/2017 - 6/30/2018

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

NO BENEFITS PAID DURING THE FIRST TWO MONTHS (PROBATIONARY PERIOD)

### **Cutters & Setters - Second 750 Hours**

Effective Period: 7/1/2017 - 6/30/2018

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

### **Cutters & Setters - Third 750 Hours**

Effective Period: 7/1/2017 - 6/30/2018

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

### **Cutters & Setters - Fourth 750 Hours**

Effective Period: 7/1/2017 - 6/30/2018

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

### **Cutters & Setters - Fifth 750 Hours**

Effective Period: 7/1/2017 - 6/30/2018

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

### **Cutters & Setters - Sixth 750 Hours**

Effective Period: 7/1/2017 - 6/30/2018

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

### **Polishers & Finishers - First 750 Hours**

Effective Period: 7/1/2017 - 6/30/2018

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

NO BENEFITS PAID DURING THE FIRST TWO MONTHS (PROBATIONARY PERIOD)

### **Polishers & Finishers - Second 750 Hours**

Effective Period: 7/1/2017 - 6/30/2018

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

### **Polishers & Finishers - Third 750 Hours**

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Effective Period: 7/1/2017 - 6/30/2018

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

**Polishers & Finishers - Fourth 750 Hours**

Effective Period: 7/1/2017 - 6/30/2018

Wage and Supplemental Rate Per Hour: 90% of Journeyperson's rate

(Local #7)

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**MASON TENDER**

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

**Mason Tender - First Year**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$21.39

Supplemental Benefit Rate per Hour: \$19.65

**Mason Tender - Second Year**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$22.54

Supplemental Benefit Rate per Hour: \$19.65

**Mason Tender - Third Year**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$24.29

Supplemental Benefit Rate per Hour: \$19.70

**Mason Tender - Fourth Year**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$26.95

Supplemental Benefit Rate per Hour: \$19.70

(Local #79)

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## **METALLIC LATHER**

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

### **Metallic Lather (First Year)**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$28.38

Supplemental Benefit Rate per Hour: \$10.96

### **Metallic Lather (Second Year)**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$32.38

Supplemental Benefit Rate per Hour: \$12.96

### **Metallic Lather (Third Year)**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$35.38

Supplemental Benefit Rate per Hour: \$17.12

### **Metallic Lather (Fourth Year)**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$37.38

Supplemental Benefit Rate per Hour: \$17.92

(Local #46)

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## **MILLWRIGHT**

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

### **Millwright (First Year)**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$28.33

Supplemental Benefit Rate per Hour: \$34.28

### **Millwright (Second Year)**

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
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Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$33.48

Supplemental Benefit Rate per Hour: \$37.88

**Millwright (Third Year)**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$38.63

Supplemental Benefit Rate per Hour: \$42.13

**Millwright (Fourth Year)**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$48.93

Supplemental Benefit Rate per Hour: \$48.69

(Local #740)

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**PAVER AND ROADBUILDER**

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

**Paver and Roadbuilder - First Year (Minimum 1000 hours)**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$27.86

Supplemental Benefit Rate per Hour: \$19.25

**Paver and Roadbuilder - Second Year (Minimum 1000 hours)**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$29.50

Supplemental Benefit Rate per Hour: \$19.25

(Local #1010)

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**PAINTER**

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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
\$220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

**Painter - Brush & Roller - First Year**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$17.00

Supplemental Benefit Rate per Hour: \$13.42

**Painter - Brush & Roller - Second Year**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$21.25

Supplemental Benefit Rate per Hour: \$17.43

**Painter - Brush & Roller - Third Year**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$25.50

Supplemental Benefit Rate per Hour: \$20.50

**Painter - Brush & Roller - Fourth Year**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$34.00

Supplemental Benefit Rate per Hour: \$26.20

(District Council of Painters)

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**PAINTER - METAL POLISHER**

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

**Metal Polisher (First Year)**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$11.75

Supplemental Benefit Rate per Hour: \$5.13

**Metal Polisher (Second Year)**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$13.00

Supplemental Benefit Rate per Hour: \$5.13



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§220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

**Metal Polisher (Third Year)**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$15.75

Supplemental Benefit Rate per Hour: \$5.13

(Local 8A-28)

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**PAINTER - STRUCTURAL STEEL**

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

**Painters - Structural Steel (First Year)**

Effective Period: 7/1/2017 - 6/30/2018

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

**Painters - Structural Steel (Second Year)**

Effective Period: 7/1/2017 - 6/30/2018

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

**Painters - Structural Steel (Third Year)**

Effective Period: 7/1/2017 - 6/30/2018

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

(Local #806)

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**PLASTERER**

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

**Plasterer - First Year: 1st Six Months**

Effective Period: 7/1/2017 - 6/30/2018

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

Supplemental Rate Per Hour: \$13.59

**Plasterer - First Year: 2nd Six Months**

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Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate Per Hour: 45% of Journeyperson's rate  
Supplemental Rate Per Hour: \$14.07

**Plasterer - Second Year: 1st Six Months**

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate Per Hour: 55% of Journeyperson's rate  
Supplemental Rate Per Hour: \$16.04

**Plasterer - Second Year: 2nd Six Months**

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate Per Hour: 60% of Journeyperson's rate  
Supplemental Rate Per Hour: \$17.12

**Plasterer - Third Year: 1st Six Months**

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate Per Hour: 70% of Journeyperson's rate  
Supplemental Rate Per Hour: \$19.29

**Plasterer - Third Year: 2nd Six Months**

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate Per Hour: 75% of Journeyperson's rate  
Supplemental Rate Per Hour: \$20.37

(Local #530)

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**PLASTERER - TENDER**

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

**Plasterer Tender - First Year**

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate per Hour: \$21.39  
Supplemental Benefit Rate per Hour: \$19.65

**Plasterer Tender - Second Year**

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate per Hour: \$22.54

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
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Supplemental Benefit Rate per Hour: \$19.65

**Plasterer Tender - Third Year**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$24.29

Supplemental Benefit Rate per Hour: \$19.70

**Plasterer Tender - Fourth Year**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$26.95

Supplemental Benefit Rate per Hour: \$19.70

(Local #79)

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**PLUMBER**

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

**Plumber - First Year: 1st Six Months**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$16.28

Supplemental Benefit Rate per Hour: \$5.43

**Plumber - First Year: 2nd Six Months**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$19.28

Supplemental Benefit Rate per Hour: \$6.43

**Plumber - Second Year**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$26.35

Supplemental Benefit Rate per Hour: \$17.10

**Plumber - Third Year**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$28.45

Supplemental Benefit Rate per Hour: \$17.10

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
\$220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

**Plumber - Fourth Year**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$31.30**

Supplemental Benefit Rate per Hour: **\$17.10**

**Plumber - Fifth Year: 1st Six Months**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$32.70**

Supplemental Benefit Rate per Hour: **\$17.10**

**Plumber - Fifth Year: 2nd Six Months**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$44.77**

Supplemental Benefit Rate per Hour: **\$17.10**

(Plumbers Local #1)

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**POINTER, WATERPROOFER, CAULKER, SANDBLASTER,  
STEAMBLASTER**

(Exterior Building Renovation)

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

**Pointer, Waterproofer, Caulker, Sandblaster, Steamblaster - First Year**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$25.89**

Supplemental Benefit Rate per Hour: **\$13.64**

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

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$28.97**

Supplemental Benefit Rate per Hour: **\$18.15**

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

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$34.12**

Supplemental Benefit Rate per Hour: **\$20.90**

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

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

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$41.33

Supplemental Benefit Rate per Hour: \$21.60

(Bricklayer District Council)

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**ROOFER**

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

**Roofer - First Year**

Effective Period: 7/1/2017 - 6/30/2018

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

**Roofer - Second Year**

Effective Period: 7/1/2017 - 6/30/2018

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

**Roofer - Third Year**

Effective Period: 7/1/2017 - 6/30/2018

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

**Roofer - Fourth Year**

Effective Period: 7/1/2017 - 6/30/2018

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

(Local #8)

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**SHEET METAL WORKER**

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

**Sheet Metal Worker (0-6 Months)**

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
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Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate Per Hour: 25% of Journeyperson's rate  
Supplemental Rate Per Hour: \$6.35

**Sheet Metal Worker (7-18 Months)**

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate Per Hour: 35% of Journeyperson's rate  
Supplemental Rate Per Hour: \$17.12

**Sheet Metal Worker (19-30 Months)**

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate Per Hour: 45% of Journeyperson's rate  
Supplemental Rate Per Hour: \$23.54

**Sheet Metal Worker (31-36 Months)**

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate Per Hour: 55% of Journeyperson's rate  
Supplemental Rate Per Hour: \$27.70

**Sheet Metal Worker (37-42 Months)**

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate Per Hour: 60% of Journeyperson's rate  
Supplemental Rate Per Hour: \$29.11

**Sheet Metal Worker (43-48 Months)**

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate Per Hour: 70% of Journeyperson's rate  
Supplemental Rate Per Hour: \$33.96

**Sheet Metal Worker (49-54 Months)**

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate Per Hour: 75% of Journeyperson's rate  
Supplemental Rate Per Hour: \$36.07

**Sheet Metal Worker (55-60 Months)**

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate Per Hour: 80% of Journeyperson's rate  
Supplemental Rate Per Hour: \$38.15

(Local #28)

## **SIGN ERECTOR**

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

### **Sign Erector - First Year: 1st Six Months**

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate Per Hour: 35% of Journeyperson's rate  
Supplemental Rate Per Hour: \$14.72

### **Sign Erector - First Year: 2nd Six Months**

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate Per Hour: 40% of Journeyperson's rate  
Supplemental Rate Per Hour: \$16.71

### **Sign Erector - Second Year: 1st Six Months**

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate Per Hour: 45% of Journeyperson's rate  
Supplemental Rate Per Hour: \$18.68

### **Sign Erector - Second Year: 2nd Six Months**

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate Per Hour: 50% of Journeyperson's rate  
Supplemental Rate Per Hour: \$20.68

### **Sign Erector - Third Year: 1st Six Months**

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate Per Hour: 55% of Journeyperson's rate  
Supplemental Rate Per Hour: \$27.72

### **Sign Erector - Third Year: 2nd Six Months**

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate Per Hour: 60% of Journeyperson's rate  
Supplemental Rate Per Hour: \$30.57

### **Sign Erector - Fourth Year: 1st Six Months**

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate Per Hour: 65% of Journeyperson's rate  
Supplemental Rate Per Hour: \$33.31

### **Sign Erector - Fourth Year: 2nd Six Months**

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate Per Hour: 70% of Journeyman's rate  
Supplemental Rate Per Hour: \$35.83

**Sign Erector - Fifth Year**

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate Per Hour: 75% of Journeyman's rate  
Supplemental Rate Per Hour: \$38.32

**Sign Erector - Sixth Year**

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate Per Hour: 80% of Journeyman's rate  
Supplemental Rate Per Hour: \$40.81

(Local #137)

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**STEAMFITTER**

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

**Steamfitter - First Year**

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate and Supplemental Per Hour: 40% of Journeyman's rate

**Steamfitter - Second Year**

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate and Supplemental Rate Per Hour: 50% of Journeyman's rate.

**Steamfitter - Third Year**

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate and Supplemental Rate per Hour: 65% of Journeyman's rate.

**Steamfitter - Fourth Year**

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate and Supplemental Rate Per Hour: 80% of Journeyman's rate.

**Steamfitter - Fifth Year**

Effective Period: 7/1/2017 - 6/30/2018  
Wage Rate and Supplemental Rate Per Hour: 85% of Journeyman's rate.



OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

(Local #638)

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**STONE MASON - SETTER**

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

**Stone Mason - Setters - First 750 Hours**

Effective Period: 7/1/2017 - 6/30/2018

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

**Stone Mason - Setters - Second 750 Hours**

Effective Period: 7/1/2017 - 6/30/2018

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: 7/1/2017 - 6/30/2018

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: 7/1/2017 - 6/30/2018

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

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

**Stone Mason - Setters - Fifth 750 Hours**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate Per Hour: 90% of Journeyperson's rate

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

**Stone Mason - Setters - Sixth 750 Hours**

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate Per Hour: 100% of Journeyperson's rate

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

(Bricklayers District Council)

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## **TAPER**

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

### **Drywall Taper - First Year**

Effective Period: 7/1/2017 - 6/30/2018

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

### **Drywall Taper - Second Year**

Effective Period: 7/1/2017 - 6/30/2018

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

### **Drywall Taper - Third Year**

Effective Period: 7/1/2017 - 6/30/2018

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

(Local #1974)

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## **TILE LAYER - SETTER**

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

### **Tile Layer - Setter - First 750 Hours**

Effective Period: 7/1/2017 - 6/30/2018

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

### **Tile Layer - Setter - Second 750 Hours**

Effective Period: 7/1/2017 - 6/30/2018

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

### **Tile Layer - Setter - Third 750 Hours**

Effective Period: 7/1/2017 - 6/30/2018

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

### **Tile Layer - Setter - Fourth 750 Hours**

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
\$220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

Effective Period: 7/1/2017 - 6/30/2018

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

**Tile Layer - Setter - Fifth 750 Hours**

Effective Period: 7/1/2017 - 6/30/2018

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

**Tile Layer - Setter - Sixth 750 Hours**

Effective Period: 7/1/2017 - 6/30/2018

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

(Local #7)

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**TIMBERPERSON**

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

**Timberperson - First Year**

Effective Period: 7/1/2017 - 6/30/2018

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

Supplemental Rate Per Hour: \$32.79

**Timberperson - Second Year**

Effective Period: 7/1/2017 - 6/30/2018

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

Supplemental Rate Per Hour: \$32.79

**Timberperson - Third Year**

Effective Period: 7/1/2017 - 6/30/2018

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

Supplemental Rate Per Hour: \$32.79

**Timberperson - Fourth Year**

Effective Period: 7/1/2017 - 6/30/2018

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

Supplemental Rate Per Hour: \$32.79

(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) 669-3622  
FAX NUMBER: (212) 669-8499

ALAN G. HEVESI  
COMPTROLLER

**MEMORANDUM**

November 6, 2000

To Agency Chief Contracting Officers

From: Leonard A. Mancusi *LA 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**

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**INFRASTRUCTURE DIVISION  
BUREAU OF DESIGN**

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**VOLUME 2 OF 3**

PROJECT ID: SE823  
CONSTRUCTION OF SANITARY AND STORM SEWERS AND APPURTENANCES IN 229TH  
STREET BETWEEN 145TH AVENUE AND 147TH AVENUE, ETC.  
INCLUDING WATER MAIN WORK

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

C.A.C. Industries, Inc.

*Contractor*

Dated March 15, 2018

APPROVED AS TO FORM  
CERTIFIED AS TO LEGAL AUTHORITY

[Signature]

*Acting Corporation Counsel*

K.T. 4/19/17

Dated April 19, 2017

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

30-30 THOMSON AVENUE  
LONG ISLAND CITY, NEW YORK 11101-3045  
TELEPHONE (718) 391-1000  
WEBSITE [www1.nyc.gov/site/ddc/index.page](http://www1.nyc.gov/site/ddc/index.page)

**VOLUME 3 OF 3**

**SCHEDULE A  
SPECIFICATIONS AND  
REVISIONS TO STANDARD SPECIFICATIONS**

FOR FURNISHING ALL LABOR AND MATERIALS NECESSARY AND REQUIRED FOR:

**PROJECT ID: SE823**

**CONSTRUCTION OF SANITARY AND STORM SEWERS AND  
APPURTENANCES IN 229TH STREET BETWEEN 145TH AVENUE AND  
147TH AVENUE, ETC.**

**INCLUDING WATER MAIN WORK**

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

FOR THE DEPARTMENT OF ENVIRONMENTAL PROTECTION  
PREPARED BY  
IN-HOUSE DESIGN

**March 20, 2017**

**11 7-090**



ATTACH TO CONTRACT DOCUMENTS  
THE CITY OF NEW YORK  
DEPARTMENT OF DESIGN AND CONSTRUCTION  
INFRASTRUCTURE DIVISION  
BUREAU OF DESIGN  
PROJECT ID: SE823

CONSTRUCTION OF SANITARY AND STORM SEWERS AND APPURTENANCES IN 229TH STREET BETWEEN  
145TH AVENUE AND 147TH AVENUE, ETC.

INCLUDING WATER MAIN WORK

Together With All Work Incidental Thereto  
BOROUGH OF QUEENS  
CITY OF NEW YORK  
ADDENDUM NO. 1

DATED: JANUARY 3, 2017

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 to B-42  
Delete the BID SCHEDULE pages in their entirety;  
Substitute with attached revised BID SCHEDULE, B-3 (REVISION #1) through B-44 (REVISION #1).
- (2) Refer to the Bid and Contract Documents, VOLUME 3 OF 3, SW-PAGES;  
Delete SW-PAGES in their entirety;  
Substitute with the attached revised SW-PAGES.
- (3) Refer to the Bid and Contract Documents, VOLUME 3 OF 3, BMP-PAGES;  
Delete BMP-PAGES in their entirety;  
Substitute with attached revised BMP-PAGES.
- (4) Refer to the Contract Drawings No. 35 OF 47, 36 OF 47, 37 OF 47 and 38 OF 47;  
Delete Contract Drawings No. 35 OF 47, 36 OF 47, 37 OF 47 and 38 OF 47 in their entirety;  
Substitute with attached revised/additional Contract Drawings number 35R OF 47, 36R OF 47, 37R OF 47, 38R OF 47, 38R1 OF 47 and 38R2 OF 47.
- (5) For additional information, see the attached ONE (1) page of "Questions Submitted by Bidders and DDC's Responses".

END OF ADDENDUM NO. 1

By signing in the space provided below, the bidder acknowledges receipt of  
this Addendum consisting of one (1) page, attachments consisting of one hundred forty six (146)  
pages and six (6) sheets of drawings.

THIS ADDENDUM MUST BE SIGNED BY ALL BIDDERS AND ATTACHED TO THEIR BID

CAC INDUSTRIES INC  
Name of Bidder

By: \_\_\_\_\_

G. Saini  
GURDIP SAINI, P.E.  
Associate Commissioner/Design I



ATTACH TO CONTRACT DOCUMENTS  
THE CITY OF NEW YORK  
DEPARTMENT OF DESIGN AND CONSTRUCTION  
INFRASTRUCTURE DIVISION  
BUREAU OF DESIGN  
PROJECT ID: SE823

CONSTRUCTION OF SANITARY AND STORM SEWERS AND APPURTENANCES IN 229TH STREET  
BETWEEN 145TH AVENUE AND 147TH AVENUE, ETC.

INCLUDING WATER MAIN WORK

Together With All Work Incidental Thereto  
BOROUGH OF QUEENS  
CITY OF NEW YORK  
ADDENDUM NO. 2

DATED: JANUARY 10, 2018

THIS ADDENDUM IS HEREBY MADE A PART OF THE CONTRACT DOCUMENTS

- (1) Refer to the Bid and Contract Documents, VOLUME 1 OF 3, Page A-1, Attachment 1 - Bid Information;  
Change the dates shown for Submission of Bids To: and for Bid Opening: from "January 19, 2018" to read "February 1, 2018."
- (2) Refer to the Bid and Contract Documents, VOLUME 1 OF 3, Page 13, Schedule B - MWBE;  
Change the dates shown for Bid/Proposal Response Date: from January 19, 2018" to read "February 1, 2018."
- (3) Refer to the Bid and Contract Documents, VOLUME 1 OF 3, BID SCHEDULE, pages B-3 to B-42 and ADDENDUM NO. 1 BID SCHEDULE, B-3 (REVISION #1) through B-44 (REVISION #1);  
Delete the BID SCHEDULE pages in their entirety;  
Substitute with attached revised BID SCHEDULE, B-3 (REVISION #2) through B-45 (REVISION #2).
- (4) Refer to the Bid and Contract Documents, VOLUME 3 OF 3, SW-PAGES;  
Delete SW-PAGES in their entirety;  
Substitute with the attached revised SW-PAGES.
- (5) Refer to Contract Drawings, sheet No. 10 of 76  
Correct Storm Sewer indication "9'-0" W x 5'-0"H" on the plan view to read "8'-0"W x 5'-0"H"

ATTACH TO CONTRACT DOCUMENTS  
THE CITY OF NEW YORK  
DEPARTMENT OF DESIGN AND CONSTRUCTION  
INFRASTRUCTURE DIVISION  
BUREAU OF DESIGN  
PROJECT ID: SE823

CONSTRUCTION OF SANITARY AND STORM SEWERS AND APPURTENANCES IN 229TH STREET  
BETWEEN 145TH AVENUE AND 147TH AVENUE, ETC.

INCLUDING WATER MAIN WORK

Together With All Work Incidental Thereto  
BOROUGH OF QUEENS  
CITY OF NEW YORK  
ADDENDUM NO. 2

DATED: JANUARY 10, 2018

THIS ADDENDUM IS HEREBY MADE A PART OF THE CONTRACT DOCUMENTS

- (1) Refer to the Bid and Contract Documents, VOLUME 1 OF 3, Page A-1, Attachment 1 - Bid Information;  
Change the dates shown for Submission of Bids To: and for Bid Opening: from "January 19, 2018" to read "February 1, 2018."
- (2) Refer to the Bid and Contract Documents, VOLUME 1 OF 3, Page 13, Schedule B - MWBE;  
Change the dates shown for Bid/Proposal Response Date: from January 19, 2018" to read "February 1, 2018."
- (3) Refer to the Bid and Contract Documents, VOLUME 1 OF 3, BID SCHEDULE, pages B-3 to B-42 and ADDENDUM NO. 1 BID SCHEDULE, B-3 (REVISION #1) through B-44 (REVISION #1);  
Delete the BID SCHEDULE pages in their entirety;  
Substitute with attached revised BID SCHEDULE, B-3 (REVISION #2) through B-45 (REVISION #2).
- (4) Refer to the Bid and Contract Documents, VOLUME 3 OF 3, SW-PAGES;  
Delete SW-PAGES in their entirety;  
Substitute with the attached revised SW-PAGES.
- (5) Refer to Contract Drawings, sheet No. 10 of 76  
Correct Storm Sewer Indication "9'-0" W x 5'-0"H" on the plan view to read " 8'-0"W x 5'-0"H

(6) For additional information, see the attached FOUR (4) pages of "Questions Submitted by Bidders and DDC's Responses".

**END OF ADDENDUM NO. 2**

By signing in the space provided below, the bidder acknowledges receipt of this Addendum consisting of two (2) pages, attachments consisting of sixty nine (69) pages and four(4) pages of questions and answers with one (1) attached sheet of drawing.

**THIS ADDENDUM MUST BE SIGNED BY ALL BIDDERS AND ATTACHED TO THEIR BID**

CAO. DAS DUC  
Name of Bidder

By: [Signature]

G. Saini  
GURDIP SAINI, P.E.  
Associate Commissioner/Design I

ATTACH TO CONTRACT DOCUMENTS  
THE CITY OF NEW YORK  
DEPARTMENT OF DESIGN AND CONSTRUCTION  
INFRASTRUCTURE DIVISION  
BUREAU OF DESIGN  
PROJECT ID: SE823

CONSTRUCTION OF SANITARY AND STORM SEWERS AND APPURTENANCES IN 229TH STREET BETWEEN  
145TH AVENUE AND 147TH AVENUE, ETC.

INCLUDING WATER MAIN WORK

Together With All Work Incidental Thereto  
BOROUGH OF QUEENS  
CITY OF NEW YORK  
ADDENDUM NO. 3

DATED: JANUARY 19, 2018

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 to B-42, ADDENDUM NO. 1 BID SCHEDULE, B-3 (REVISION #1) through B-44 (REVISION #1), and ADDENDUM NO. 2 BID SCHEDULE, B-3 (REVISION #2) through B-45 (REVISION #2);  
Delete the BID SCHEDULE pages in their entirety;  
Substitute with attached revised BID SCHEDULE, B-3 (REVISION #3) through B-45 (REVISION #3).
- (2) For additional information, see the attached ONE (1) pages of "Questions Submitted by Bidders and DDC's Responses".

END OF ADDENDUM NO. 3

By signing in the space provided below, the bidder acknowledges receipt of this Addendum consisting of one (1) page, attachments consisting of forty-three (43) pages, and one (1) page of questions and answers.

THIS ADDENDUM MUST BE SIGNED BY ALL BIDDERS AND ATTACHED TO THEIR BID

CAC Industries Inc  
Name of Bidder

By: [Signature]

G. Saini

GURDIP SAINI, P.E.  
Associate Commissioner/Design I

ATTACH TO CONTRACT DOCUMENTS  
THE CITY OF NEW YORK  
DEPARTMENT OF DESIGN AND CONSTRUCTION  
INFRASTRUCTURE DIVISION  
BUREAU OF DESIGN  
PROJECT ID: SE823

CONSTRUCTION OF SANITARY AND STORM SEWERS AND APPURTENANCES IN 229TH STREET BETWEEN  
145TH AVENUE AND 147TH AVENUE, ETC.

INCLUDING WATER MAIN WORK

Together With All Work Incidental Thereto  
BOROUGH OF QUEENS  
CITY OF NEW YORK  
ADDENDUM NO. 4

DATED: JANUARY 23, 2018

THIS ADDENDUM IS HEREBY MADE A PART OF THE CONTRACT DOCUMENTS

(1) For additional information, see the attached ONE (1) pages of "Questions Submitted by Bidders and DDC's Responses".

END OF ADDENDUM NO. 4

By signing in the space provided below, the bidder acknowledges receipt of  
this Addendum consisting of one (1) page Addendum plus one (1) page of Attachment.

THIS ADDENDUM MUST BE SIGNED BY ALL BIDDERS AND ATTACHED TO THEIR BID

CAC Industries Inc

Name of Bidder

By: [Signature]

G. Saini

GURDIP SAINI, P.E.  
Associate Commissioner/Design I

ATTACH TO CONTRACT DOCUMENTS  
THE CITY OF NEW YORK  
DEPARTMENT OF DESIGN AND CONSTRUCTION  
INFRASTRUCTURE DIVISION  
BUREAU OF DESIGN  
PROJECT ID: SE823

CONSTRUCTION OF SANITARY AND STORM SEWERS AND APPURTENANCES IN 229TH STREET BETWEEN  
145TH AVENUE AND 147TH AVENUE, ETC.

INCLUDING WATER MAIN WORK

Together With All Work Incidental Thereto  
BOROUGH OF QUEENS  
CITY OF NEW YORK  
ADDENDUM NO. 5

DATED: JANUARY 25, 2018

THIS ADDENDUM IS HEREBY MADE A PART OF THE CONTRACT DOCUMENTS

- (1) Refer to the Bid AND Contract Documents, VOLUME 3 OF 3, 1 PAGES;  
Add Attached Martello Bollard Specification.
- (2) Refer to the Bid AND Contract Documents, VOLUME 3 OF 3, 1 PAGES;  
Add Attached Sluice Gate Specification.
- (3) Refer to the Bid AND Contract Documents, VOLUME 3 OF 3, SW PAGES;  
Delete Page 10R in its entirety.  
Replace with attached Page 10RR.
- (4) For additional information, see the attached Three (3) pages of "Questions Submitted by Bidders and DDC's Responses".

END OF ADDENDUM NO. 5

By signing in the space provided below, the bidder acknowledges receipt of  
this Addendum consisting of one (1) page Addendum plus eleven(11) pages of Attachments.

THIS ADDENDUM MUST BE SIGNED BY ALL BIDDERS AND ATTACHED TO THEIR BID

CHAD INDUSTRIES INC  
Name of Bidder

By: 

  
GURDIP SAINI, P.E.  
Associate Commissioner/Design I

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

## ADDENDA CONTROL SHEET

BID OPENING DATE: JANUARY 19, 2018

PROJECT NO.: SE-823

DESCRIPTION: CONSTRUCTION OF STORM SANITARY AND COMBINED  
SEWERS IN 229TH STREET, ETC.

Addendum		Addendum Contains:				
No.	Date	Revised Bid Date/Time	Revised Bid Schedule	Questions & Responses	Additional Ammendments	Drawings (number)
1	01/03/2018	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> (6)
		<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)
		<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)
		<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: SE823

CONSTRUCTION OF SANITARY AND STORM SEWERS AND APPURTENANCES IN 229TH STREET BETWEEN  
145TH AVENUE AND 147TH AVENUE, ETC.

INCLUDING WATER MAIN WORK

Together With All Work Incidental Thereto  
BOROUGH OF QUEENS  
CITY OF NEW YORK  
ADDENDUM NO. 1

DATED: JANUARY 3, 2017

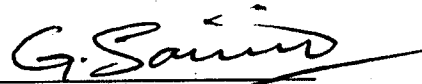
THIS ADDENDUM IS HEREBY MADE A PART OF THE CONTRACT DOCUMENTS

- (1) Refer to the Bid and Contract Documents, VOLUME 1 OF 3, BID SCHEDULE, pages B-3 to B-42  
Delete the BID SCHEDULE pages in their entirety;  
Substitute with attached revised BID SCHEDULE, B-3 (REVISION #1) through B-44 (REVISION #1).
- (2) Refer to the Bid and Contract Documents, VOLUME 3 OF 3, SW-PAGES;  
Delete SW-PAGES in their entirety;  
Substitute with the attached revised SW-PAGES.
- (3) Refer to the Bid and Contract Documents, VOLUME 3 OF 3, BMP-PAGES;  
Delete BMP-PAGES in their entirety;  
Substitute with attached revised BMP-PAGES.
- (4) Refer to the Contract Drawings No. 35 OF 47, 36 OF 47, 37 OF 47 and 38 OF 47;  
Delete Contract Drawings No. 35 OF 47, 36 OF 47, 37 OF 47 and 38 OF 47 in their entirety;  
Substitute with attached revised/additional Contract Drawings number 35R OF 47, 36R OF 47, 37R OF 47, 38R OF 47, 38R1 OF 47 and 38R2 OF 47.
- (5) For additional information, see the attached ONE (1) page of "Questions Submitted by Bidders and DDC's Responses".

END OF ADDENDUM NO. 1

By signing in the space provided below, the bidder acknowledges receipt of  
this Addendum consisting of one (1) page, attachments consisting of one hundred forty six (146)  
pages and six (6) sheets of drawings.

THIS ADDENDUM MUST BE SIGNED BY ALL BIDDERS AND ATTACHED TO THEIR BID

  
GURDIP SAINI, P.E.  
Associate Commissioner/Design I

\_\_\_\_\_  
Name of Bidder

By: \_\_\_\_\_



Questions Submitted by Bidders and DDC's Responses

QUESTION #1:

Can precast be utilized for the 16.5'W x 6'H and 16.5'W x 8'H FTRC sewers?.

DDC'S RESPONSE:

Precast concrete is not allowed for the 16.5'W x 6'H and 16.5'W x 8'H FTRC sewers.

12/29/2017 3:27 PM

## 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 # 1] Through B - 44 [REVISION # 1]

PLEASE BE SURE A LEGIBLE BID IS ENTERED FOR EACH ITEM.  
THE BIDDER SHALL INSERT THE TOTAL BID PRICE IN  
THE BID FORM ON PAGE C-4 OF THIS BID BOOKLET.

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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	CTS	DOLLARS	CTS
001	4.01 RAJ ASPHALT MACADAM PAVEMENT, 9" THICK	20,000.00	S.Y.				
002	4.02 AB-R ASPHALTIC CONCRETE WEARING COURSE, 1-1/2" THICK	500.00	S.Y.				
003	4.02 AF-R ASPHALTIC CONCRETE WEARING COURSE, 2" THICK	21,000.00	S.Y.				
004	4.02 AG ASPHALTIC CONCRETE WEARING COURSE, 3" THICK	4,400.00	S.Y.				
005	4.02 CA BINDER MIXTURE	3,047.00	TONS				
006	4.04 AC CONCRETE BASE FOR PAVEMENT, 6" THICK, CLASS B-32	600.00	C.Y.				

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## BID SCHEDULE FORM

COL 1 SEQ. NO	COL 2 ITEM NUMBER and DESCRIPTION	COL 3 ENGINEERS ESTIMATE OF QUANTITY	COL 4 UNIT	COL 5 UNIT PRICE (IN FIGURES)		COL 6 EXTENDED AMOUNT (IN FIGURES)	
				DOLLARS	CTS	DOLLARS	CTS
007	4.04 DD CONCRETE BASE FOR PAVEMENT, 9" THICK, CLASS A-40	100.00	C.Y.				
008	4.04 H CONCRETE BASE FOR PAVEMENT, VARIABLE THICKNESS FOR TRENCH RESTORATION, (HIGH-EARLY STRENGTH)	170.00	C.Y.				
009	4.05 AX HIGH-EARLY STRENGTH REINFORCED CONCRETE PAVEMENT (BUS STOPS)	250.00	C.Y.				
010	4.08 AA CONCRETE CURB (18" DEEP)	3,250.00	L.F.				
011	4.08 BA CONCRETE CURB (21" DEEP)	3,200.00	L.F.				
012	4.09 AD STRAIGHT STEEL FACED CONCRETE CURB (18" DEEP)	1,300.00	L.F.				

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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) DOLLARS CTS	COL 6 EXTENDED AMOUNT (IN FIGURES) DOLLARS CTS
013	4.09 AE STRAIGHT STEEL FACED CONCRETE CURB (21" DEEP)	650.00	L.F.		
014	4.09 AF STRAIGHT STEEL FACED CONCRETE CURB (27" DEEP)	500.00	L.F.		
015	4.09 CD CORNER STEEL FACED CONCRETE CURB (18" DEEP)	800.00	L.F.		
016	4.09 CE CORNER STEEL FACED CONCRETE CURB (21" DEEP)	60.00	L.F.		
017	4.11 CA FILL, PLACE MEASUREMENT	145.00	C.Y.		
018	4.13 AAS 4" CONCRETE SIDEWALK (UNPIGMENTED)	35,400.00	S.F.		



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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) DOLLARS CTS		COL. 6 EXTENDED AMOUNT (IN FIGURES) DOLLARS CTS	
				DOLLARS	CTS	DOLLARS	CTS
019	4.13 BAS 7" CONCRETE SIDEWALK (UNPIGMENTED)	17,895.00	S.F.				
020	4.13 DE EMBEDDED PREFORMED DETECTABLE WARNING UNITS	610.00	S.F.				
021	4.15 TOPSOIL	180.00	C.Y.				
022	4.16 AA TREES REMOVED (4" TO UNDER 12" CALIPER)	30.00	EACH				
023	4.16 AAT TREES TRANSPLANTED, UP TO 4" CALIPER, ALL TYPES	25.00	EACH				
024	4.16 AB TREES REMOVED (12" TO UNDER 18" CALIPER)	20.00	EACH				

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## 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
025	4.16 AC TREES REMOVED (18" TO UNDER 24" CALIPER)	10.00	EACH		
026	4.16 ADE TREES REMOVED (24" TO UNDER 48" CALIPER)	10.00	EACH		
027	4.16 CA405 TREES PLANTED, 3" TO 3-1/2" CALIPER, ALL TYPES, IN 4' X 5' TREE PITS	427.00	EACH		
028	4.16 EAT TREES TRANSPLANTED, 4" TO 5" CALIPER, ALL TYPES	10.00	EACH		
029	4.16 STUMP STUMP REMOVAL	1.00	UNITS		
030	4.18 A MAINTENANCE TREE PRUNING (UNDER 12" CAL.)	91.00	EACH		



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

PROJECT ID: SE823  
CONTRACT PIN: 8502017SE0009C

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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	CTS	DOLLARS	CTS
031	4.18 B MAINTENANCE TREE PRUNING (12" TO UNDER 18" CAL.)	65.00	EACH				
032	4.18 C MAINTENANCE TREE PRUNING (18" TO UNDER 24" CAL.)	45.00	EACH				
033	4.18 D MAINTENANCE TREE PRUNING (24" CAL. AND OVER)	25.00	EACH				
034	4.19 SODDING	1,200.00	S.Y.				
035	4.20 SEEDING	3,690.00	S.Y.				
036	4.21 TREE CONSULTANT	856.00	P/HR				

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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	CTS	DOLLARS	CTS
037	50.11CS166060 16'-6"W X 6'-0"H SINGLE BARREL FLAT TOP REINFORCED CONCRETE COMBINED SEWER	400.00	L.F.				
038	50.11CS166080 16'-6"W X 8'-0"H SINGLE BARREL FLAT TOP REINFORCED CONCRETE COMBINED SEWER	3,300.00	L.F.				
039	50.11MS080060 8'-0"W X 6'-0"H SINGLE BARREL FLAT TOP REINFORCED CONCRETE STORM SEWER	450.00	L.F.				
040	50.11MS090050 9'-0"W X 5'-0"H SINGLE BARREL FLAT TOP REINFORCED CONCRETE STORM SEWER	2,000.00	L.F.				
041	50.21M3C023W 23"W X 14"H R.C.P. CLASS HE-III STORM SEWER, ON CONCRETE CRADLE	40.00	L.F.				
042	50.21M3C024D 24" R.C.P. CLASS III STORM SEWER, ON CONCRETE CRADLE	60.00	L.F.				

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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) DOLLARS		COL 6 EXTENDED AMOUNT (IN FIGURES) DOLLARS	
					QTS		QTS
043	50.21M3C030D 30" R.C.P. CLASS III STORM SEWER, ON CONCRETE CRADLE	780.00	L.F.				
044	50.21M3C036D 36" R.C.P. CLASS III STORM SEWER, ON CONCRETE CRADLE	290.00	L.F.				
045	50.21M3C042D 42" R.C.P. CLASS III STORM SEWER, ON CONCRETE CRADLE	280.00	L.F.				
046	50.21M3C054D 54" R.C.P. CLASS III STORM SEWER, ON CONCRETE CRADLE	1,500.00	L.F.				
047	50.21M3E024D 24" R.C.P. CLASS III STORM SEWER, ENCASED IN CONCRETE	550.00	L.F.				
048	50.21M3E030D 30" R.C.P. CLASS III STORM SEWER, ENCASED IN CONCRETE	210.00	L.F.				

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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	CTS	DOLLARS	CTS
049	50.21M3E036D 36" R.C.P. CLASS III STORM SEWER, ENCASED IN CONCRETE	300.00	L.F.				
050	50.21M3E042D 42" R.C.P. CLASS III STORM SEWER, ENCASED IN CONCRETE	200.00	L.F.				
051	50.21M3E054D 54" R.C.P. CLASS III STORM SEWER, ENCASED IN CONCRETE	530.00	L.F.				
052	50.21M3E060D 60" R.C.P. CLASS III STORM SEWER, ENCASED IN CONCRETE	300.00	L.F.				
053	50.21S4C024D 24" R.C.P. CLASS IV SANITARY SEWER, ON CONCRETE CRADLE	1,600.00	L.F.				
054	50.31MC15 15" E.S.V.P. STORM SEWER, ON CONCRETE CRADLE	310.00	L.F.				

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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) DOLLARS CTS		COL 6 EXTENDED AMOUNT (IN FIGURES) DOLLARS CTS	
055	50.31MC18 18" E.S.V.P. STORM SEWER, ON CONCRETE CRADLE	100.00	L.F.				
056	50.31ME18 18" E.S.V.P. STORM SEWER, ENCASED IN CONCRETE	100.00	L.F.				
057	50.31SC10 10" E.S.V.P. SANITARY SEWER, ON CONCRETE CRADLE	3,800.00	L.F.				
058	50.31SC12 12" E.S.V.P. SANITARY SEWER, ON CONCRETE CRADLE	675.00	L.F.				
059	50.31SC15 15" E.S.V.P. SANITARY SEWER, ON CONCRETE CRADLE	600.00	L.F.				
060	50.31SC18 18" E.S.V.P. SANITARY SEWER, ON CONCRETE CRADLE	550.00	L.F.				

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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	CTS	DOLLARS	CTS
061	50.41M6E24 24" D.I.P. CLASS 56 STORM SEWER, ENCASED IN CONCRETE	100.00	L.F.				
062	50.41S6E10 10" D.I.P. CLASS 56 SANITARY SEWER, ENCASED IN CONCRETE	130.00	L.F.				
063	50.41S6E12 12" D.I.P. CLASS 56 SANITARY SEWER, ENCASED IN CONCRETE	150.00	L.F.				
064	50.41S6E18 18" D.I.P. CLASS 56 SANITARY SEWER, ENCASED IN CONCRETE	50.00	L.F.				
065	50.41S6E48 48" D.I.P. CLASS 56 SANITARY SEWER, ENCASED IN CONCRETE	50.00	L.F.				
066	51.11C001 CHAMBER NO. 1	1.00	EACH				



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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	CTS	DOLLARS	CTS
067	51.11C002 CHAMBER NO. 2	1.00	EACH				
068	51.11C003 CHAMBER NO. 3	1.00	EACH				
069	51.11C004 CHAMBER NO. 4	1.00	EACH				
070	51.11C005 CHAMBER NO. 5	1.00	EACH				
071	51.11C006 CHAMBER NO. 6	1.00	EACH				
072	51.11C007 CHAMBER NO. 7	1.00	EACH				

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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	CTS	DOLLARS	CTS
073	51.11C008 CHAMBER NO. 8	1.00	EACH				
074	51.11C009 CHAMBER NO. 9	1.00	EACH				
075	51.11C010 CHAMBER NO. 10	1.00	EACH				
076	51.11C011 CHAMBER NO. 11	1.00	EACH				
077	51.11C012 CHAMBER NO. 12	1.00	EACH				
078	51.11C013 CHAMBER NO. 13	1.00	EACH				



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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	CTS.	DOLLARS	CTS.
079	51.11C014 CHAMBER NO. 14	1.00	EACH				
080	51.11C015 CHAMBER NO. 15	1.00	EACH				
081	51.11P004 STANDARD 4'-0" DIAMETER PRECAST MANHOLE	7.00	EACH				
082	51.11P005 STANDARD 5'-0" DIAMETER PRECAST MANHOLE	2.00	EACH				
083	51.11P006 STANDARD 6'-0" DIAMETER PRECAST MANHOLE	2.00	EACH				
084	51.11P007 STANDARD 7'-0" DIAMETER PRECAST MANHOLE	3.00	EACH				



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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) DOLLARS CTS	COL 6 EXTENDED AMOUNT (IN FIGURES) DOLLARS CTS
085	51.11P008 STANDARD 8'-0" DIAMETER PRECAST MANHOLE	2.00	EACH		
086	51.21A000000C ACCESS MANHOLE	25.00	EACH		
087	51.21C000000C CLEANOUT MANHOLE	4.00	EACH		
088	51.21L000000V SPECIAL MANHOLE	1.00	EACH		
089	51.21S0A1000E STANDARD MANHOLE TYPE A-1 ON EXISTING SEWER	2.00	EACH		
090	51.21S0A1000V STANDARD MANHOLE TYPE A-1	8.00	EACH		



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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	CTS	DOLLARS	CTS
091	51.21S0A2000V STANDARD MANHOLE TYPE A-2	1.00	EACH				
092	51.21S0A3000V STANDARD SHALLOW MANHOLE TYPE A-3	13.00	EACH				
093	51.21S0B1000V STANDARD MANHOLE TYPE B-1	34.00	EACH				
094	51.21S0B2000V STANDARD MANHOLE TYPE B-2	18.00	EACH				
095	51.21S0C1036R STANDARD MANHOLE TYPE C-1 ON 36" R.C.P. SEWER	2.00	EACH				
096	51.21S0C1042R STANDARD MANHOLE TYPE C-1 ON 42" R.C.P. SEWER	1.00	EACH				

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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	CTS	DOLLARS	CTS
097	51.21S0C1054R STANDARD MANHOLE TYPE C-1 ON 54" R.C.P. SEWER	10.00	EACH				
098	51.21S0C2048D STANDARD MANHOLE TYPE C-2 ON 48" D.I.P. SEWER	1.00	EACH				
099	51.41S001 STANDARD CATCH BASIN, TYPE 1	96.00	EACH				
100	52.11D12 12" DUCTILE IRON PIPE BASIN CONNECTION	2,100.00	L.F.				
101	52.21V08 8" E.S.V.P. RISER FOR HOUSE CONNECTION	500.00	V.F.				
102	52.31V06S10 6" E.S.V.P. SPUR FOR HOUSE CONNECTION ON 10" E.S.V.P. SANITARY SEWER	60.00	EACH				

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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	CTS	DOLLARS	CTS
103	52.31V06S12 6" E.S.V.P. SPUR FOR HOUSE CONNECTION ON 12" E.S.V.P. SANITARY SEWER	20.00	EACH				
104	52.41D06R 6" D.I.P. HOUSE CONNECTION DRAIN ON CONCRETE CRADLE (RECONNECTION)	450.00	L.F.				
105	52.41V06R 6" E.S.V.P. HOUSE CONNECTION DRAIN ON CONCRETE CRADLE (RECONNECTION)	1,100.00	L.F.				
106	53.11DR TELEVISION INSPECTION AND DIGITAL AUDIO-VISUAL RECORDING OF SEWERS	12,800.00	L.F.				
107	54.11SC SEWER CLEANING	1,500.00	L.F.				
108	54.12CS CLEANING OF DRAINAGE STRUCTURES	50.00	C.Y.				

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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	CTS	DOLLARS	CTS
109	6.01 AC CLEARING AND GRUBBING	2,980.00	S.Y.				
110	6.02 AAN UNCLASSIFIED EXCAVATION	10,160.00	C.Y.				
111	6.03 AA STRIPPING PAVEMENT SURFACE (ASPHALTIC CONCRETE)	180.00	S.Y.				
112	6.25 RS TEMPORARY SIGNS	12,430.00	S.F.				
113	6.26 TIMBER CURB	56,420.00	L.F.				
114	6.28 AA LIGHTED TIMBER BARRICADES	5,015.00	L.F.				

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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) DOLLARS		COL. 6 EXTENDED AMOUNT (IN FIGURES) DOLLARS	
					CTS		CTS
115	6.33 B STEEL FACED MALL NOSING, 3' TO UNDER 6' RADIUS	6.00	EACH				
116	6.40 D ENGINEER'S FIELD OFFICE (TYPE D)	42.00	MONTH				
117	6.44 THERMOPLASTIC REFLECTORIZED PAVEMENT MARKINGS (4" WIDE)	21,420.00	L.F.				
118	6.49 TEMPORARY PAVEMENT MARKINGS (4" WIDE)	41,420.00	L.F.				
119	6.52 CG CROSSING GUARD	6,410.00	P/HR				
120	6.53 REMOVE EXISTING LANE MARKINGS (4" WIDE)	21,710.00	L.F.				



Department of  
Design and  
Construction

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

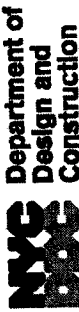
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CONTRACT PIN: 8502017SE0009C

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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) DOLLARS		COL 6 EXTENDED AMOUNT (IN FIGURES) DOLLARS		CTS
121	6.55 SAWCUTTING EXISTING PAVEMENT	1,015.00	L.F.					
122	6.82 A REMOVING EXISTING TRAFFIC AND STREET NAME SIGNS	250.00	S.F.					
123	6.82 B REMOVING EXISTING TRAFFIC AND STREET NAME SIGN POSTS	350.00	L.F.					
124	6.83 AA FURNISHING NEW NON-REFLECTORIZED TRAFFIC SIGNS	100.00	S.F.					
125	6.83 AB FURNISHING NEW TRAFFIC SIGN POSTS	250.00	L.F.					
126	6.83 AR FURNISHING NEW REFLECTORIZED TRAFFIC SIGNS	160.00	S.F.					

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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	CENTS	DOLLARS	CENTS
127	6.83 BA INSTALLING TRAFFIC SIGNS	260.00	S.F.				
128	6.83 BB INSTALLING TRAFFIC SIGN POSTS	250.00	L.F.				
129	6.84 B LOLLIPOP TYPE BUS STOP SIGNS PRICE BID SHALL BE FOR THE FIXED SUM OF \$ 15,500.00	1.00	F.S.	15,500	00	\$15,500	00
130	6.86 AA FURNISHING NEW STREET NAME SIGNS	100.00	S.F.				
131	6.86 AB FURNISHING NEW STREET NAME SIGN POSTS	150.00	L.F.				



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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) DOLLARS CTS	COL 6 EXTENDED AMOUNT (IN FIGURES) DOLLARS CTS
132	6.86 BA INSTALLING STREET NAME SIGNS	100.00	S.F.		
133	6.86 BB INSTALLING STREET NAME SIGN POSTS	150.00	L.F.		
134	6.87 PLASTIC BARRELS	6,630.00	EACH		
135	6.91 REFLECTIVE CRACKING MEMBRANE (18" WIDE)	2,415.00	L.F.		
136	60.11R520 FURNISHING AND DELIVERING 20-INCH DUCTILE IRON RESTRAINED JOINT PIPE (CLASS 55)	2,000.00	L.F.		
137	60.11R606 FURNISHING AND DELIVERING 6-INCH DUCTILE IRON RESTRAINED JOINT PIPE (CLASS 56)	500.00	L.F.		

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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) DOLLARS CTS		COL 6 EXTENDED AMOUNT (IN FIGURES) DOLLARS CTS	
				DOLLARS	CTS	DOLLARS	CTS
138	60.11R608 FURNISHING AND DELIVERING 8-INCH DUCTILE IRON RESTRAINED JOINT PIPE (CLASS 56)	6,400.00	L.F.				
139	60.11R612 FURNISHING AND DELIVERING 12-INCH DUCTILE IRON RESTRAINED JOINT PIPE (CLASS 56)	3,400.00	L.F.				
140	60.12D06 LAYING 6-INCH DUCTILE IRON PIPE AND FITTINGS	550.00	L.F.				
141	60.12D08 LAYING 8-INCH DUCTILE IRON PIPE AND FITTINGS	6,600.00	L.F.				
142	60.12D12 LAYING 12-INCH DUCTILE IRON PIPE AND FITTINGS	3,600.00	L.F.				
143	60.12D20 LAYING 20-INCH DUCTILE IRON PIPE AND FITTINGS	2,200.00	L.F.				

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## 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
144	60.13M0A24 FURNISHING AND DELIVERING DUCTILE IRON MECHANICAL JOINT 24- INCH DIAMETER AND SMALLER FITTINGS, INCLUDING WEDGE TYPE RETAINER GLANDS	16.00	TONS		
145	60.18BJC20EL FURNISHING, DELIVERING AND INSTALLING BELL JOINT CLAMPS, COMPLETE FOR 20-INCH PIPE AND LESS	11.00	EACH		
146	61.11DMM06 FURNISHING AND DELIVERING 6-INCH MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	36.00	EACH		
147	61.11DMM08 FURNISHING AND DELIVERING 8-INCH MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	30.00	EACH		
148	61.11DMM12 FURNISHING AND DELIVERING 12-INCH MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	15.00	EACH		



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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	CTS	DOLLARS	CTS
149	61.11DMM20 FURNISHING AND DELIVERING 20-INCH MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	10.00	EACH				
150	61.11TWC03 FURNISHING AND DELIVERING 3-INCH WET CONNECTION TAPPING VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	2.00	EACH				
151	61.11TWC04 FURNISHING AND DELIVERING 4-INCH WET CONNECTION TAPPING VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	2.00	EACH				
152	61.12DMM06 SETTING 6-INCH MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	36.00	EACH				
153	61.12DMM08 SETTING 8-INCH MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	30.00	EACH				
154	61.12DMM12 SETTING 12-INCH MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	15.00	EACH				

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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	CTS	DOLLARS	CTS
155	61.12DMM20 SETTING 20-INCH MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	10.00	EACH				
156	61.12TWC03 SETTING 3-INCH WET CONNECTION TAPPING VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	2.00	EACH				
157	61.12TWC04 SETTING 4-INCH WET CONNECTION TAPPING VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	2.00	EACH				
158	62.11SD FURNISHING AND DELIVERING HYDRANTS	36.00	EACH				
159	62.12SG SETTING HYDRANTS COMPLETE WITH WEDGE TYPE RETAINER GLANDS	36.00	EACH				
160	62.13RH REMOVING HYDRANTS	25.00	EACH				

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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	CTS	DOLLARS	CTS
161	62.14FS FURNISHING, DELIVERING AND INSTALLING HYDRANT FENDERS	72.00	EACH				
162	63.11VC FURNISHING AND DELIVERING VARIOUS CASTINGS	45.00	TONS				
163	64.11EL WITHDRAWING AND REPLACING HOUSE SERVICES USING 1-1/2- INCH OR LARGER SCREW TAPS	100.00	EACH				
164	64.11ST WITHDRAWING AND REPLACING HOUSE SERVICES USING SMALLER THAN 1-1/2-INCH SCREW TAPS	220.00	EACH				
165	64.12COEG CUTTING AND OFFSETTING HOUSE SERVICE WATER CONNECTIONS (EQUAL TO OR GREATER THAN 3-INCH DIAMETER)	300.00	L.F.				
166	64.12COLT CUTTING AND OFFSETTING HOUSE SERVICE WATER CONNECTIONS (LESS THAN 3-INCH DIAMETER)	2,500.00	L.F.				

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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	CTS	DOLLARS	CTS
167	64.12ESEG EXTENDING HOUSE SERVICE WATER CONNECTIONS (EQUAL TO OR GREATER THAN 3-INCH DIAMETER)	300.00	L.F.				
168	64.12ESLT EXTENDING HOUSE SERVICE WATER CONNECTIONS (LESS THAN 3- INCH DIAMETER)	2,500.00	L.F.				
169	64.13WC08 FURNISHING, DELIVERING AND INSTALLING WET CONNECTION SLEEVE ON 8-INCH WATER MAIN PIPE WITH VARIOUS OUTLETS	1.00	EACH				
170	64.13WC12 FURNISHING, DELIVERING AND INSTALLING WET CONNECTION SLEEVE ON 12-INCH WATER MAIN PIPE WITH VARIOUS OUTLETS	1.00	EACH				
171	64.13WC20 FURNISHING, DELIVERING AND INSTALLING WET CONNECTION SLEEVE ON 20-INCH WATER MAIN PIPE WITH VARIOUS OUTLETS	1.00	EACH				
172	65.11BR FURNISHING, DELIVERING AND INSTALLING BANDS, RODS, WASHERS, ETC., COMPLETE, FOR RESTRAINING JOINTS	700.00	LBS.				



Department of  
Design and  
Construction

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

PROJECT ID: SE823  
CONTRACT PIN: 8502017SE0009C

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## 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
173	65.31FF FURNISHING, DELIVERING AND PLACING FILTER FABRIC Unit price bid shall not be less than: \$ 0.10	90,000.00	S.F.		
174	65.51PC FURNISHING AND PLACING CAST-IN-PLACE CONCRETE CLASS 40 AND PRECAST CONCRETE CLASS 50	50.00	C.Y.		
175	65.61SS FURNISHING, DELIVERING AND PLACING STRUCTURAL, REINFORCING AND MISCELLANEOUS STEEL	56,000.00	LBS.		
176	65.71SG FURNISHING, DELIVERING AND PLACING SCREENED GRAVEL OR SCREENED BROKEN STONE BEDDING	1,500.00	C.Y.		
177	7.07 MB2 MARTELLO BOLLARD, VERSION 2.0	3.00	EACH		
178	7.13 B MAINTENANCE OF SITE Unit price bid shall not be less than: \$ 0.00	3.00	MONTH		

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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	CENTS	DOLLARS	CENTS
179	7.13 B MAINTENANCE OF SITE Unit price bid shall not be less than: \$ 14,000.00	33.00	MONTH				
180	7.19 LOAD TRANSFER JOINT	915.00	L.F.				
181	7.36 PEDESTRIAN STEEL BARRICADES	40,820.00	L.F.				
182	7.88 AB RODENT BAIT STATIONS Unit price bid shall not be less than: \$ 60.00	450.00	EACH				
183	7.88 AC BAITING OF RODENT BAIT STATIONS Unit price bid shall not be less than: \$ 12.50	450.00	EACH				
184	7.88 AD WATERBUG BAIT APPLICATIONS Unit price bid shall not be less than: \$ 70.00	540.00	BLOCK				

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## 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
185	70.21DK DECKING	26,400.00	S.Y.		
186	70.31FN FENCING Unit price bid shall not be less than: \$ 2.00	55,500.00	L.F.		
187	70.51EO EXCAVATION OF BOULDERS IN OPEN CUT Unit price bid shall not be less than: \$ 50.00	20.00	C.Y.		
188	70.61RE ROCK EXCAVATION	20.00	C.Y.		
189	70.71SB STONE BALLAST Unit price bid shall not be less than: \$ 15.00	2,400.00	C.Y.		
190	70.81CB CLEAN BACKFILL Unit price bid shall not be less than: \$ 12.50	27,000.00	C.Y.		

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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) DOLLARS CTS	COL 6 EXTENDED AMOUNT (IN FIGURES) DOLLARS CTS
191	70.91SW12 FURNISHING AND PLACING SHEETING AND BRACING IN TRENCH FOR WATER MAIN PIPE 12-INCH IN DIAMETER AND LESS	30,000.00	S.F.		
192	70.91SW20 FURNISHING AND PLACING SHEETING AND BRACING IN TRENCH FOR WATER MAIN PIPE 20-INCH IN DIAMETER	16,000.00	S.F.		
193	72.11HF HYDRAULIC FILL FOR ABANDONED SEWERS AND WATER MAINS	900.00	C.Y.		
194	73.11AB ADDITIONAL BRICK MASONRY Unit price bid shall not be less than: \$ 37.50	150.00	C.Y.		
195	73.21AC ADDITIONAL CONCRETE Unit price bid shall not be less than: \$ 62.50	200.00	C.Y.		
196	73.31AE0 ADDITIONAL EARTH EXCAVATION INCLUDING TEST PITS (ALL DEPTHS) Unit price bid shall not be less than: \$ 15.00	3,100.00	C.Y.		

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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	CTS	DOLLARS	CTS
197	73.41AG ADDITIONAL SELECT GRANULAR BACKFILL Unit price bid shall not be less than: \$ 15.00	4,000.00	C.Y.				
198	73.51AS ADDITIONAL STEEL REINFORCING BARS Unit price bid shall not be less than: \$ 1.25	10,000.00	LBS.				
199	73.61AT ADDITIONAL STONE BALLAST Unit price bid shall not be less than: \$ 17.50	350.00	C.Y.				
200	8.01 C1 HANDLING, TRANSPORTING AND DISPOSAL OF NON-HAZARDOUS CONTAMINATED SOIL	30,000.00	TONS				
201	8.01 C2 SAMPLING AND TESTING OF CONTAMINATED/POTENTIALLY HAZARDOUS SOIL FOR DISPOSAL PURPOSES	30.00	SETS				
202	8.01 H HANDLING, TRANSPORTING AND DISPOSAL OF HAZARDOUS SOIL	5,000.00	TONS				

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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	CENTS	DOLLARS	CENTS
203	8.01 S HEALTH AND SAFETY	1.00	L.S.				
204	8.01 W1 REMOVAL, TREATMENT, AND DISCHARGE/DISPOSAL OF CONTAMINATED WATER	20.00	DAY				
205	8.01 W2 SAMPLING AND TESTING OF CONTAMINATED WATER	10.00	SETS				
206	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
207	9.30 STORM WATER POLLUTION PREVENTION	1.00	L.S.				

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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	CENTS	DOLLARS	CENTS
208	BMP-7.09 LICENSED SURVEYOR	2.00	DAY				
209	BMP-7.307-A GRADING	26,820.00	S.F.				
210	BMP-7.401-J HERBACEOUS PLANTS (PLUGS)	9,626.00	EACH				
211	BMP-7.403 TOPSOIL	2,710.00	C.Y.				
212	BMP-7.404-A RESTORATION SPECIALIST	460.00	HRS				
213	BMP-7.404-B EROSION AND SEDIMENT CONTROL LICENSED/CERTIFIED PROFESSIONAL	60.00	DAY				



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# 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
214	BMP-7.407-A EROSION CONTROL MAT	36,510.00	S.F.		
215	BMP-7.504A SILT FENCE	960.00	L.F.		
216	BMP-7.509-A STABILIZED CONSTRUCTION ENTRANCE	1.00	EACH		
217	PK-304 CHAIN LINK FENCE 6'-0" HT	380.00	L.F.		
218	PK-318 DOUBLE GATE FOR CHAIN LINK FENCE 6' HT.	1.00	EACH		
219	PM-01 PLANT MAJOR TREES (2.5" TO 3" CALIPER)	6.00	EACH		



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

PROJECT ID: SE823

CONTRACT PIN: 8502017SE0009C

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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	CTS	DOLLARS	CTS
220	PM-02 PLANT MAJOR TREES (3.5" TO 4" CALIPER)	5.00	EACH				
221	PM-03 PLANT FLOWERING AND ORNAMENTAL TREES	10.00	EACH				
222	UTL-6.01.1 GAS MAIN CROSSING SEWER UP TO 24" IN DIAMETER (\$6.01) Unit price bid shall not be less than: \$ 1,040.00	14.00	EACH				
223	UTL-6.01.3 GAS MAIN CROSSING SEWER 36" THRU 42" IN DIAMETER (\$6.01) Unit price bid shall not be less than: \$ 2,040.00	4.00	EACH				
224	UTL-6.01.4 GAS MAIN CROSSING SEWER 48" THRU 54" IN DIAMETER (\$6.01) Unit price bid shall not be less than: \$ 2,120.00	6.00	EACH				
225	UTL-6.01.5 GAS MAIN CROSSING SEWER 60" IN DIAMETER (\$6.01) Unit price bid shall not be less than: \$ 2,340.00	1.00	EACH				

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Department of  
Design and  
Construction

NEW YORK CITY DEPARTMENT OF DESIGN AND CONSTRUCTION PROJECT ID: SE823  
DIVISION OF INFRASTRUCTURE - BUREAU OF DESIGN CONTRACT PIN: 8502017SE0009C

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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) DOLLARS CTS		COL 6 EXTENDED AMOUNT (IN FIGURES) DOLLARS CTS	
226	UTL-6.01.7WW GAS MAIN CROSSING 16-6"W X 8'-0"H FLAT TOP REINFORCED CONCRETE STORM SEWER (\$6.01) Unit price bid shall not be less than: \$ 2,740.00	5.00	EACH				
227	UTL-6.01.7YY GAS MAIN CROSSING 9'-0"W X 5'-0"H FLAT TOP REINFORCED CONCRETE STORM SEWER (\$6.01) Unit price bid shall not be less than: \$ 2,740.00	4.00	EACH				
228	UTL-6.01.8 GAS SERVICES CROSSING TRENCHES AND/OR EXCAVATIONS (\$6.01) Unit price bid shall not be less than: \$ 485.00	117.00	EACH				
229	UTL-6.01.9 GAS MAIN CROSSING WATER MAIN UP TO 20" IN DIAMETER (\$6.01) Unit price bid shall not be less than: \$ 485.00	31.00	EACH				
230	UTL-6.02 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	4.00	EACH				
231	UTL-6.03 REMOVAL OF ABANDONED GAS FACILITIES, ALL SIZES. (\$6.03) Unit price bid shall not be less than: \$ 15.00	5,200.00	L.F.				

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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) DOLLARS CTS	COL 6 EXTENDED AMOUNT (IN FIGURES) DOLLARS CTS
232	UTL-6.03.1 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	200.00	L.F.		
233	UTL-6.04 ADJUST HARDWARE TO GRADE USING SPACER RINGS/ADAPTORS. (STREET REPAVING.) (\$6.04) Unit price bid shall not be less than: \$ 35.00	20.00	EACH		
234	UTL-6.05 ADJUST HARDWARE TO GRADE BY RESETTING. (ROAD RECONSTRUCTION.) (\$6.05) Unit price bid shall not be less than: \$ 65.00	25.00	EACH		
235	UTL-6.06 SPECIAL CARE EXCAVATION AND BACKFILLING (\$6.06) Unit price bid shall not be less than: \$ 180.00	5,000.00	C.Y.		
236	UTL-6.07 TEST PITS FOR GAS FACILITIES (\$6.07) Unit price bid shall not be less than: \$ 100.00	50.00	C.Y.		



Department of  
Design and  
Construction

NEW YORK CITY DEPARTMENT OF DESIGN AND CONSTRUCTION PROJECT ID: SE823  
DIVISION OF INFRASTRUCTURE - BUREAU OF DESIGN CONTRACT PIN: 8502017SE0009C

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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) DOLLARS CTS	COL 6 EXTENDED AMOUNT (IN FIGURES) DOLLARS CTS
237	UTL-GCS-2WS 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

SUB-TOTAL: \$

238	6.39 A MOBILIZATION BID PRICE OF MOBILIZATION SHALL NOT EXCEED 4% OF THE ABOVE SUB-TOTAL PRICE.	1.00	L.S.		
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TOTAL BID PRICE: \$

PLEASE BE SURE A LEGIBLE BID IS ENTERED FOR EACH ITEM.  
THE BIDDER SHALL INSERT THE TOTAL BID PRICE IN  
THE BID FORM ON PAGE C-4 OF THIS BID BOOKLET.

**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 January 5, 2009), 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 SEWER AND WATER MAIN SPECIFICATIONS
- C. REVISIONS TO THE SPECIFICATIONS FOR TRUNK MAIN WORK
- D. CHIN LINK FENCE SPECIFICATION

**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 1<sup>st</sup>, April 1<sup>st</sup>, July 1<sup>st</sup> and September 1<sup>st</sup>) 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 is advised that at some locations, there presently exists sewers, manholes, water mains, etc. which are to remain undisturbed and are in close proximity to the line of the proposed work. The Contractor shall exercise extreme care, minimize the trench width to the proposed sewers and take all necessary precautions in placing sheeting and during excavation of the trenches to prevent any damage to the existing structures that are to remain while working adjacent to them. The Contractor shall repair any damage to any portion of the existing structures that are to remain due to the Contractor's operations as directed by the Engineer. The cost of such repair shall be borne by the Contractor solely at the Contractor's own expense.
- (12) The Contractor is advised that at some locations indicated on the contract plans, new water mains are to be installed over new storm sewers. Should the cover of the new water main to be installed be less than two (2) feet, the Contractor shall install the new water main with shallow cover provisions in compliance with Water Main Standard Drawing No. 46464-Z. The cost for any additional work required in order to install the water main in accordance with shallow cover provisions shall be made under appropriate bid items as directed by the Engineer.
- (13) The Contractor shall install new 8-inch and 12-inch water mains crossing under or over the new and existing sewers at the locations indicated on the contract plans. The Contractor shall perform all the work required and necessary in compliance with the details shown on the contract plan Sheet No. 21 and with Standard Water Main Specifications. Payment for all work required to perform this work shall be made under the appropriate water main (WM) item of the contract. (The cost for any work required to complete this work for which there is no contract item(s) shall be deemed included in the prices bid for all items of the contract.)
- (14) The Contractor is advised that no additional or separate payment shall be made for the removal of existing pile caps in the project area. The cost of such work shall be deemed included in the prices bid for all contract items of work.
- (15) The Contractor is advised that a Memorandum Of Understanding (MOU) between Parks and DEP for BLOCK 13714, LOTS 50, 53, 55 and 60 (park area) is under process. A finalized MOU will be available for the contractor during construction. The contractor shall obtain all necessary permits and MOU requirements to work in this area.
- (16) All fences, gates, shrubbery, lawn areas, pipes, retaining walls, paved entrances and exits, and all other encroachments, encumbrances, or obstructions above or below ground surface, and the related foundations and appurtenances which are affected by the installation of water mains and sewers shall be removed by the Contractor to the extent directed by the Engineer, and shall be replaced and/or rebuilt to the satisfaction of the Engineer and the property owner. The Contractor shall remove or restore all affected encumbrances and/or encroachments to at least the same condition in which they were prior to the start of construction. The Contractor shall furnish all new materials required or necessary to perform the above work to the satisfaction of the Engineer. The Contractor shall maintain access to the buildings and parking lot at all times. The Contractor shall maintain all the existing services at all times. The cost of all labor, materials, plant, insurance, and equipment necessary and required to remove, replace, and/or rebuild such encumbrances shall be deemed included in the prices bid for all items of work.
- (17) The Contractor is advised that the Department of Design and Construction is in the process of filing permit application for Dewatering and Wetland Permit with the New York State Department of Conservation (NYSDEC) under the Environmental Conservation Law, Article 15 for Temporary Well Point Permit Application and Article 25 for Tidal Wetlands. No work shall commence until such permit

has been obtained for this project by the Contractor. No additional or separate payment shall be made for the work of complying with NYSDEC requirements; for the required updating of permits and obtaining of permits. The cost of such work shall be deemed included in the prices bid for all contract items of work.

- (18) The Contractor is advised that the Department of Design and Construction is in the process of filing permit application with the New York State Department of State (NYS DOS); Coastal Management Program Consistency Determination. No work shall commence until such permit has been obtained for this project by the Contractor. No additional or separate payment shall be made for the work in order to comply with the requirements, for the required updating of permits and obtaining the permits. The cost of such work shall be deemed included in the prices bid for all contract items of work.
- (19) The Contractor is advised that the prior to bulkheading/abandoning/removing any section of the existing 84" Storm Sewer on 147th Avenue, Chamber No. 7 shall be fully operational as well as all downstream storm sewers up to Chamber No. 2.
- (20) The Contractor is advised that Chamber 15, "Regulator Chamber", requires a Sluice Gate as per specifications on Sheet 29 of the contract plans. The sluice gate shall be of the size indicated on the plans and shall be designed for installation in the structure as shown on plans. The sluice gate equipment and appurtenances shall be installed in accordance with the Installation Manual furnished by the gate manufacturer. Extreme care shall be used in the handling, storage, and installation of this equipment to prevent damage or distortion of the equipment and to insure proper performance. The Contractor shall submit manufacturers drawings, specifications for approval to NYC DEP and Engineer.

**B. REVISIONS TO THE STANDARD SEWER AND WATER MAIN SPECIFICATIONS**

- (1) **Refer** to Subsection 10.15 - Notice To Utility Companies, Etc., To Remove Structures Occupying Place Of Sewers, Water Mains Or Appurtenances, Page 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) 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. David Reid at (718) 977-8138.

(4) TIME WARNER CABLE OF NEW YORK CITY

There are TIME WARNER CABLE facilities in the area of construction. The Contractor shall notify TIME WARNER CABLE at least seventy-two (72) hours prior to the start of construction by contacting Mr. Mark Larm at (917) 335-9181.

- (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 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. James Cruickshank at (718) 965-7739.

(5) N.Y.C. TRANSIT AUTHORITY



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.

Arrangements shall be made through:

Ms. Sarah Wyss  
Director Of Short Range, Bus Service Planning (SRB)  
New York City Transit  
2 Broadway, 17<sup>th</sup> Floor  
New York, N.Y. 10004  
Telephone No. (646) 252-5517  
sarah.wyss@nyct.com

- (4) **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 (seven (7) pages) that are attached to the end of this section, and as directed by the Engineer.

- (5) **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.

(6) 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.
- (6) Groundwater Analysis - The Environmental Scientist shall develop and submit a sampling and analysis program subject to NYSDEC Approval (a minimum of one groundwater sample from a site well shall be collected and analyzed). A laboratory certified by the New York State Health Department shall analyze the samples. The sampling and analysis program must include but is not limited to the following:

## NYSDEC REGION 2 - DEWATERING PROJECTS SAMPLING INFORMATION

NO.	PARAMETERS	TYPE	EPA METHOD	DETECTION
1	pH	Grab	150.1	EPA min
2	Temperature	°F	After Pumping	EPA min
3	Fecal Coliform	Grab	5-Tubes/3-Dilutions	2-MPN/100-ml
4	Oil & Grease	Grab	413.1	EPA min
5	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-µg/l.

Small dewatering projects with a total estimated pumped volume up to 15-Million Gallons (MG) require sampling analysis for parameters No.'s 1 through 12.

Medium dewatering projects with a total estimated pumped volume between 15-MG and 60-MG require sampling analysis for parameters No.'s 1 through 14.

Large dewatering projects with a total estimated pumped volume greater than 60-MG require sampling analysis for parameters No.'s 1 through 20.

Samples are to be collected after development of the well by a licensed well driller.

A laboratory certified by the NYS Department of Health must conduct all testing.

Irrespective of the aforementioned sampling requirements based on total estimated pumped volumes, the Department may require sampling of additional parameters if the proposed dewatering site is suspected of being contaminated.

**40.14.4 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.

- (7) 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) In 229th Street starting fifty (50) feet north of the intersection with 147th Avenue to 145th Avenue, including intersections; 145th Avenue between 226th Street and 230th Place, including intersections; 230th Place south of the intersection with 147th Avenue to 148th Avenue; the restoration shall be as follows:

The permanent restoration shall consist of a minimum of nine (9) inches Asphaltic Macadam Pavement, from **curb to curb or from edge to edge of existing roadway**, to match the existing grade as directed by the Engineer.

- (2) In 148th Avenue starting fifty (50) feet east of 227th Street to fifty (50) feet west of 229th Street, including intersection; 230th Place starting fifty (50) feet south of 145th Avenue to fifty (50) feet north of 147th Avenue, including intersections; the restoration shall be as follows:

- (a) The permanent restoration over the trench width and cutbacks only shall consist of a top course of a one and one-half (1 ½) inches of binder mixture on a base course of a minimum of four and a half (4 ½) inches of binder mixture to match the existing pavement as directed by the engineer.

- (a) 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.

- (3) In 148<sup>th</sup> Avenue between 226<sup>th</sup> Street and 225<sup>th</sup> Street, excluding intersections; 230<sup>th</sup> Street between 147<sup>th</sup> Avenue and 148<sup>th</sup> Avenue, excluding intersections; the restoration shall be as follows:

The permanent restoration over the **trench width and cutbacks only** shall consist of a top course of one and one-half (1 ½) inches of asphaltic wearing course on a minimum of four and one-half (4 ½) inches of binder mixture as directed by the Engineer.

- (4) In **147<sup>th</sup> Avenue** from 227<sup>th</sup> Street to 229<sup>th</sup> Street, including intersections;  
**Intersection** of 147<sup>th</sup> Avenue and 230<sup>th</sup> Street; the restoration shall be as follows:

The entire width of roadway 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 minimum of six (6) inches of concrete base and three (3) inches of asphaltic concrete wearing course to match the existing grade as directed by the Engineer.

- (5) In **148th Avenue** between 230th Place and 228th Street; the restoration shall be as follows:

Two existing raised speed bumps/reducers shall be restored in kind and the cost shall be deemed included in the prices bid for all items of work. No additional payment shall be made to the contractor for this work.

- (6) In **227<sup>th</sup> Street** between 148<sup>th</sup> Avenue and 147<sup>th</sup> Avenue, including intersection with 148<sup>th</sup> Avenue; **147<sup>th</sup> Avenue** starting fifty (50) feet east of 227<sup>th</sup> Street to fifty (50) feet west of 230<sup>th</sup> Street, including **Intersection** of 147<sup>th</sup> Avenue and 230<sup>th</sup> Street; the restoration shall be as follows:

- a. The permanent restoration over the **trench width and cutbacks only** shall consist of three (3) inches of binder mixture over six (6) to nine (9) inches of concrete base as encountered to match 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.

- (7) 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>
4.01 RAJ	Asphaltic Macadam Pavement, 9" Thick	(For curb to curb or edge to edge.)
4.02 AB-R	Asphaltic Concrete Wearing Course, 1-1/2" Thick	(For top wearing course when no overlay is required.)
4.02 AF-R	Asphaltic Concrete Pavement, 2" Thick	(For curb to curb or edge to edge.)
4.02 AG	Asphaltic Concrete Pavement, 3" Thick	(For curb to curb or edge to edge.)
4.02 CA	Binder Mixture	(For asphaltic concrete base course over trenches and cutbacks; top filler course under wearing course when no overlay is required; top course when overlay is required; and to fill in roadway depressions and to provide a leveling course prior to overlay where ordered.)
4.04 AC	Concrete Base For Pavement, 6" Thick	(For curb to curb or edge to edge.)
4.04 H	Concrete Base for Pavement, Variable Thickness for Trench Restoration, (High-Early Strength)	(For concrete base course over trenches and cutbacks.)
4.05 AX	High-Early Strength Reinforced Concrete Pavement (Bus Stop)	(For reinforced concrete pavement at bus stops.)

**C. REVISIONS TO THE SPECIFICATIONS FOR TRUNK MAIN WORK**

- 1) **Refer** to Part 1 – Furnishing And Delivering Steel Pipes And Appurtenances 30 Inches In Diameter And Larger, Section 11. 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 except for fabrication of tees and reducers.

- 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.

**D. CHIN LINK FENCE SPECIFICATION**

- (8) **Refer** to Page VII-104:  
**Add** the following new Section:

<u>ITEM NO. PK-302</u>	<u>CHAIN LINK FENCE 3'-6" HT.</u>
<u>ITEM NO. PK-303</u>	<u>CHAIN LINK FENCE 4'-0" HT.</u>
<u>ITEM NO. PK-304</u>	<u>CHAIN LINK FENCE 6'-0" HT.</u>
<u>ITEM NO. PK-305</u>	<u>CHAIN LINK FENCE 8'-0" HT.</u>
<u>ITEM NO. PK-306</u>	<u>CHAIN LINK FENCE 10'-0" HT.</u>
<u>ITEM NO. PK-307</u>	<u>CHAIN LINK FENCE 12'-0" HT., 1 3/4" MESH (TENNIS)</u>
<u>ITEM NO. PK-308</u>	<u>CHAIN LINK FENCE 12'-0" HT., 2" MESH</u>
<u>ITEM NO. PK-309</u>	<u>CHAIN LINK FENCE 14'-0" HT.</u>
<u>ITEM NO. PK-310</u>	<u>CHAIN LINK FENCE 16'-0" HT., 1" MESH (HANDBALL)</u>
<u>ITEM NO. PK-311</u>	<u>CHAIN LINK FENCE 16'-0" HT., 2" MESH</u>
<u>ITEM NO. PK-312</u>	<u>CHAIN LINK FENCE 18'-0" HT.</u>
<u>ITEM NO. PK-313</u>	<u>CHAIN LINK FENCE 20'-0" HT.</u>
<u>ITEM NO. PK-314</u>	<u>SINGLE GATE FOR CHAIN LINK FENCE 4' HT.</u>
<u>ITEM NO. PK-315</u>	<u>SINGLE GATE FOR CHAIN LINK FENCE 6' HT.</u>
<u>ITEM NO. PK-316</u>	<u>SINGLE GATE FOR CHAIN LINK FENCE 8' HT. &amp; OVER</u>
<u>ITEM NO. PK-317</u>	<u>DOUBLE GATE FOR CHAIN LINK FENCE 4' HT.</u>
<u>ITEM NO. PK-318</u>	<u>DOUBLE GATE FOR CHAIN LINK FENCE 6' HT.</u>
<u>ITEM NO. PK-319</u>	<u>DOUBLE GATE FOR CHAIN LINK FENCE 8' HT.</u>
<u>ITEM NO. PK-320</u>	<u>DOUBLE GATE FOR CHAIN LINK FENCE 10' HT. &amp; OVER</u>

**WORK:** Under these Items, the Contractor shall furnish and erect powder coated chain link fences and powder coated chain link fence gates of the heights and sizes shown on the drawings, in accordance with the plans and specifications and directions of the Engineer.

**INTENT:** It is the intent of these items to effectively enclose the areas shown on the plans, and when new fences terminate at existing or new structures or fences within the areas or adjacent to the areas, the clear spaces between the fences and structures shall not exceed three and one half



(3 1/2") inches. Closures, if necessary, shall be made by the Contractor in a manner approved by the Engineer. Payment for such closures will be made per linear foot or a fraction thereof, at the unit prices bid for the fences.

**MATERIAL:** All fittings, hardware and equipment shall be designed to carry one hundred percent (100%) overload.

Malleable iron castings shall be powder coated after hot dipped galvanizing in accordance with ASTM Serial Designation: A153.

Pressed steel fittings and appurtenances shall be powder coated after hot dipped galvanizing in accordance with ASTM Serial Designation: A123.

All fittings, hardware and equipment shall be powder coated of a color to match the framework and shall be of the materials listed in the following schedule:

**FENCE/GATE PART****MATERIAL**

Boulevards, Corner (Split)

Malleable Iron or Pressed Steel-3/16" thick

Fittings and End Fittings

Post Caps and Post Line Tops

Malleable Iron or Pressed Steel - 3/16" thick

Couplings

Galv. Steel Pipe - 1/8" thick with 1/4" Dia. Full  
Depth Rivet

Gate Hinges

Malleable Iron or Pressed Steel-1/4" thick with  
1" Dia. Stainless Steel Pin Welded to 1/2" thick  
Pin Support

Bolts and Nuts

Galv. Steel or Stainless Steel as indicated on  
Plans

Tension Bars

1/8" x 1" Pressed Steel

Truss Rods

1/2" Dia. Galv. Steel

Truss Tightener

3/8" x 1" Galv. Steel

Truss Clamp

1/4" Pressed Steel

Gate Locking System

Rotating Locking Mechanism- Galv. Steel pipe.  
All other components shall be mild steel.

Gate Stop

7/16" thick malleable iron

Drive Pins and Set Screws

Stainless Steel, 18-8

**POSTS AND RAILS: TYPE I** - Posts and rails shall be standard weight galvanized steel pipe of the sizes shown on the plans and shall conform to ASTM Serial Designation F-1083 Schedule 40, except for chain link fence posts 20'-0" height, which shall be Schedule 80. Posts and rails shall be hot dip galvanized inside and outside in accordance with ASTM Serial Designation F-1083 or: For fence up to and including ten (10) feet height, posts and rails may be **TYPE II**, SS-40 steel tubing as manufactured by Allied Tube and Conduit Corp. of Harvey, Illinois, or approved equal. Tubing must conform to ASTM A1011/A1011M, cold rolled steel pipe and coated with a minimum of 0.9 ounces of zinc per square foot, a minimum of 15 micrograms of zinc chromate per square inch. Steel pipe supplied under this option shall be of the same outside diameter as Schedule 40 pipe and achieve minimum yield strength of 50,000 p.s.i.

**SURFACE COATINGS:** All posts, rails and fittings shall be powder coated with either polyvinyl chloride (PVC) or TGIC-Polyester (with the exception of the turnbuckles and threaded ends of the truss rods, both of which shall be sprayed with powder coat touch-up after installation).

Galvanizing of all components shall provide an acceptable substrate for applied powder coatings. No lacquer, urethane or other coatings which would prevent proper adhesion of powder coating shall be applied to the pipe.

The powder coating shall be applied to the galvanized surfaces in such a manner that the coating will not peel off. Insure surfaces to be coated are clean and dry and free of grease, dust, rust, etc. All galvanized parts, prior to powdercoating, shall first receive phosphating and chromating treatments to improve the adhesion of the surface coating. Color to be black unless otherwise indicated on the plans.

The entire fence installation shall be coated with one of the two following types of powder coating, (with the exception of gates, all of which shall be TGIC-Polyester and fabric which shall always be PVC). All Fence components shall be coated on all surfaces, of a color to match the framework. All coated surfaces shall comply with the adhesion specifications listed in ASTM F1043.

**TYPE A - Polyvinyl Chloride Powder Coating:** PVC Powder coating shall be applied to the galvanized steel or iron by the fluid bed method to a preheated base which has been cleaned and primed prior to submersion in vinyl, resulting in a firm bond between the PVC and the metal. PVC shall be applied to a film thickness of 10 to 15 mils on framework and fittings, and 7 to 12 mils on fabric without voids, tears or cuts that reveal the substrate and shall thoroughly adhere to the metal without peeling when scratched with a pick device or knife blade point.

**TYPE B - TGIC-Polyester Powder Coating:** TGIC-Polyester Powder shall be applied to the galvanized steel or iron in such a manner that the coating will not peel off. The TGIC-Polyester shall be applied at a film thickness of 3 to 6 mils by electrostatic spray process and bake finished

per manufacturer's directions. The TGIC-Polyester shall be applied without voids, tears or cuts that reveal the substrate and shall thoroughly adhere to the metal without peeling when scratched with a pick device or knife blade point.

### **TESTS:**

**Field Test for PVC Powder Coating:** As per ASTM F668, three sample sections of the PVC powder coated fence shall be tested for bonding of the powder coat to the metal. Each test will consist of making two cuts parallel to the axis of the pipe or fitting, through the coating, appx. 1/16 inch (1.6 mm) apart, at least 1/2 inch (12.7 mm) long. With a knife peel back a section of the coating between 1/8 inch (3.2 mm) and 1/4 inch (6.4 mm) long to produce a tab. Attempt to remove the 1/16 inch strip of coating by pulling the tab. The fence shall be deemed acceptable if the coating breaks rather than separates from the metal on all three samples.

**Laboratory Test for TGIC-Polyester Powder Coat:** At the discretion of the Engineer, a sample of the TGIC-Polyester powder coated fence shall be laboratory tested for bonding of the powder coating to the metal. Test shall be the Cross Hatch test per ASTM D3359, Method B. Failure to satisfactorily pass this test shall be a basis for rejection.

**TOUCH-UP & REPAIR:** For minor damage caused by installation, transportation, field welding and cutting of metal powder coated surfaces: clean welds, bolted connections, abraded or sawcut areas, then:

1. On welded and cut surfaces, apply organic zinc repair paint complying with ASTM A780, then repair powder coating per number 2 below. Galvanizing repair paint shall have 65 percent zinc by weight. Thickness of repair paint shall be not less than that required by ASTM A123.
2. On damaged powder coated surfaces, touch-up finish in conformance with manufacturer's recommendations. Provide touch-up such that repair is not visible from a distance of six feet (6').

**FABRIC:** Fabric shall be hot dip galvanized steel wire mesh as per ASTM A641, with a thermally fused polyvinyl chloride powder coating of 7 to 12 mils thick as per ASTM F668 class 2b. Color to match framework. Fabric shall be produced by methods recognized as good commercial practices. Core wire tensile strength shall be 75,000 psi (517 MPa).

Wire used for the manufacture of fabric shall meet the requirements of ASTM F668 and shall be capable of being woven into fabric without the PVC coating cracking or peeling. PVC coating shall be a dense, impervious covering free of voids. Excessive roughness, bubbles, blisters, bruises and flaking will be a basis for rejection. PVC shall be thermally fused. Bonded or extruded and glued surface coating will not be permitted. Fabric shall be stretched to provide a smooth, taut, uniform appearance free from sag.

**Field Test:** PVC coating on fabric shall be field tested for adherence to the metal as outlined elsewhere in this specification.

**Thickness of Fabric:** One (1) Inch Mesh: Uncoated wire dimension shall be 0.120 inches in diameter (11 gauge). Zinc coating shall be 0.30 ounces per square foot of wire surface.

**One and Three Quarter (1-3/4) Inch and Two (2) Inch Mesh:** Uncoated wire dimension shall be 0.148 inches in diameter (9 gauge). Zinc coating shall be .3 ounces per square foot of wire surface.

**Selvages:** Fabric shall be barbed at the top and knuckled at the bottom on fences over 6'-0" high. Fabric on fences 4'-0" and 6'-0" shall be knuckled top and bottom. Loops of knuckled fabric shall be closed or nearly closed. The wire ends of barbed selvages shall be twisted in a closed helix of 1- matching turns and cut at an acute angle. The length of the ends beyond the twist shall be at least 1/4 inch long. One (1) inch mesh shall be knuckled both top and bottom.

**TIES:** Tie-wire core thickness shall be 9 gauge (0.148") wrought aluminum alloy 1100-H16 wire with an extruded vinyl coating in accordance with ASTM A641 Class 3. PVC shall be applied to a film thickness of 20 to 22 mils. Ties shall be spaced fifteen (15) inches apart on rails and twelve (12) inches apart on posts. The ends of ties shall be wound in a telegraph twist two and one half turns. Color to match mesh. Contractor shall touch-up PVC coating on ties damaged as result of installation.

**GATES:** Gates shall be furnished and installed on reinforced concrete slabs where indicated on the plans or directed by the Engineer. All gates shall be galvanized steel and shall be TGIC-Polyester powder coated after fabrication per requirements for fence framework outlined elsewhere in this specification. Welded joints shall have a suitable rust preventive coating applied to the welds prior to powder coating. Gate fabric shall match line fabric adjacent to gate opening. Gates shall be installed plumb, level and secure for full opening without interference. The hinges shall be so designed to permit the gate to swing a full 180 degrees.

**Gate Locking System:** Gate locking system shall be fabricated in accordance with the Standard Details and shall be manufactured by Shannon Gates and Railings, Deer Park, NY, or approved equal. The Gate Locking System shall consist of three elements: 1) A steel drop bolt arranged to engage the gate stop. The drop bolt shall have a flange that meets a fixed locking eyelet, welded on the gate, to lock the gate in the open and closed position. 2) A rotating locking mechanism consisting of flanges that can be padlocked together and 3) gate stops. All necessary fittings and gate holders to lock gates in both open and closed positions shall be furnished. The gate locking system shall be installed to face the fenced in area, unless otherwise directed by the Engineer. All welds shall be ground smooth to a neat finish and shall conform to the requirements given under the "Materials and Methods of Construction", Section B of NYCDPR and as directed by the Engineer.

**Padlock:** The Contractor shall furnish one (1) padlock for each single gate and for each leaf of the double gates. The padlocks shall be American No. 5571 as manufactured by American Lock Co. of Crete, Illinois, or approved equal. All padlocks for the same park facility shall be keyed alike, with two (2) inch width by three-quarter (3/4) inch thick brass body, maximum security, five (5) pin tumblers with hardened alloy steel chrome plated shackle no less than three-eighths (3/8) inch diameter and two (2) inch clearance (elongated shackle). The Contractor shall furnish two (2) keys for each padlock.

**REINFORCED CONCRETE SLAB:** At gates shall be as shown on the standard details and as specified under "Reinforced Concrete Pavement".

**Concrete:** Concrete shall be 3,200 psi Average Concrete as specified in Section B of NYCDPR and as directed by the Engineer.

**ERECTION:** The posts shall be set in holes which shall have been formed in the concrete curb as shown on the plans or directed by the Engineer. Voids for posts shall be formed in the concrete by removable waxed sonotubes or galvanized sheet metal sleeves to remain. Core drilling is not permitted. After the posts have been set in place and properly supported to hold them in line and grade, the resulting space shall be neatly filled with a grout consisting of one (1) part cement and two (2) parts sand or approved equal. All gates and all end, corner and gateposts, regardless of height of fence shall have a 1/2" diameter truss rod and turnbuckle. Rod shall be tied to the mesh every 12 inches on center with tie-wires. Bolts on the turnbuckle shall be tack welded to prevent loosening. The only exception to the above is that truss rods are not required for end, corner and gateposts for fences 4'-0" ht. and under.

Chain link fabric shall be attached to line and corner posts and top, intermediate and bottom rails. Maintain a min. 1" (inch) clearance between finished grade and fence fabric. Posts shall be set plumb and true to line and grade. Any post not set true to line and grade shall be removed and replaced at the Contractor's expense. Bending posts to make them plumb will not be permitted.

The Contractor shall maintain the chain link fences and gates during the life of the contract and shall repair and replace all members that are disturbed, damaged, or destroyed from any cause at no cost to the City.

**Bolt and Hardware Installation:** Nuts and bolts shall be galvanized but not powder coated. Cans of TGIC-Polyester or PVC touch-up powder coating shall be used to paint the nuts and bolts per manufacturer's recommendations. The ends of all bolts shall be peened after tightening.

Bolts which are installed six feet (6') or less above grade shall not protrude more than 1/4" beyond the nut after tightening. All rough edges resulting from the cutting of bolts to achieve this requirement shall be filed smooth to the satisfaction of the Engineer. All post caps, corner and end fittings, and gate hinges on all fence elevations are to be secured in place with #14 SS drive screws to the satisfaction of the Engineer.

**SUBMITTALS:** All submittals shall be in accordance with the requirements of the General Conditions, Section C, Special Provision, Article 11.

**Certification:** The Contractor shall submit, at his own expense, a certification from the supplier for the following:

1. All castings are made from malleable iron.
2. All hot-dipped galvanized items have met the ASTM serial designations as indicated in this specification.
3. All powder coating meets the ASTM serial designations as indicated in these specifications.

**Shop Drawings:** Before the work in the shop is started, the Contractor shall submit shop drawings for approval. Include complete details of fence and gate construction, fence height, post spacing, dimensions and unit weights of framework and concrete footing detail. A shop drawing shall be submitted for the Gate Locking System showing all three elements, a steel drop bolt, a rotating locking mechanism and gate stops.

**Samples:** Prior to erection of the fence the following shall be submitted:

Fence framework: One piece of each pipe size, twelve (12") inches long.

Fence Fabric: One piece twelve (12") inches square.

Shipping Lists: The shipping list for the materials furnished shall be endorsed with the manufacturer's voucher certifying that the materials used comply with these specifications.

**MEASUREMENT AND PAYMENT:** The quantity of **CHAIN LINK FENCE** to be paid for shall be the number of **LINEAR FEET** of each height, furnished and erected complete in accordance with the plans, specifications and directions of the Engineer.

The price bid shall be a unit price per **LINEAR FOOT** of **CHAIN LINK FENCE** of each height and shall include the cost of all labor, material, equipment, insurance and all incidental expenses necessary to complete the work, including powder coating and powder coating touch-up, required to furnish and erect chain link fence with PVC powder coated steel fabric, all in accordance with the plans and specifications, to the satisfaction of the Engineer.

The quantity of **GATES** for chain link fence with PVC powder coated fabric shall be the number of TGIC-Polyester powder coated gates for chain link fence with PVC powder coated steel fabric (including both leaves of two-leaf gates, gate posts, locking system, gate stop and chain link fence over the gates) furnished and erected complete in accordance with the plans, specifications, and directions of the Engineer.

The price bid for PVC powder coated gates shall be a unit price for **EACH GATE** for the height of fence specified and shall include the cost of all labor, material, equipment, insurance and all incidental expenses necessary to complete the work, including gate stop, padlocks, powder coating and powder coating touch-up required to furnish and erect gates with PVC powder coated steel fabric, and incidentals, all in accordance with the plans and specifications, to the satisfaction of the Engineer.

The cost of excavation and concrete will be paid for under their respective contract Items. No deductions will be made for openings in fence except where gates occur. The cost for installing portals, as shown on the plans, shall be deemed included in the unit prices bid for these items.

**END OF SECTION**

**This Section consists of eighteen (18) pages plus seven (7) pages of attachments.**

**BMP - PAGES**

**SPECIFICATIONS FOR CONSTRUCTION OF  
BEST MANAGEMENT PRACTICE (BMP) AND  
MITIGATION AREA**

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**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**



LOWER BROOKVILLE AREA INFRASTRUCTURE IMPROVEMENTS  
QUEENS, NY

SPECIFICATIONS FOR

CONTRACT SE823

SPECIFICATIONS FOR SEDIMENT AND EROSION CONTROL, AND  
LANDSCAPING FOR  
THE CONSTRUCTION SITES

January 2018

Prepared for the NYC Department of Design and Construction

By Hazen and Sawyer, D.P.C./AKRF Engineering, P.C.  
A Joint Venture

DIVISION VII - DETAILED SPECIFICATIONS -  
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SEWER CONSTRUCTION  
DIVISION VII

SPECIFIC PROVISIONS

7.01 LOCATION OF WORK

Work under this Contract is to be performed within Idlewild Park, in Queens, New York. Specifically, the work will occur southeast of the intersection of 226th Street and 148th Avenue. The site is on property owned and regulated by the City of New York.

7.02 WORK INCLUDED

The work under this Contract includes the erosion and sediment control measures during the construction of two new storm sewer. The following descriptions of work included under this Contract are general descriptions only and shall not be construed as a complete description of the work to be performed.

A. The principal items of work include:

1. Storm Sewer and Combined Sewer Networks

This entails excavation of trenches and layout of storm sewer and combined sewer pipelines. The specifications and plans for this work are included elsewhere in these Contract Documents, not in this set.

2. Erosion and sediment control measures during construction

This shall entail the erosion and sediment control measures during the construction of the storm sewer outfall. Specifications and plans for this work are included in this set.

3. Site Restoration

The entire Project site will be restored upon project completion as per the Contract Drawings. Specifications and plans for this work are included in this Addendum and elsewhere in these Contract Documents.

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B. Involved Agencies and Firms

Before bidding, the contractor shall become familiar with the following involved agencies and firms and their respective responsibilities in the project:

1. New York City Department of Design and Construction (NYCDDC)

The NYCDDC will administer and inspect the Contractor's work with regard to all aspects of the Contract, including managing the overall project schedule, sequencing of the project and construction. The NYCDDC will handle permit compliance in relation to the sewer outfall construction. Whenever reference is made in these specifications to "the Engineer", it means the Resident Engineer on site, hired by NYCDDC.

2. New York City Department of Environmental Protection (DEP)

This City agency will maintain the facilities where the outfall is to be re-constructed under this project.

3. New York City Department of Parks & Recreation

New York City Department of Parks & Recreation is the City Department with authority over the property where the work is to be performed under this Contract. This City Department issues permits for all work in City parkland, including the property where the work is to be performed and has the regulatory authority to inspect the work site in order to ensure that permit requirements are not violated.

4. New York State Department of Environmental Conservation (NYSDEC)

This State Agency will be issuing a tidal wetland permit authorizing work in regulated areas to be performed under this Contract. This Agency has the regulatory authority to inspect the work site in order to ensure that permit requirements are not violated.

5. Hazen and Sawyer, D.P.C.

This engineering firm is the design consultant for all the work contained in these specifications. They are engaged by NYCDDC.



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6. United States Army Corp of Engineers

This Federal Agency issues permits for all work within Federal jurisdiction wetlands. This agency has the regulatory authority to inspect the work site in order to ensure that permit requirements are not violated.

7. Restoration Specialist (Construction Monitor)

The Restoration Specialist shall be retained by the Contractor. The Restoration Specialist shall supervise all restoration and landscaping work performed by the Contractor and his/her Subcontractors for the duration of the project, in accordance with the plans, specifications and directions of the Engineer. The individual or firm filling this position will be responsible for oversight of the complete sewer installation. This individual or firm will be familiar with the erosion and sediment control plan for the entire outfall site, and oversee all work in wetland areas and ensuring that the work adheres to permit requirements. The Restoration Specialist is responsible for compliance with the permit as it relates to sewer construction. The exact powers of the Restoration Specialist (Construction Monitor) are stipulated in the wetland permit.

C. Qualifications of Contractor/Subcontractor

1. The Contractor shall have performed at least three (3) contracts that involved the installation and maintenance of soil erosion and sediment control devices during construction of a project.

To support the Contractor's contention that he/she is qualified, the Contractor shall be able to provide the following information in a Statement of Qualifications, as detailed in the paragraph below.

Provide specific details on the projects (i.e., location, size cost, client, etc.). Provide client contact person's name and telephone number. Describe regulatory requirements of the erosion control devices. Describe any problems encountered during construction and operation of the devices. Discuss corrective actions taken to remedy the problem. Describe any violations issued by regulatory agencies. How were the violations resolved? Provide chronological photos recording the progress of construction and operation of the

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erosion control devices, including preconstruction through operation during site construction and restoration after construction.

Within three (3) days upon request by the City the Contractor shall identify a Certified Professional in Erosion and Sediment Control who will be responsible for implementation of this aspect of the project. The Contractor shall also provide a copy of the certification for the person so identified.

2. The Contractor must be able to complete and submit to DCC the Statement of Qualifications described in this Section within three (3) calendar days after requested to do so by DCC.

7.03

NOT USED

7.04

STANDARD SEWER AND WATER MAIN SPECIFICATIONS

- a. Roadway Repair and Resurfacing

Unless otherwise specified, all work, materials, and equipment shall conform to the applicable sections of the City of New York Department of Transportation Standard Highway Specifications.

- b. Sewer Work

Unless otherwise specified, all work, materials, and equipment shall conform to the applicable sections of the New York City Department of Environmental Protection Bureau of Water and Sewer Operations Standard Sewer and Water Main Specifications.

7.05

INSPECTION BY THE CITY, STATE AND FEDERAL GOVERNMENT

The Contractor shall provide proper facilities for inspection and access to the work at all times, whenever it is in preparation and progress, for authorized representatives of the City, State and Federal Governments, the latter two in the presence of the Engineer.

7.06

EXISTING UTILITIES

All subsurface utility and structure information shown on the Contract Drawings were obtained from various plans and maps and field investigations, however, it is not guaranteed to be complete or accurate. It shall be the Contractor's responsibility to locate all such necessary utilities or structures by the digging of test pits prior to the start of construction

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and/or by contracting the Joint Underground Locating Service (JULS). No separate payment will be made for test pits or any other work related to locating existing utilities. During the progress of the work, the Contractor shall protect from damage any existing utilities or services within the work areas until, if required, they have been re-routed, disconnected or capped off.

7.07

PERMITS REQUIRED

The Contractor is advised that NYCDDC has filed a joint application for permit with the New York State Department of Environmental Conservation (NYSDEC), the United States Army Corps of Engineers (USACE), the New York State Department of State (NYSDOS) and the New York City Department of City Planning. No work shall commence until the above-mentioned permit has been obtained for this project. As the application is being processed, it shall be the Contractor's responsibility to obtain and update the said permit.

The Contractor shall also become familiar with the following permit approvals which will be obtained by NYCDDC:

- New York State Department of Environmental Conservation – Excavation and Fill in Navigable Waters;
- New York State Department of Environmental Conservation – 401 Water Quality Certification;
- New York State Department of Environmental Conservation – Tidal Wetlands;
- New York State Department of Environmental Conservation – SPDES General Permit GP-0-15-002;
- U.S. Army Corps of Engineers Nationwide Permit 7 – Outfall Structures and Associated Intake Structures;
- New York State Department of State - Coastal Consistency Concurrence;
- New York City Planning Commission Waterfront Revitalization (Coastal Zone) Consistency Determination.

The Contractor shall obtain all necessary permits as outlined in NYCDOT Standard Specifications, Section 1.06.23 and the following:

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- New York City Department of Parks & Recreation – Construction Permit

The Contractor is responsible for performing all work in compliance with all permit requirements, including the 5-year monitoring requirement required by the NYSDEC/USACE permits. No separate or additional payment shall be made to the Contractor for complying with the above requirements, and obtaining and updating of said permits. The cost of such work shall be deemed included in the prices bid for all contract items of work.

7.08 LAND FOR CONTRACTOR'S USE

It is the responsibility of the Contractor to acquire land for staging area and/or use as a construction equipment and material storage yard. Staging area, stock pile sites, and other storage locations shall be protected from erosion and stormwater runoff.

7.09 LICENSED SURVEYOR FOR ENGINEER'S USE

A. Work Included

The Contractor shall engage the services of a New York State licensed surveyor as approved by the Engineer and reporting directly to the Engineer to make such surveys, as-builts, soundings, cross sections or other measurements as may be required by the Engineer for wetland mitigation construction. Surveying services included in the item are for the sole use of the Engineer. The surveyor may be used by the Engineer to verify grades, but surveying services needed for activities not related to wetland mitigation construction is the responsibility of the Contractor and is not provided under this item.

The Contractor for this Contract shall include in his total bid a per diem cost for the services performed by the Licensed Surveyor. This cost shall be shown on the Bid Schedule of Prices as Item No. BMP-7.09.

The cost proposals shall include unit prices on a per diem basis and shall include all necessary equipment, including vehicles for the Surveyors.

The cost proposals shall be submitted to the Engineer for evaluation and selection.

B. Measurement and Payment

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Measurement for payment shall be on a per diem basis. One day shall consist of any eight (8) hour time period from 7:00 AM to 6:00 PM Monday through Friday plus travel time, not including holidays. The per diem rate shall include the services of a three man surveying crew. The Engineer shall be present during the progress of Work and the Engineer shall deem as to whether a full eight hour period had been employed in completing the Work, and as to whether the Contractor has utilized his crew at the productivity output required to complete the Work as anticipated. The surveyor will submit invoices to the Engineer, which will be forwarded to the Contractor for prompt payment. Payments shall be made for invoiced costs only, with no payment for overhead and profit.

7.10 CONSTRUCTION - SPECIAL REQUIREMENTS

A. Field Measurements

The Contractor shall take all necessary measurements in the field to determine the exact dimensions for all work and verify all pertinent data and dimensions shown on the Contract Drawings.

B. Excavated Material

Unsuitable excavated material shall be removed from the site together with all debris encountered in the excavations and the costs of such removal and disposal shall be included in the unit price bid for the applicable items in this Contract.

C. Access Requirements

The Contractor is advised that he shall provide access to the sites of the work for all other Contractors and that access to the sites of the work performed under all contracts shall be closely coordinated and scheduled with all other Contractors at the various sites during the life of this Contract.

D. Connections to Existing Piping

Connections to existing piping shall be made to permit ready disconnection of equipment with minimum disturbance of adjoining piping and equipment. The Contractor shall be responsible for the exact alignment of all piping with the existing piping and associated equipment and under no circumstances will pipe springing be allowed.

E. Noise Control

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The Contractor shall implement noise control measures during construction including limits on the hours of operation and compliance with sound level standards. Those measures will comply with NYC and Federal noise requirements. The Contractor shall comply with the NYC Noise Code. No separate payment shall be made for this work; the cost thereof shall be included in the bid price for other items.

F.

Dust Control

During construction, all appropriate fugitive dust control, including watering of exposed areas and using dust covers for trucks shall be employed. These measures include satisfying Section 1402.2-9.11 of the New York City Air Pollution Code. To prevent fugitive dust from construction activities from becoming airborne, the following measures are proposed:

- Use of water or surfactant to control dust in the construction operations and during the clearing and grading of land;
- Application of water to dirt paths, materials, stockpiles, and other surfaces that can generate airborne dust over extended periods. Construction of accessways would be built with properly sized stone or concrete equivalent over filtering material;
- Covering open-body trucks transporting materials likely to generate airborne dust at all times when in motion; and
- Prompt removal of earth or other material from paved streets where earth or other material has been deposited by trucking or earth-moving equipment, erosion by water, or other means.

No separate payment shall be made for this work; the cost thereof shall be included in the bid price for other items.

G.

Sequence of Construction

All work shall be completed in accordance with the Contract Drawings and upon approval of the Engineer and Restoration Specialist. All work shall be done in a manner to minimize disturbance to the natural area and existing vegetation. Stake out and receive approval from the Engineer and Restoration Specialist for the limits of work before beginning any clearing.

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1. Install perimeter erosion control measures around the work area. If clearing is required for installation of a particular measure, all measures not requiring clearing shall be installed first. Clearing of the necessary land for installation of the particular measure may then proceed.
2. Install stabilized construction entrance. The Contractor shall maintain the stabilized construction entrance to prevent the deposition of materials onto the public roadway. All materials deposited onto the public roadway shall be removed immediately.
3. Install the proposed sewer pipe, as per Contract Documents.
4. Work area, as per Landscaping Plan, shall be rough graded to 24" below the finished surface, backfilled to finished grade with suitable loamy sand topsoil as per Contract Specifications, fine graded, and prepared for planting.
5. Stabilize the project area with erosion control mat as directed by the Restoration Specialist.
6. Perform landscaping as per the Contract Drawings.
7. Once all areas have been stabilized, remove temporary perimeter erosion and sediment control measures. Stabilize and landscape the areas within the footprint of the temporary perimeter erosion and sediment control measures.

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7.11

TRANSPORTATION AND HANDLING OF MATERIALS AND EQUIPMENT

A.

General

1. Contractor shall make all arrangements for transportation, delivery, handling and rigging of equipment and materials required for prosecution and completion of the work.
2. Working space on the site is limited. Equipment shall not be delivered to the site until it can be moved directly to the area where it will be utilized.
3. If necessary to move stored materials and equipment during construction, the Contractor shall move or cause to be moved materials and equipment without any additional compensation.
4. The Contractor shall take all necessary provisions to prevent inadvertent deposition and spillage of excavated soils or other materials that are being transported from the project site. The Contractor must employ the use of the truck tracing pad, wheel washing stations or other equipment deemed necessary to prevent spillage and deposition from vehicles from other construction equipment.

B.

Delivery

1. The Contractor shall arrange deliveries of products in accordance with construction schedules and in ample time to facilitate inspection prior to installation.
2. Coordinate deliveries to avoid conflict with work and conditions at the site and to accommodate the following:
  - a. Work of other Contractors.
  - b. Limitations of storage space.
  - c. Availability of equipment and personnel for handling products.
3. Do not have products delivered to project site until related Working Drawings have been approved by the Engineer.



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4. Do not have products delivered to site until required storage facilities have been provided.
5. Do not have products delivered to site until the manufacturer's recommended storage instructions have been submitted and approved.
6. Have products delivered to site in manufacturer's original, unopened, labeled containers. Keep Engineer informed of delivery of all equipment to be incorporated in the work.
7. Partial deliveries of component parts of equipment shall be clearly marked to identify the equipment, to permit easy accumulation of parts and to facilitate assembly.
8. Immediately upon delivery, inspect shipments to assure:
  - a. Product complies with requirements of Contract Documents and approved submittals.
  - b. Quantities are correct.
  - c. Containers and packages are intact, labels are legible.
  - d. Products are properly protected and undamaged.

C. Product Handling

1. The Contractor shall provide equipment and personnel necessary to handle products by methods to prevent soiling or damage to products or packaging.
2. Provide additional protection during handling as necessary to prevent scraping, marring or otherwise damaging products or surrounding surfaces.
3. Handle products by methods to prevent bending or overstressing.
4. Lift heavy components only at designated lifting points.
5. Materials and equipment shall at all times be handled in a safe manner and as recommended by manufacturer or supplier so that no damage will occur to them. Do not drop, roll or skid products off

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delivery vehicles. Hand carry or use suitable materials handling equipment.

D. Removing and Hauling Equipment and Materials

1. The Contractor shall inspect all items including all boxes, crates and packages containing equipment and materials for damage that may have occurred during shipment prior to its removal from the truck or other conveyance. Any damage shall be reported immediately to the Engineer.
2. The Contractor shall then carefully remove the equipment and materials from the truck or trucks on which it is shipped. The equipment and materials shall then be transported to the place of installation at the job site. The Contractor shall be liable for loss or damage to the equipment and materials that may occur while being unloaded, transported, stored or installed.
3. All equipment that arrives at the job site during normal working hours shall be unloaded as soon as practicable.

7.12

PROTECTION OF MATERIALS AND EQUIPMENT AT THE SITE

The Contractor shall make every effort to minimize extended storage periods of materials and equipment at the Site by judiciously scheduling deliveries to coincide with construction needs.

Storage of any mechanical or electrical equipment out of doors at any time is absolutely prohibited regardless of the protection furnished. Storage of mechanical and electrical equipment within structures at the Site will not be permitted unless the structures are enclosed.

All mechanical equipment shall be coated, wrapped and otherwise protected from snow, rain, drippings of any sort, dust, mud, condensed water vapor, etc. during shipment, storage, and installation and until placed in service.

Should storage of mechanical equipment become necessary before it can be stored at the Site, the Contractor shall provide storage in a weatherproof warehouse.

Materials may be stored out of doors if supported above ground surface on wood runners and protected with approved, effective and durable covers.

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All storage and protection of materials and equipment at the Site shall be subjected to the approval of the Engineer.

All costs for equipment protection including warehousing or other work to meet the scheduled completion date shall be deemed to be included under the Contract and no additional payment will be made.

7.13

FINAL CLEANING

A.

Final Cleaning Under This Contract

1. At the completion of the work, the Contractor for this Contract shall remove all rubbish from and about the site of the work, and all temporary structures, construction signs, tools, scaffolding, materials, supplies and equipment which he or any of his subcontractors may have used in the performance of the work. The Contractor shall broom clean paved surfaces and rake clean other surfaces of grounds.
2. The Contractor shall thoroughly clean all materials, equipment and structures installed under this Contract; all marred surfaces shall be touched up to match adjacent surfaces.
3. The Contractor shall clean all landscaped areas of all debris and any objectionable material, as determined by the Engineer, and shall remove all such debris off-site.
4. The Contractor shall remove all temporary erosion control measures and replace with final features as shown on the plans and other Contract Documents contained herein, as directed by the Engineer.

B.

Cleaning Materials and Methods

The Contractor shall:

1. Use only cleaning materials recommended by manufacturer of surface to be cleaned.
2. Use each type of cleaning material on only those surfaces recommended by the cleaning material manufacturer.
3. Use only materials which will not create hazards to health or property.

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4. The Contractor shall only use cleaning methods approved by the Engineer.

C. Payment for Final Cleaning

No separate payment will be made for the aforementioned work, the cost thereof shall be included in the price bid for other items of this Contract.

7.14 OSHA REQUIREMENTS

The Contractor shall comply with all applicable OSHA rules and regulations regarding hazardous materials. The Contractor's specific attention is called to OSHA Regulation 29 CFR, Part 1920.120.

7.15 NO SEPARATE PAYMENT

No separate payment shall be made for the work specified in the Specific Provisions. All costs shall be included in the various Contract items unless otherwise specified.

7.16 NOT USED

7.17 DETAILED WORK DESCRIPTION

Storm Sewers

This shall entail the construction of two new storm sewers within Idlewild Park, southeast of the intersection of 226<sup>th</sup> Street and 148<sup>th</sup> Avenue in Queens, New York. The specifications and plans for this work are included elsewhere in these Contract Documents, not in this set.

Specification Section

**Specific Provisions**

7.09 Licensed Surveyor

**Earthwork and Grading**

7.300 Work Included  
7.307-A Grading

**Landscaping and Restoration**

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- 7.400 Work Included
- 7.401 Landscaping for Terrestrial Zone and Wetland Zone
- 7.403 Topsoil For Restored Area
- 7.404-A Restoration Specialist (Construction Monitor)
- 7.404-B Erosion and Sediment Control Licensed/Certified Professional
- 7.407-A Erosion Control Mat - Straw

**Erosion and Sedimentation Control Measures**

- 7.500 Soil Erosion and Sedimentation Control Measures
- 7.501 Maintenance of Erosion Control Measures
- 7.504-A Silt Fence
- 7.509-A Stabilized Construction Entrance

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EARTHWORK AND GRADING

7.300

Work Included

Under earthwork and grading, the Contractor shall provide all labor, material, tools and equipment necessary to complete the execution of the work in complete accordance with the Specifications and all Contract Drawings. The work shall include items of work specified under the following sections.

Section Number

Title

7.307-A

Grading

\* \* \* \* \*

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7.301

DEBRIS REMOVAL AND DISPOSAL

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7.302

CLEARING, GRUBBING AND REMOVALS

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7.303

TEMPORARY WOODEN TREE GUARDS

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7.304

EXCAVATION

NO TEXT ON THIS PAGE

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7.305

CRUSHED STONE

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7.306

TREE REMOVAL AND DISPOSAL

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7.307-A GRADING

A. Description of Work

The Contractor shall furnish all labor, materials, equipment and services necessary to perform all grading as indicated on the Contract Drawings and as specified herein.

B. General Requirements

1. General Specifications - Except as modified and supplemented hereinafter in the Detailed Specifications, work performed under this Section shall conform to the NYCDEP Standard Sewer and Water Main Specification.
2. Shop Drawings - The Contractor shall submit to the Engineer for approval shop drawings and other documentation required to show conformance with the requirements set forth on the Contract Drawings and these Specifications. Shop drawings shall include, but not be limited to, the requirements for shop drawings as specified in the General Specifications.

C. Grading – The Contractor shall perform filling, compacting, and grading of the indicated areas of site, including minor cutting and filling high and low areas, and leveling such areas to elevations and within limits shown on the Contract Drawings. All work shall be performed in accordance with the applicable requirements of the NYCDEP Standard Sewer and Water Main Specification.

Any grading below the mean higher high water (MHHW) line should be done in the dry during periods of low tide.

D. Compaction

1. Wetland Areas – Compaction shall not be done in wetland and landscaped areas.
2. Other Areas – Each layer of fill or backfill shall be compacted by a minimum of four complete passes with an approved tamping roller, pneumatic-tired roller, three-wheel power roller, or other approved compaction requirement. Compaction shall not be less than 95 percent of the maximum density modified proctor as determined by ASTM D1557, Method D.

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3. Field Control – Sufficient in place density tests shall be performed by the Contractor in order to satisfy the Engineer that the specified density is being obtained. These tests shall be made at no cost to the City and shall be made using the calibrated sand cone method (ASTM D1556) or other method as determined by the Engineer.

- E. Finished Excavation, Fills, and Embankments – All areas covered by the project, including excavated and filled sections and adjacent transition areas, shall be uniformly graded. The finished surface shall be reasonably smooth, compacted, and free from irregular surface changes. The degree of finish shall be that ordinarily obtainable from blade-grader operations. Surfaces shall be finished not more than 0.10 foot above or below the established grade or approved cross section.

- F. Protection – Newly graded areas shall be protected from traffic and erosion, and any settlement or washing away that may occur from any cause, prior to acceptance, shall be repaired and grades re-established to the required elevations and slopes, at no additional expense to the City.

The Contractor shall provide temporary ground cover sufficient to restrain erosion on all disturbed areas upon which further active construction is not taking place.

- G. Measurement and Payment

The quantity to be measured for payment under the pay item Grading shall be the total number of square feet of work area graded. The contract price per square foot for grading shall be as indicated on the BID SCHEDULE OF PRICES Item No. BMP-7.307-A. The bid price shall constitute full compensation for labor, materials, equipment and work incidental thereto, necessary to complete the work in accordance with the plans and specifications to the satisfaction of the Engineer.

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LANDSCAPING AND RESTORATION WORK

7.400

Work Included

Under landscaping and restoration work, the Contractor shall provide labor, materials, tools and equipment necessary to complete the execution of the work in complete accordance with the Specifications and all Contract Drawings. The work shall include items of work specified under the following sections.

<u>Section Number</u>	<u>Title</u>
7.401	Landscaping for Terrestrial Zone and Wetland Zone
7.403	Topsoil For Restored Area
7.404-A	Restoration Specialist (Construction Monitor)
7.404-B	Erosion and Sediment Control Licensed/Certified Professional
7.407-A	Erosion Control Mat - Straw

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7.401 LANDSCAPING FOR TERRESTRIAL ZONE AND WETLAND ZONE

A. Work Included

Under these items, the Contractor shall furnish all labor, materials, equipment and services necessary for the proper execution of all landscaping work, as specified herein and as shown on the Contract Drawings, including all incidental and appurtenant work required for a complete job. In addition, the contractor will also furnish and deliver Permanent Seed Mix as directed by the Engineer.

B. General Requirements

1. Reference Standards

- a. American Association of Nurserymen, Inc., (American National Standards Institute) Nursery Stock (Z60.1)
- b. American Joint Committee on Horticultural Nomenclature Standardized Plant Names.
- c. A Checklist of New York State Plants, Contributions to a Flora of New York State, Checklist III, Bulletin #458, Richard S. Mitchell, State Botanist, New York State Museum, 1986.
- d. Gleason, The Late Henry A. and Arthur Cronquist. 1991. Manual of the Vascular Plants of Northeastern United States and Adjacent Canada, 2<sup>nd</sup> ed, New York Botanical Garden.
- e. Mitchell, Richard S. and Gordon C. Tucker. 1997. A Revised Checklist of New York State Plants, Bull. #490, New York State Museum.

C. Quality Assurance

1. Source Quality Control:

- a. If private nursery sources are used, they must be within a 250-mile radius of the planting site. All specified plants shall have also been grown in the same USDA climatic zone as that of the planting site.



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All seed and original stock material for herbaceous plants shall have been collected from locally adapted ecotypes within a one-hundred mile radius of the project site. Plant material may have to be contract grown in order to meet this requirement. Seed and stock material used within land owned and/or managed by the New York City Department of Parks and Recreation require that the seed source be approved in writing by the New York City Department of Parks and Recreation

No substitutions of specified plants will be accepted without prior approval of the Engineer or his/her duly authorized representative. Additionally, any substitutions of specified plants within land owned and/or managed by the New York City Department of Parks and Recreation require the written approval of the New York City Department of Parks and Recreation.

- b. General. Ship landscape material with certificates of inspection when required by governmental authorities. Comply with governing regulations applicable to landscape material.
- c. Packaged Material. Package standard products with manufacturer's certified analysis. For other material, such as topsoil, provide analysis by recognized laboratory made in accordance with methods established by the Association of Official Agricultural Chemists, wherever applicable, or as further specified.
- d. All seed shall be interagency certified under the auspices of a State Seed Improvement Cooperative and must bear their seals of certification on bag. Permanent seed shall be 75% Pure Live Seed minimum. Weed content of seed lots shall not exceed 0.25 percent. All seed shall be free of noxious weeds. Provide fresh, clean, new-crop seed complying with the tolerance for purity and germination established by the Official Seed Analysts of North America. Provide seed of the species, proportions and minimum percentages of purity, germination, and maximum percentage of weed seed.
- e. Comply with governing regulations applicable to wetland and landscape materials including certification that tidal wetland plants have been acclimated to 15 to 25 parts per

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thousand salinity for a period of not less than two (2) weeks prior to installation.

2. Trees and plants shall be specified as in the Contract Documents. Nurseries which collect plants from the wild shall be rejected. No substitutions shall be permitted, except as authorized in writing by Engineer. If specified landscape material is not obtainable, submit proof of non-availability to Engineer, together with proposal for use of equivalent material. All plants specified within this Contract are native to the State of New York. Species native to this region, but not listed as native within *A Checklist of New York State Plants*, may be accepted on a case-by-case basis.
3. The Contractor shall provide trees and plants of quantity, size, genus, species and variety shown and scheduled in the Contract Documents for landscape work and complying with recommendations and requirements of ANSI Z60.1 "American Standard for Nursery Stock" and the Manual of Vascular Plants of the Northeastern United States and Adjacent Canada. The Contractor shall provide healthy, vigorous stock, grown in a recognized nursery in accordance with good horticultural practice and free of disease, insects, eggs, larvae and defects such as knots, sun-scald, injuries abrasions, or disfigurement. Contractor shall submit certification that wetland plants are procured at least six months prior to scheduled planting.
4. All plants furnished under this Item shall be true to name. Plant names shall agree with the nomenclature of Standardized Plant Names as adopted by the American Joint Committee on Horticultural Nomenclature, 1942 Edition. Size and grading shall conform to those of the American Association of Nurserymen. All wetland plants shall come from Queens stock or within 250-mile radius of Queens.
5. Certified analyses by a recognized laboratory shall be submitted by the Contractor for approval by the Engineer for topsoil before delivery to the site. Analyses must include mechanical analysis, magnesium, nitrogen, potassium, and phosphorus levels, soluble salts, pH and organic matter. Standards and formatting for topsoil analyses shall conform to those of Cornell Cooperative Extension of Nassau County. Associated costs and additional guidelines for topsoil analyses shall be as specified under NYCDOT Specifications.

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6. Inspection:

- a. The Engineer shall inspect trees and shrubs at place of growth before planting, for compliance with requirements for genus, species, variety, size and quality. Contractor shall be responsible for all inspection costs beyond a 50-mile radius from New York City.
- b. Plant materials shall be inspected by the Engineer upon arrival at the job site and prior to planting. Any materials not in compliance with specifications shall not be accepted and shall be removed from the job site immediately.
- c. The Engineer retains the right to further inspect trees for size and condition of balls and root systems, insects, injuries and latent defects, and to reject unsatisfactory or defective material at any time during progress of work. The Contractor shall remove rejected trees immediately from project site.
- d. Tagged samples of plant materials shall be delivered to the site and planted in locations approved by the Engineer. These tagged samples shall be maintained, protected and used as standards for comparison with the plants furnished for the work.
- e. The Contractor shall be responsible for all certificates of inspection of plant material that may be required by Federal, State or other authorities to accompany each shipment of plants. On arrival, the certificates shall be filed with the Engineer. The Engineer shall receive a copy of each shipping invoice immediately after the delivery has arrived at the job site.

D. Submittals

The General Contractor shall submit the following information (as listed in 1. through 4.) for approval within ten working days following the date in the Notice to Commence Work:

1. Subcontractors. Subcontractors proposed for landscaping and associated restoration and site work must be approved by the Engineer prior to start of work. The Contractor shall submit at least three (3) alternative Subcontractors to the Engineer for review and approval. The Subcontractors proposed shall be evaluated on the following criteria, prioritized in descending order:

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- a. The Contractor shall submit a minimum of three (3) projects similar in scope and type (i.e., location, size, cost, client, plant species, time of planting, etc.) within the last five years whereby the Contractor was directly responsible for the installation, restoration and maintenance of native habitats and wetlands. References and xerographic reproductions of photographs of the projects shall be submitted. Projects shall not be more than five years old. Provide client contact person's name and telephone number. Describe any problems encountered during construction and corrective action taken to remedy the problem. Describe any violations issued by NYSDEC or any other regulatory agency. How were the violations resolved. Enclose copies of applicable wetland permits. Provide chronological photos recording the progress of the restoration and/or creation efforts, including preconstruction through completion. Include any required sign-offs from client and provide a list of all plants replaced on site.
  - b. Demonstrated capacity to accomplish the work in the required time including qualification of experienced foreman and key personnel.
  - c. Experience in digging and transplanting field stock.
  - d. Experience with agencies, such as the Department of Parks and Recreation, Central Park Conservancy, and the Botanic Gardens.
  - e. Experience with State or Federal Agencies, particularly with experience in conducting mitigation pursuant to USACE or NYSDEC requirements.
  - f. Wetland/landscape contractor shall have performed at least three (3) contracts that involved the installation and maintenance of soil erosion and sediment control devices during construction of the project. The projects shall be at least three (3) years old and successful.
  - g. Other references or experience deemed appropriate to obtaining approval.
2. List of growers/nurseries.

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3. Certified arborist or nurseryman, experienced in tree pruning and removal.
4. List of all materials and certificates specified within this Item.

The General Contractor shall submit the following information (as listed in 5 through 8) prior to construction:

5. Certificates:
  - a. All necessary State, Federal and other inspection certificates as may be required by law.
  - b. Two (2) copies to the Engineer of manufacturers' or vendors' certified analysis for soil treatments and fertilizer materials shall be submitted with samples.
  - c. Certification and guarantee that all plant material is true to name and in conformance with these specifications.
  - d. The invoice or a written statement showing the size and grade of materials received or shipped, together with the source and health of the plant material and verification that balled and burlapped plants were sprayed with an anti-desiccant within 48 hours prior to digging. No plants shall be accepted that have been collected from property other than that owned or leased by a nursery.
  - e. Certification that all herbaceous plant material was grown from seed or stock collected from locally adapted ecotypes within a one-hundred mile radius of the project site.
  - f. Certificates from seed vendors: certified statement for each seed mixture required, stating botanical and common name, percentage by weight and percentages of purity, germination, and weed seed for each species.
6. Planting Schedule. Submit proposed planting schedule within one month of official Notice to Commence Work, indicating dates for each type of landscape work during normal seasons and as specified in the Contract for such work in area of site. Included shall be a schedule of nursery visits for the Restoration Specialist to tag plant material. Correlate from date of substantial completion. Once accepted, revise dates only as approved in writing by the Engineer, after documentation of reasons for delays.

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7. List of equipment, methods of operation, and maintenance plan, including methods for protection of existing vegetation.
8. Manufacturer's Literature. Manufacturer's literature for all materials furnished shall be submitted with samples of same.
9. The Contractor is required to perform a separate germination test on the seed mixes to be used on this project prior to submitting the seed mix and supplier. The results of the germination test shall be included in with the information submitted to the Engineer for review and acceptance. The Contractor is advised that these tests can run two-months or more and should be prepared to have these tests completed in sufficient time for the next seeding season. Seed shall conform to all applicable state and federal regulations and to test provisions of the Association of Official Seed Analysts. There shall be no exceptions.
10. The Landscape Subcontractor shall submit a watering and weeding plan and maintenance schedule prior to the installation of plant material, to be approved by the Engineer with consultation from the Restoration Specialist. The plan shall include proposed methods of watering and weeding, including but not limited to tree gators (bags), sprinklers, drip hoses, irrigation, tanker vehicles and hand watering, etc., as well as manual weeding and weeding tools. No additional payment will be made for watering and weeding during installation and during the three year guarantee period.

The approved plan and schedule do not relieve the Contractor in any way from any aspect of the replacement of dead plant material. The Landscape Subcontractor may alter the maintenance schedule based on weather and field conditions.
11. The Contractor shall submit a sequence of construction for work to the Engineer for approval. The proposed sequence of work shall conform with any Special Conditions stated in any USACE Permit or NYSDEC Permit specific to this project.
12. Final planting plan, based on the post-excavation field topographic survey, including location of actual planting areas and densities for each ecological community, sediment control fence, and other required work.
13. Sediment control fence and goose exclusion fencing plan layout and details illustrating fence height, location of posts.

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14. Submit a monitoring plan that meets the requirements of Section 7.404-A.G. The monitoring plan shall include hydrology, vegetation, and soils monitoring to document that the mitigation and restoration areas meet the criteria established in the USACE 1987 Wetland Delineation Manual. An action plan for addressing failures or deviation from goals shall also be included. The monitoring plan shall also satisfy the following specific requirements:
  - a. The National Wetlands Mitigation Action Plan (December 2002).
  - b. Compensatory Mitigation Guidelines and Mitigation Checklist for Review of Mitigation Plans, USACE, New York District, 2004, Section I Monitoring Plan and Report, and Section J Maintenance and Adaptive Management Plan.
  - c. New York State Salt Marsh Restoration and Monitoring Guidelines. NYSDEC, December 2000, Section 7 Salt Marsh Restoration – Recommended Monitoring Plan.
  - d. The monitoring plan shall conform with any Special Conditions stated in any USACE Permit or NYSDEC Permit specific to this project.

E. Product Delivery, Storage and Handling

1. Delivery of Materials:
  - a. Packaged Materials. Deliver packaged materials in unopened bags or containers, each bearing the name, warranty, and trademark of the producer and the composition, analysis and the weight of the material. Contractor shall notify the Engineer 48 hours in advance of delivery of all plant material.
  - b. Trees and Plants. The Contractor shall provide trees and plants of the stock type and quantities shown on the Contract Drawings. Do not prune prior to delivery unless otherwise approved by the Engineer. Do not bend or bind-tie trees or plants in such a manner as to damage bark, break branches or destroy natural shape. Provide protective covering during delivery, and insure that all balled and burlapped stock, container stock, tube stock, and/or bare root material is handled properly and is not dropped.

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- c. All plant materials shall be protected from drying out and from wind damage during delivery.
- d. The Contractor shall deliver trees and plants after preparations for planting have been completed and plant immediately. If planting is delayed more than 6 hours after delivery, set trees and plants in shade, protect from wind, weather and mechanical damage, and keep roots moist by covering with mulch, burlap or other acceptable means of retaining moisture. Water as necessary.
- e. The Contractor shall not remove container grown stock from container until planting time.
- f. Material should be planted in the ground immediately after delivery to site. Plants should be covered with damp-not wet-leaf compost while awaiting ground installation. Do not allow the plants to dry out or freeze.
- g. Fertilizer delivered to the job site shall be in original, unopened containers bearing the manufacturer's chemical analysis and essential information. Fertilizer containers shall be protected from exposure to precipitation and direct sunlight.
- h. All materials shall be stored in upland areas that are protected from weather.
- i. Seeding:
  - 1. Seed shall be clean and fresh and delivered to the site in the original, unopened bags showing the net weight, composition of mix, suppliers name and guarantee of analysis. Seed shall be delivered and stored in original unopened packages, kept dry, and not opened until needed for use. Damaged or faulty packages shall not be used and will be rejected. Seed shall have been harvested for planting in the current growing season, and shall have been packed within the last 9 months.
  - 2. All seed shall be interagency certified under the auspices of a State Seed Improvement Cooperative and shall bear their seals of certification on each 50 pound bag. Permanent seed shall be 75% pure live seed minimum.



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3. Seed materials will be inspected by the Engineer upon arrival at the job site and prior to planting. Any materials not in compliance with specifications will not be accepted and shall be removed from the job site immediately.
  4. All seed materials shall be protected from drying out and from wind damage during delivery.
  5. Furnish seed in sealed, standard containers with germination and purity percentages clearly labeled.
  - j. Plant Material: Provide healthy, vigorous growing specimens exhibiting uniform growth and form characteristic of their species that satisfy the project specifications. Plants shall be free of chlorosis, yellowing, blemished or damaged parts.
  - k. Label all flats of plants and all separate plants with a securely attached waterproof tag, bearing legible designation of botanical and common name, written with waterproof ink.
2. Storage of Materials
- a. Store and cover materials to prevent deterioration. Remove packaged materials which have become wet or show deterioration or water marks from the site and replace at no additional cost to the City.
  - b. Seed that is wet or moldy or that has been otherwise damaged in transit or storage shall be replaced at no additional cost to the City.

F. Job Conditions

Terrestrial and Wetland Buffer Zone Plantings: Unless otherwise directed by the Engineer, evergreen material shall be planted and transplanted from April 1st to May 15th and from September 1st to October 15th. Deciduous material shall be planted and transplanted from March 1st to May 30th and from October 15th to December 1st. Container-grown herbaceous material shall be planted and transplanted from March 1st to May 30th and from August 15th to September 15th (SEE PLANTING SCHEDULE). Perform actual planting when conditions are suitable. No plant material shall be planted when the ground is frozen or in excessively moist condition. All

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material labeled as fall planting hazard shall be installed during the spring only. Notify the Engineer before proceeding with any planting operations.

Wetland Plantings:

1. Time of Planting and Transplanting. All wetland plantings shall be installed in time frames indicated under the above Terrestrial and Wetland Buffer Zone Planting section. Perform actual planting when conditions are suitable. No plant material shall be planted when the ground is frozen or in excessively moist condition. Notify the Engineer before proceeding with any planting operations.
2. The Contractor shall proceed with and complete landscape work as rapidly as portions of site become available, working within seasonal limitations for each kind of landscape work required.
3. Utilities. The Contractor shall determine location of underground utilities and perform work in a manner which will avoid possible damage. Hand excavate, as required. Maintain grade stakes set by others until removal is approved by the Engineer.
4. Excavation. When conditions detrimental to plant growth are encountered, such as rubble fill, adverse draining conditions, or obstructions, notify the Engineer.
5. Preservation and Restoration of Existing Trees and Shrubs.
  - a. In order to avoid surface and subsurface root damage and soil compaction, the Contractor shall not be permitted to stockpile materials of any nature under the drip line of existing trees and shrubs. This directive shall apply to all areas within or outside the Contract limit line.
  - b. The Contractor shall assume the responsibility for any remedial work such as root and top pruning required and/or necessary to prevent loss of plant material when this article is violated or when trees or shrubs are injured by construction equipment.
  - c. Compensatory pruning and fertilizing of existing trees and shrubs shall be performed to compensate for damage of roots incurred. Fertilize in areas around undamaged roots only and not adjacent to the trunk or main stem. Fertilizer shall be applied in the fall unless otherwise approved by Engineer.

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- d. Tree pruning shall be performed in accordance with NYCDOT Standard Highway Specification Section 4.18.
- e. No separate payment will be made for fertilizing and pruning of trees and shrubs in stockpile areas or when trees or shrubs are injured by construction equipment, but the cost thereof will be deemed to be included in the various prices bid for the items for which such pruning and fertilizing are necessary.
- f. No existing trees, shrubs or herbaceous plants shall be removed, except as specifically required by this Contract or as specified on Contract Documents, or as specifically approved in writing by the Engineer.
- g. Any areas or items of existing landscape which are removed or damaged shall be replaced by the Contractor at no additional cost to the City. The Contractor shall match the existing condition prior to damage or as directed by the Engineer.
- h. All existing landscape features including trees, shrubs, perennial, meadows, lawns, wetlands, paving, walls, stairs, etc. shall be protected by the Contractor, utilizing methods approved by the Engineer prior to start of work.

G.

Guarantee

1. Landscape Guarantee and Replacements

- a. Guarantee. All landscaping work shall have a replacement guarantee for a period of three (3) years beginning at the date of acceptance of the Landscaping work or the date of substantial completion, whichever is later, and shall be considered as included under monies shown within the guarantee provisions of Schedule A.
- b. Operations. The Contractor shall, for a period of three (3) years, cultivate, weed, mulch, prune, and water all trees, shrubs, herbaceous plants, vines permanent seeded areas under this Contract, to the satisfaction of the Engineer. The Contractor shall replace, according to the original specifications, any plant material which is dead or in a dying condition at the request of the Engineer. The Engineer shall be the sole judge as to the condition of the plants. The

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guarantee and maintenance applies to all planted and grassed areas, meadows, paved and other landscaped areas.

- c. Replacement. Any plant material that is dead or not showing satisfactory growth, as determined by the Engineer, shall be promptly removed and replaced by the Contractor during normal planting season specified in Section 7.401.2E. Initial replacement of dead material and the repair of bare areas will take place one year following the acceptance of plant material. The replacement shall be of the same variety, size and character as specified for the original planting. Unless a written waiver of this clause is issued, under the terms of the guarantee, replacement plants shall be chosen only by the Engineer.

At the end of the guarantee period, and upon written request, an inspection will be made by the Engineer. If mortality exceeds ten percent or if bare areas occur, the Contractor shall replace plant material.

H.

Materials

1. Topsoil

- a. Topsoil from the site shall be used if the material meets specifications listed in 7.403. A soil test(s) shall be made at Contractor's expense to determine if the specifications for all the tests listed in (7.403) have been met. A soil test shall be required and shall serve as a representative analysis for every 200 cubic yards of material utilized.
- b. Additional topsoil shall be furnished from sources off the Contract site when existing topsoil is not sufficient. Material shall consist of natural loam topsoil, free from subsoil, obtained from an area which has never been stripped. Topsoil shall comply with the requirements of Specification section 7.403.

2. Fertilizer

Fertilizer shall be provided as indicated on the Contract Drawings: Osmocote, granular, slow-release in the specified time frame releases and analyses. Fertilizer shall be furnished in standard containers, with name, weight and guarantee analysis of contents clearly marked thereon. Appropriate containers to disperse specified

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amounts of fertilizer into planting holes shall be supplied and used by the Contractor.

3. Plant Material

a. The Contractor shall furnish all plant material shown. Plant material must be true to name and size and conform with the following standards:

- i. American Joint Committee on Horticultural Nomenclature, Standardized Plant Names (Published by Mount Pleasant Press J. Horace McFarland Company, Harrisburg, PA.).
- ii. American Association of Nurseryman, "Horticultural Standards" (Published by American Association of Nurserymen, Inc., 635-636 Southern Building, Washington, D.C.).

b. Nursery grown plants shall mean plants propagated by seed, division, tissue culture or cloned from existing stock at a nursery, which are healthy, vigorous plants, cultivated in accordance with sound horticultural practice. All plants shall be nursery grown unless collected from natural areas owned or leased for that purpose by the nursery. All plants shall have been grown under the same climatic conditions as those of the planting site. All herbaceous plants shall come from seeds or stock collected within a one-hundred mile radius of the project site. Only those nurseries within a 250-mile radius of the planting site will be accepted as plant sources. In some cases plant material may be obtained outside the 250-mile radius on a case-by-case basis.

c. All plants and all balled and burlapped plants shall be freshly dug; neither heeled-in nor plants from cold storage will be accepted. All plants shall have been transplanted or root pruned at least once in the past three years.

d. All plants shall conform to the measurements specified in the plant list on the Contract Drawings. All plants shall be typical of their species and shall have a normal, healthy habit of growth and be of first quality, sound, vigorous, well-branched and densely foliated. Plants that meet the requirements specified in the plant list, but that do not possess a normal balance between height and spread will not

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be accepted. No damaged or diseased plants will be accepted.

- e. Plug Stock Plants: Provide plug stock plants grown in an approved nursery in accordance with good horticultural practice, with healthy root systems developed by transplanting or root pruning. Plug stock shall be grown in 2-inch cavity trays. Tidal plug stock plants shall be acclimated in the nursery to salinity levels between 15 and 25 ppt for a period of not less than two (2) weeks prior to installation. Plugs shall be propagated and grown in cells and not as bare root stock or as bedded plants. The extracted root system shall conform to the shape and dimensions of the growing cells without sloughing soil or growth media as determined by on-site inspection. Materials not conforming to the dimensions of the cell may be rejected without compensation to the Contractor. The extracted root system of the plugs shall have the majority of the roots in the vertical orientation. Roots shall be white in coloration and firm to the touch. Roots shall not have a strong sulfide odor (rotten egg smell) or be black in color. If the horizontal roots are thick and flattened and the roots stays in a thick net shape of the original cell when the media is shaken loose, the plant may be determined to be "pot bound" and shall be rejected without compensation to the Contractor. Species shall be as shown on the Contract Drawings.

4. Mulch

Mulch shall be organic mulch free from deleterious materials and suitable for top dressing of trees, shrubs or plants and shall be shredded hardwood bark, decayed hardwood chips, leaf mold, pine straw, partially decayed leaves, cottonseed hulls, peanut hulls or other organic products. Mulch must be aged at least one year, should not contain elm wood chips, or be from diseased trees. No shredded bark pieces shall be greater than 3" in length and 3" in width. Mulch for seeded areas shall be clean, seed-free salt hay. Mulch shall be free of roots or other parts of invasive exotic plants that may take root in restored area.

5. Temporary Seed Mixtures

Soil stockpiles and cleared and graded areas shall receive oat seed (*avena sativa*) for temporary stabilization as required during the spring and summer months.

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Temporary seeding shall be oat seed (*Avena sativa*) at a rate of 30 lbs per acre or 0.7 lbs per 1,000 sq. ft. If area is seeded during months of September through November, certified "Aroostook" winter rye (cereal rye) shall be used at a rate of 50 lbs per acre or 1.25 lbs per 1,000 sq. ft.

6. Permanent Seed Mixture

Seed mixture shall be as specified on the Contract Drawings unless otherwise directed by the Engineer.

Nurse/Cover seed for the permanent seed mixture shall consist of oats (*Avena sativa*) during spring seeding season and certified "Aroostook" winter rye (cereal rye) during fall seeding season. Nurse/cover seed shall be added to the permanent seed mix at a rate of 10 lbs per acre or 0.23 lbs per 1,000 sq. ft..

7. Erosion Control Mat (Blanket)

The erosion control fabric used in planted areas shall conform to Detailed Specification 7.407-A - Erosion Control Mat - Straw.

I. Execution

Installation/Application/Performance For Terrestrial and Wetland Buffer Zone Plants

1. Workmanship. The Contractor shall complete all work in the best manner, so that the work as a whole is of uniform quality and appearance. The Contractor shall conform to the requirements specified hereafter.
2. Preparation.
  - a. Areas described and shown on plans shall be rough graded to 24" below the finished surface, backfilled to finished grade with suitable topsoil, as specified in BMP 7.403, fine graded, prepared for planting and landscaped.
  - b. Subgrade shall be kept free of masonry, concrete, metal waste materials, and debris.

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- c. Remove stones over 1-1/2 inches in any dimension, as well as sticks, rubbish and other extraneous matter.
  - d. The planting beds and pits shall be worked up well, and shall be free of other vegetation and large clods of soil.
  - e. Apply fertilizer at rate specified in Contract Drawings during planting and seeding operations.
3. Delivery: Plants shall be packed, transported, and handled with utmost care to insure adequate protection against injury. When transported in closed vehicles, plants shall receive adequate ventilation to prevent sweating. When transported in open vehicles, plants shall be protected by tarpaulins or other suitable cover material. All bare root plants shall be adequately protected from drying out and immediately after inspection shall be heeled in moist soil. Balled and burlapped plants shall be set on the ground and the ball covered with soil. Until planted, all material shall be properly maintained and kept adequately moist, to the satisfaction of the Engineer.
4. Inspection: Inspection may be made before digging if the Engineer directs, but no plant material shall be planted by the Contractor until inspected by the Engineer at the site of the work. Plant material will be rejected if delivered with broken or damaged root balls, or if damaged on site by rough handling. All rejected material shall be immediately removed from the site and replaced with acceptable material at no additional cost to the City. Final inspection shall be made upon completion of the Contract.
5. Installation:
- a. Planting Operations.
    - 1. Layout: All trees, shrubs and herbaceous shall be laid out in random and naturalistic arrangements, as specified in the Contract Drawings unless otherwise directed by the Engineer. Herbaceous plugs shall be planted at 2 foot on center spacing. All plant and planting area locations shall be staked prior to planting by the Engineer. Place no plantings within two (2) feet of pavements or structures, unless otherwise indicated.



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2. Loosen sand to a depth of six (6) inches. Loosen sand with rototiller, backhoe or discer. The soil-loosening operation shall be conducted in such a way as to back its way out of the site. After this, no more heavy machinery shall be allowed on the planting beds.
3. Rototill/cultivate soils to a depth equal to the depth of the root ball and two times the diameter of the root ball. Set the tree/shrub on the undisturbed solid ground in the center of the area.
4. Obstructions below Ground: Remove any rock, rubble, masonry, concrete, metal, stones over one inch or other underground obstructions to the depth necessary to permit proper planting.
5. Disposal: Remove and dispose of all excess excavations and unsuitable materials. Dispose in accordance with all local laws and regulations at Contractor's cost.
6. Plant Beds: All plant material shall be planted in topsoil.
7. Bare root material shall be adequately protected from drying out and immediately heeled in after inspection. The bundles of heeled-in plants shall be set upright on the ground, covered with mulch, and kept adequately moist until the time of installation. Until the time of planting, all plant material shall be stored in an approved location, securely fenced and maintained, to the satisfaction of the Engineer, at no additional cost to the City. All plants not planted immediately shall be watered as necessary to maintain optimal health until planting.
8. Setting Plants: Plant all plants to the same depth as their place of growth, unless otherwise directed. Center the plants in their planting pits. Set in the natural upright position at such a level that, after settlement, a normal or natural relationship of the crown of the plant with the ground surface shall be established. Be careful not to exert any pressure that will damage any portion of the plant.

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9. Avoid compacting the sand. Do not leave plants exposed to sun or wind prior to planting. Take special care to avoid desiccation of fibrous-rooted plants.
  10. The Contractor shall be liable for any damage to property caused by planting operations and the Contractor shall, without any additional cost, restore to original condition or replace all trees, plant beds, lawns, meadows and all construction disturbed or damaged in performing the work of this Contract.
6. Method of Work. Submit a list of proposed methods of execution of work under this section for review by the Engineer when proposed methods are different from, or supplementary to, those specified herein.

J.

Temporary Seed

1. Soil stockpiles shall be seeded with a temporary seed mixture if they will be in place for greater than 30 days. Cleared and graded areas shall also be seeded with a temporary seed mixture to temporarily stabilize them, if they will not be landscaped or planted (final) for more than 30 days. A temporary seed mixture shall be used to stabilize stockpiles and portions of the site where construction activities have temporarily or permanently ceased no more than 7 days after the construction activity in that portion of the site has temporarily or permanently ceased. This requirement does not apply if earth-disturbing activities will be resumed within fourteen (14) days.
2. If temporary seeding is not made within 24 hours of construction/disturbance, the soil must be scarified prior to seeding.
3. Method of seeding – seed shall be evenly applied with broadcast seeder, drill or cultipack seeder.
4. If temporary seeding is made under favorable soil and site conditions during the optimum seeding dates (March 15 – May 15 or September 1 – October 15) mulch is not required. Any temporary seeding outside of those dates shall be hydroseeded with a mulch binder. Alternatively, the temporarily seeded area can be mulched with a straw of oat or wheat stalks (not hay) applied at a rate of 2 tons per acre (100 - 200 bales / acre) uniformly distributed over the

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sown seeds and held in place through the use of a straw crimper.

5. Any area with fail to establish vegetative cover adequate to prevent rill erosion will be reseeded as soon as such areas are identified.

K.

Permanent Seed

1. Seed materials shall be inspected by the Engineer upon arrival at the job site and prior to planting. Any materials not in compliance with specifications shall not be accepted and shall be removed from the job site immediately.
2. All seed materials shall be protected from drying out and from wind damage during delivery.
3. All areas shown to receive seed on Contract Drawings and all areas which are disturbed and not indicated to be planted or paved shall be seeded.
4. Seedbed Preparation – Scarify all compacted areas and remove all debris and obstacles such as rocks and stumps.
5. Do not broadcast seed by mechanical application when the wind velocity is such as to prevent uniform seed distribution.
6. Time of Seeding – Permanent seeding shall be done within 15 days of final construction activities. Optimum seeding times are in the Spring from March 15 – May 15 and in Fall from September 1 – October 15. If construction is completed during mid-summer, permanent seeding may be done if watering will be provided.
7. Method of Seeding – Seed shall be broadcast by hand or mechanically using a drop-hopper. Seeds shall be blended thoroughly with a sand filler and uniformly broadcast over the entire area then gently hand raked 1/8 to 1/4 inch into the soil.
8. Following the seeding operation, 10-10-10 fast release fertilizer shall be broadcast at a rate of 400 lbs/acre throughout the seeded area by hand or mechanically using a cyclone broadcaster. Seed shall be watered as recommended by the seed manufacturer to achieve specified growth coverage.
9. Seeded areas shall be covered with biodegradable erosion control mat. Alternatively mulching straw of oat or wheat stalks (not hay) shall be applied at a rate of 2 tons per acre (100 - 200 bales / acre)

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uniformly distributed over the sown seeds and held in place through the use of a straw crimper.

10. Seeding shall be deemed acceptable when 85% coverage of the seeded area with the seeded species has been achieved. Any area not meeting this requirement shall be reseeded with the original seed mix.
11. Areas seeded with temporary cover grass shall be rototilled and/or harrowed prior to seeding with permanent seed mix during the allowed time period.

L. Final Acceptance

Plants must be thriving. Planting beds must be evenly mulched and free of invasive nonnative plant species. Paving/landscape interface must be a smooth, crafted transition free from defects such as gaps, sharp edges or sudden level changes.

M. Final Cleanup

At time of final inspection of work, and before final acceptance, clean any paved areas that are dirty or stained due to work of this Section by sweeping or washing, and remove any defacements or stains. Remove construction equipment, excess materials and tools. Remove from site any debris and dispose of off-site, in accordance with all local laws, and at the Contractor's expense. The Contractor shall also cut all perimeter grass and weeds before final acceptance.

N. Measurement and Payment

The quantity to be measured for payment under this section shall be the total amount of trees, shrubs, herbaceous plants and seeded areas furnished, planted and maintained.

The contract price per unit for Landscaping Work shall be as indicated on the BID SCHEDULE OF PRICES Item Nos. BMP-7.401-I through BMP-7.401-J inclusive. The price bid shall be a separate unit price per tree, shrub and herbaceous plant specified within the Contract Drawings, and shall include the costs of all excavating and preparing planting pits and beds, adding soil amendments, furnishing plants, digging, inspecting, planting, pruning, staking, guying, anchoring, wrapping, mulching, fertilizing, furnishing seed, seeding, liming, disking, raking, tilling harrowing, mowing, material, and maintaining all plant material and seeded areas. The

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price bid shall also include the costs of all rough and fine grading, all specified soils necessary and required for the satisfactory completion of all landscaping work and all other work incidental thereto in accordance with the plans and specifications to the satisfaction of the Engineer.

The contract price per square foot of seeding shall be as indicated on the BID SCHEDULE OF PRICES Item No. BMP-7.401-I.

PLANT MATERIAL SUMMARY FOR LANDSCAPING WORK

<u>Item</u>	<u>Description</u>
BMP-7.401-I inclusive	Seeding
BMP-7.401-J inclusive	Herbaceous Plants – Plugs

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Landscaping and Restoration Work

**Terrestrial and Wetland Zone  
Planting, Transplanting and Seeding Schedule**

Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
			4/1	5/15				9/1	10/15		
		3/1		5/30					10/15	12/1	
		3/1		5/30			8/15	9/15			
			3/15	5/15				9/1	10/15		

Evergreen Material

Deciduous Material

Container-Grown Herbaceous  
Material

Permanent Seeding

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<u>Range</u>			<u>Nutrient</u>
0	-	40 (PPM)	Phosphorus (P)
2	-	150	Magnesium (Mg)
0	-	100	Potassium (K)
1	-	800	Calcium (Ca)
0	-	1850	K + Ca + Mg
0	-	10	Nitrate
0	-	800	Total Nitrogen (TKN)

Soluble salts shall be less than 0.4 mmhos cm-1.

3. Total Petroleum Hydrocarbon Content: Topsoil shall be tested for total petroleum hydrocarbons (TPH) by the Gravimetric-Hexane Method, as approved by the US Environmental Protection Agency. Topsoil shall contain less than 150 ppm total petroleum hydrocarbons. All soil testing positive shall be rejected and removed from the site.

4. Gradation: (By ASTM D422)

The gradation of the topsoil shall be within the following ranges:

Ranges:        0-8% Gravel (2" to 2.0mm)  
                      70-85% sand (2.0mm to .05mm)  
                      10-15% silt (.05mm to .002mm)  
                      5-15% clay (<.002mm)

5. Electrical Conductivity: Topsoil should have a maximum electrical conductivity of 1,000 micromhos/centimeter.
6. Invasive, Nonnative Plant Species: Topsoil shall be free of invasive nonnative plant propagules or if present, topsoil shall be sterilized with documentation.

When topsoil otherwise complies with the requirements of the specifications but shows an organic matter deficiency of not more than one (1) percent, organic matter may be incorporated when and as permitted by the Engineer.

The Contractor shall at the direction and discretion of the Engineer, or when quantities exceed two hundred (200) cubic yards, furnish a certified report of an approved analytical chemist showing the analysis of representative samples of the topsoil which he/she proposes to use. All samples are to be taken by the Engineer and delivered to the laboratory. The price bid shall



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include inspection and laboratory charges. No topsoil shall be delivered until the approval of samples by the Engineer and the New York City Department of Parks and Recreation, but such approval shall not constitute final acceptance. The Engineer and the New York City Department of Parks and Recreation reserve the right to reject on or after delivery any material which does not, in his/her opinion, meet these specifications.

The Engineer reserves the right to reject topsoil in which more than sixty (60) percent of the material passing the No. 100 U.S.S. mesh sieve consists of clay as determined by the Buoyoucouc Hydrometer or by the decantation method. All percentages are to be based on dry weight of sample. If the Engineer directs, topsoil which varies only slightly from the specifications may be made acceptable by such corrections as the Engineer deems necessary.

C. Spreading

Topsoil for backfilling planting pits and planting beds must be tested by the Contractor and have a pH of 3-7.

D. Measurement and Payment

The quantity of topsoil to be paid for under this item shall be the number of cubic yards of topsoil furnished from off-contract site sources (i.e. suppliers approved by the engineer), mixed, placed and incorporated in the completed work in accordance with the plans and specifications to the satisfaction of the Engineer, measured in trucks used for delivery, at the site of the work. The quantity of topsoil to be paid for under this item shall be measured in cubic yards in trucks used for delivery. No topsoil shall be furnished until ordered by the Engineer. (No deductions shall be made except for the volume of topsoil displaced by balls of trees, except in paved areas). Delivery ticket with name and address of vendor, date and estimated volume must be supplied to the Engineer prior to truck measurement.

The contract price per unit for Topsoil shall be as indicated on the BID SCHEDULE OF PRICES Item No. BMP-7.403. The bid price shall be a unit price per cubic yard of topsoil, and shall include the cost of all labor, materials and equipment necessary to prepare topsoil areas, furnish, mix, place and incorporate topsoil, and all other work incidental thereto, in accordance with the plans and specifications to the satisfaction of the Engineer.

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7.404-A     RESTORATION SPECIALIST (CONSTRUCTION MONITOR)

A.     Description of Work

The Contractor is advised that the portions of work within this Contract pertaining to the construction of the outfall, wetland restoration and all other work in the project area shall require the supervisory expertise of a Restoration Specialist. The Restoration Specialist shall supervise all restoration work performed by the Contractor and his/her Subcontractors for the duration of the project, in accordance with the plans, specifications and directions of the Engineer.

The Restoration Specialist shall also be responsible for overseeing the implementation of the project's soil erosion control plan. In addition, the Restoration Specialist shall be cognizant of all conditions of the NYSDEC freshwater wetlands permit for the project, as they relate to work in the wetlands. Furthermore, the Restoration Specialist shall be responsible for overseeing all installation of plant material. The Restoration Specialist shall be responsible for preparing a restoration plan for any property disturbed by sanitary or storm sewer construction. The Restoration Specialist shall report to the NYCDDC, as represented on-site by the Engineer. The qualifications of the Restoration Specialist shall be approved by the NYCDDC and on-site prior to the start of any work.

B.     Qualifications

The Restoration Specialist utilized to perform the work required must have performed at least three (3) projects similar in scope and type to the required work in the previous five (5) years. The Restoration Specialist shall be a Registered Landscape Architect or have equivalent professional experience. Prior to the start of work, the Contractor shall be required to submit the names and resumes of at least three prospective candidates to the NYCDDC. The NYCDDC shall approve the qualifications of the prospective candidates or alternatively ask for more choices, if the NYCDDC deems the candidates to be not qualified.

C.     Site Monitoring

The Restoration Specialist shall monitor the Contractor's in-place erosion and sediment control devices, including, but not limited to, construction (limiting) fences, silt fences, etc., and shall notify the Contractor when maintenance or repair of these devices is necessary. The Restoration Specialist shall monitor related/adjacent construction to insure that these activities do not adversely impact restoration activities or the success of the restoration work.

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D. Restoration Supervision

The Restoration Specialist shall supervise all aspects of the wetland and upland installation including Wildlife Control and removal, in-stream sediment removal work, plant and sod salvage, and perimeter restoration work. The Restoration Specialist shall oversee all landscaping activities including installation of plant material related to the restoration of wetland areas.

E. Design and Design Review

The Restoration Specialist shall prepare, design and review design work as needed during construction. This work shall include but not be limited to the following:

- a. research and prepare design revision/modification drawings,
- b. research and prepare revisions/modifications to detailed specifications,
- c. prepare supplemental field sketches,
- d. review and critique design modification drawings and supplemental drawings.

The Restoration Specialist shall undertake this work when directed by the NYCDDC as represented on-site by the Engineer.

F. Photo Documentation

The Restoration Specialist shall keep a digital photograph log of the project. The photo log will follow the progress of the project, in a clear and understandable progression, and shall incorporate before, in progress and completed photographs of the work area and natural area restorations within the project. Fixed photopoints shall be used at each site to ensure that before and after photographs are taken from the same location and angle. The photo log will be utilized by NYCDDC for required reports, etc.

The Restoration Specialist shall use a digital camera with a minimum resolution of 4.1 megapixels for use during all phases of the project for photo-documentation purposes. The Restoration Specialist shall assemble the completed photo log onto CD's and transmit the complete photo log to the Engineer.

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G. Monitoring Reports

The Restoration Specialist shall prepare and submit a Monitoring Report to the NYCDDC representative, its agent, or the Engineer following the completion of all planting and associated restoration activities. The Restoration Specialist shall continue to submit an annual Monitoring Report until the guarantee period(s) for the plant material has expired. Six (6) copies of each report submittal shall be required.

The Restoration Specialist shall examine, monitor and report on the various components of the restoration and shall incorporate color photographs, color photocopies, graphs, etc., as appropriate. All information shall be reported in a concise format. The Monitoring Report shall:

- report on all construction activities related to restoration and stabilization,
- report the conditions of the vegetation planted within this Contract,
- quantify survival and cover rates and compare to permit requirements,
- recommend replacement species,
- report observed impacts to existing vegetation,
- report success rates in controlling erosion and sedimentation,
- report voluntary recruitment,
- present recommendations,
- give general commentary for increasing the success of future DDC restoration projects.

H. As-Built Plans and Information

No as-builts are required for the work under these specifications.

I. Measurement and Payment

The quantity to be measured for payment under this section shall be the total number of hours necessary for the supervision of all restoration work within this Contract, site monitoring, design and diagram review, photo documentation, preparation of monitoring reports and completion of the as-

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built plans in accordance with the plans, specifications and direction of the Engineer, performed prior to the date of Substantial Completion.

For supplying all labor, materials and equipment necessary for Restoration Specialist, the Contractor shall receive a unit price bid.

The contract price per unit for Restoration Specialist shall be as indicated on the BID SCHEDULE OF PRICES Item No. BMP-7.404-A. The unit price bid shall include the costs for all labor, materials, equipment and incidental expenses necessary or required to complete the work in accordance with the plans and specifications to the satisfaction of the NYCDDC representative, its agent, or Engineer.

No separate or additional payment will be made for work performed in accordance with the requirements of this section during the Maintenance and Guarantee Period specified for the Landscaping work. In addition, said work shall be considered a part of the Maintenance and Guarantee and subject to the provisions thereof should the Contractor fail to complete this work as specified.

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7.404-B EROSION AND SEDIMENT CONTROL LICENSED/CERTIFIED PROFESSIONAL

A. Description of Work

The Contractor is advised to retain the services of an independent Licensed/Certified professional with practical experience in the principles and practices of erosion and sediment control and Stormwater Management to prepare and certify a site specific Stormwater Pollution Prevention Plan (SWPPP) in compliance with the New York State Department of Environmental Conservation (NYSDEC) Pollutants Discharge Elimination System (SPDES) General Permit for Stormwater water Runoff from Construction Activities, GP-0-15-002, issued pursuant to Article 17, Titles 7, 8, and Article 70 of the Environmental Conservation Law (ECL). The Certified Professional shall be approved by NYCDDC and be present on-site prior to the start of any work.

Within thirty (30) days after the contract is registered, The Contractor shall submit a complete SWPPP and Notice of Intent (NOI) to NYCDDC's Infrastructure – Engineering Support Unit for review and comments. The Contractor through his Licensed/Certified Professional shall make all necessary revisions required and resubmit the SWPPP and the NOI for acceptance and signature. Work shall not begin until a permit identification number is issued by the NYSDEC, and an initial inspection is conducted by the Licensed/Certified Professional certifying that the appropriate control measures specified in the SWPPP have been adequately implemented to the satisfaction of the Resident Engineer and the Project Manager of the Engineering Support Unit.

B. Qualifications

The Licensed/Certified Professional employed to perform the required work must have previous experience in work of this nature and in completing the necessary submittals required under this Contract. The Certified Professional shall be a Professional Engineer or a Landscape Architect licensed to practice in New York State, or a Soil and Water Conservation Society Certified Professional in Erosion and Sediment Control (CPESC). Prior to the start of work, the Contractor is required to submit the names and resumes of at least three (3) prospective candidates to the NYCDDC for approval. The NYCDDC shall make a selection or alternatively ask for more choices, if they deem the candidates to be unqualified.

C. Site Monitoring, Inspection and Reports

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The Certified Professional shall monitor disturbed areas and the Contractor's in-place erosion and sediment control devices, including Silt Fence and Stabilized Construction Entrance, and shall notify the Contractor when maintenance or repair of these devices is necessary.

Following the start of construction activities, site inspections shall be conducted by a Certified Professional at least once a week and within 24 hours of rainfall events of 0.5 inches or greater. For construction sites where soils disturbance is greater than five (5) acres at one time, the Certified Professional shall conduct at least two (2) site inspections every seven (7) calendar days and within twenty-four (24) hours of the end of each rainfall event of 0.5 inches or greater. The two inspections shall be separated by a minimum of two (2) full calendar days. Subsequent to each inspection, a Certified Professional shall prepare an inspection report and submit the original to the Resident Engineer and one copy to the Infrastructure-Engineering Support Unit. At a minimum, the inspection report shall include, but not limited to, the following information:

1. Date and Time of inspection;
2. Name and Title of person performing the inspection;
3. A description of the weather and soil conditions (e.g. dry, wet, saturated) at the time of the inspection;
4. A description of the condition runoff at all points of discharged from the construction site. This shall include identification of any discharges of sediment from the construction site. Include discharges from conveyance systems (i.e. pipes, culverts, ditches, etc.) and overland flow;
5. A description of the condition of all natural surface waterbodies located within or immediately adjacent to the properties boundaries of the construction site which receive runoff from disturbed areas. This shall include identification of any discharges of sediment to the surface waterbody;
6. Record of any evidence of soil erosion on the site, potential for pollutants entering the drainage systems, problems at discharge points (such as turbidity in receiving water) and signs of soil and mud transport from the site to the public road at the limits of the project;
7. Identification of all erosion and sediment control practices that need repair or maintenance;
8. Identification of all erosion and sediment practices that were not installed properly or are not functioning as designed and need to be reinstalled or replaced;
9. Description and sketch of areas with active soil disturbance activity, areas that have been disturbed but are inactive at the time of the

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- inspection, and areas that have been stabilized (temporary and/or final) since the last inspection;
10. Current phase of construction of all post-construction stormwater management practices and identification of all construction that is not in conformance with the SWPPP and technical standards;
  11. Corrective actions that must be taken to install, repair, replace or maintain erosion and sediment control practices; and to correct deficiencies identified with the construction of post-construction stormwater management practices;
  12. Identification and status of all corrective actions that were required by previous inspection;
  13. Digital photographs, with date stamp, that clearly show the condition of all practices that have been identified as needing corrective actions. The Qualified Inspector shall attach paper color copies of the digital photographs to the inspection report being maintained onsite within seven (7) calendar days of the date of the inspection. The qualified inspector shall also take digital photographs with date stamp, that clearly show the condition of the practice(s) after the corrective actions has been completed. The qualified inspector shall attach paper color copies of the digital photographs to the inspection report that documents the completion of the corrective action work within seven (7) calendar days of that inspection.
  14. Within one business day of the completion of an inspection, the Qualified Inspector shall notify the Contractor and the Resident Engineer of any corrective actions that need to be taken. The Contractor shall begin implementing the corrective actions within one business day of this notification; and
  15. All the inspection reports shall be signed by the Licensed Professional.

The Contractor shall retain a signed copy of the General Permit GP-0-15-002, NOI, SWPPP, signed MS4 SWPPP Acceptance form, NOI Acknowledgment Letter and all original inspection reports required by this general permit at the construction site in a prominent place for public viewing from the date of initiation of construction activities to the date of final stabilization and the Notice of Termination (NOT) has been submitted to the NYSDEC. These documents must be made available to the permitting authority upon request. Prior to starting construction, the Contractor shall certify that the SWPPP was prepared in accordance with the requirements of the permit and it meets all federal, state and local erosion and sediment control requirements.

In addition, the Contractor and Subcontractors shall identify at least one Trained Contractor who is an employee of the company that will be



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responsible for a day to day implementation of the SWPPP. The name and telephone number of this person should be listed in the SWPPP. The Trained Contractor shall be a Professional Engineer, Registered Landscape Architect, or have received a DEC-endorsed four (4) hours of Erosion and Sediment Control training. After receiving the initial training, the Trained Contractor shall attend a four (4) hours training every three (3) years. The Contractor shall ensure that at least one Trained Contractor is on site on a daily basis when soil disturbance activities are being performed.

Performing implementation of a SWPPP on a permitted construction project without a Trained Contractor on site daily is a violation of Part III.A.6 of the SPDES General Permit GP-0-15-002. Stormwater controls must be maintained in good operating condition until all disturbed soils are permanently stabilized. Control devices in need of repair should be repaired promptly after identification.

Prior to filing of the Notice of Termination (NOT), or at the end of the permit term, the Contractor shall have the Licensed Professional perform a final site inspection. The Licensed Professional shall certify that the site has undergone final stabilization using either vegetative or structural stabilization methods and that all temporary erosion and sediment controls (such as silt fence and stabilized construction entrance) not needed for long term erosion control have been removed. Subsequently, the Contractor shall submit a complete NOT to the Engineering Support Unit to terminate the permit coverage.

Additionally, the Licensed Professional must identify all permanent Stormwater management structures that have been constructed, and provide the owner(s) of such structures with a manual describing the operation and maintenance practices that will be necessary in order for the structures to function as designed after the site has been stabilized.

The Licensed Professional must also certify that the permanent structures have been constructed as described in the SWPPP.

D. Contractor's Liability.

The Contractor shall be liable for any discharge that either causes or contributes to a violation of water quality standards as contained in Parts 700 through 705 of Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York. Should any storm water runoff from the site violate the water quality standards, the Contractor will be directed to take immediate steps, at his own expense, to rectify the situation and prevent any further sediment from entering the storm sewer system.

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In the event that pollutants are discharged to the storm water system due to the Contractor's negligence, the Resident Engineer will direct the Contractor to cease any or all construction activities contributing to the release of these pollutants. The Contractor shall be held responsible, at his own cost, for any and all necessary actions to remedy the damage.

Furthermore, failure of the Contractor and Sub-contractor(s) to strictly adhere to any permit requirements shall constitute a permit violation that could result in substantial criminal, civil, and administrative penalties.

It is the Contractor's responsibility to pay all the SPDES permit fees which shall consist of the yearly regulatory fee, the initial authorization fee per acre of land disturbed and per acre of future impervious area. The Contractor shall be liable for all penalties incurred due to his failure to pay these fees on time.

E. Measurement and Payment

The quantity to be measured for payment under this section shall be the total number of days necessary to prepare the required reports to secure the permits; conduct the inspection and supervision of all erosion and sediment control works within this Contract, site monitoring, photo documentation, and preparation of monitoring reports in accordance with the plans, specifications and direction of the resident engineer, performed prior to the date of substantial completion.

The Contractor shall receive a unit price bid for supplying all labor, materials and equipment required by the Certified Professional.

The contract price per unit for the Licensed/Certified Professional shall be as indicated on the Bid Schedule of Price for Item No. BMP-7.404-B. The unit price bid shall include, but not be limited to, the cost of furnishing all the labor, materials, fees, permits and testing required to prepare the SWPPP, provide and construct all erosion and sediment control devices in accordance with the approved SWPPP; inspect and monitor the work; comply with NYSDEC permitting requirements and all necessary incidentals to complete the work all in accordance with the specifications and the directions of the Engineer.

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7.405

VECTOR, PEST AND WILDLIFE CONTROL

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7.406

WOOD CHIPS

NO TEXT ON THIS PAGE

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7.407-A EROSION CONTROL MAT - STRAWA. Description of Work

Under this item, the Contractor shall furnish and place erosion control mat for slope protection within areas designated on the plans or where directed by the Engineer.

B. Material

The Erosion Control Mat shall be 100% biodegradable and meet the following requirements:

Netting	One Side Only, Organic Leno Weave Jute, 100% Biodegradable 0.5" x 1.0" opening
Matrix	100% Agriculture Straw 0.55 lbs/yd <sup>2</sup> 298.4 g/m <sup>2</sup>
Thread	1.5" stitch space, Completely biodegradable

Index Value Properties

<u>Property</u>	<u>Test Method</u>	<u>Typical</u>
Mass/Unit Area	ASTM D6475	10.0 oz/yd <sup>2</sup>
Thickness	ASTM D6525	0.40 in
Tensile Strength-MD	ASTM D6818	106 lb/ft
Elongation-MD	ASTM D6818	16.7%
Tensile Strength-TD	ASTM D6818	118 lb/ft
Elongation-TD	ASTM D6818	26.8%
Light Penetration	ASTM D6567	6%
Water Absorption	ASTM D1117	322%
Unvegetated Shear Stress	ASTM D6460	1.55 lbs/ft <sup>2</sup>
Slope		3:1 or flatter

The Erosion Control Mat shall be ECS-1B manufactured by East Coast Erosion Blankets, Bernville, PA; Bionet S75BN manufactured by Tensar North American Green, Poseyville, IN; S1000BD manufactured by Enviroscape Erosion Control Materials, Deshler, OH; or approved equal.

Wire Staples shall consist of 12-inch lengths of No. 11 gauge wire bent to form a "U" or other wire staples as approved.

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C.

Method

Erosion control mat shall be placed on topsoil perpendicular to slope contours where directed by the Engineer. Erosion control mat shall be laid without stretching so that it lies loosely on the soil and in contact with the soil at all points and shall be pressed firmly into the soil surface by rolling or tamping. If seeding is required, it shall be done prior to the installation of the erosion control mat.

The upper end of each roll of erosion control mat shall be turned and buried to a depth of six (6) inches, with the soil firmly tamped against it. Erosion control matting shall have a minimum lap of six (6) inches on all sides. Ends of rolls shall also have a minimum lap of six (6) inches with the upgrade section on top.

Check slots shall be constructed at intervals of 50 feet, unless otherwise directed by placing a fold of erosion control mat six (6) inches vertically into the ground with replaced soil tamped firmly against it.

Erosion control mat shall be held tightly to the soil by staples driven firmly into the ground. Staples shall be spaced not more than three (3) feet apart, along the sides and center of the erosion control mat and not more than one (1) foot apart at roll ends, check slots and at other critical areas as determined by the Engineer.

D.

Maintenance

The Contractor shall maintain the areas of erosion control mat installation until final acceptance of the contract. Maintenance shall consist of providing protection for erosion control mat and repair of areas damaged by equipment, erosion, fire, or other causes, as well as re-establishment of the grade and conditions of the area as specified.

E.

Measurement and Payment

The quantity to be measured for payment under this Section shall be the number of square feet of surface area on which erosion control mat has been installed in accordance with the plans and specifications and directions of the Engineer.

The Contract price per square feet of Erosion Control Mat - Straw shall be as indicated on the BID SCHEDULE OF PRICES Item No. BMP-7.407-A. The bid price shall include the costs for all labor, material, equipment and incidental in accordance with the plans and specifications to the satisfaction of the Engineer.

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7.500

SOIL EROSION AND SEDIMENTATION CONTROL MEASURES

Under soil erosion and sedimentation control work, the Contractor shall provide all labor, materials, tools and equipment necessary to complete the execution of the work in complete accordance with the Specifications and all Contract Drawings. All Soil Erosion and Sedimentation Control work shall be done in conformance with and subject to the renewed State Pollutant Discharge Elimination System (SPDES) General Permits for Discharges Stormwater from Construction Activity, GP-0-15-002, the latest edition of the "New York Guidelines for Urban Erosion and Sediment Control" published by the Empire State Chapter of the Soil and Water Conservation Society, and the New York State Department of Transportation Standard Specification Part 107-12 -Soil, Erosion and Air Pollution Statement, including, but not limited to, the following methods of erosion and sedimentation control.

1. Slopes left exposed will, within 30 working days of completion of any phase of grading, be planted or otherwise provided with ground cover device, or structures sufficient to restrain erosion.
2. A ground cover sufficient to restrain erosion must be planted or otherwise provided within 15 working days on that portion of the tract (disturbed area) upon which further active construction is not being undertaken.

The Contractor shall submit for approval by the Engineer, and NYSDEC, a written Erosion and Sedimentation Control Plan, prepared by a Certified Professional in Erosion and Sediment Control (CPESC), who is a Professional Engineer (P.E.) or under the supervision of a P.E. The Erosion and Sediment Control Plan must be signed and sealed by that CPESC and/or the supervising P.E. The Plan shall comply with all conditions of the applicable freshwater wetland permit issued by NYSDEC.

The Erosion and Sedimentation Control Plan shall conform to the guidelines as set forth in the latest edition of the "New York Guidelines for Urban Erosion and Sediment Control" published by the Empire State Chapter of the Soil and Water Conservation Society and he/she shall implement the followings:

- No stockpiling of excavated material would be allowed in a manner or location that would permit erosion and its subsequent sedimentation in wetlands or other natural areas.
- No storage of soil shall be permitted within the Contract limits. Soil is deemed to be for this requirement any sediment including material

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such as topsoil fill, sand, any excavated material, boulders, stones, cold patch, etc.

- Storm sewers will be installed in a sequence and manner that reduces the time during which the tops of excavated areas would be exposed and vulnerable to erosion.
- At the end of each day's work, the street where sewers are being installed will be cleaned and swept to reduce the amount of soil that could potentially impact downstream areas as sediment. The Contractor shall be required to have a street sweeper on the site.
- Use truck tracking pads at the construction access locations to remove sediment from the tires of the trucks and other construction equipment prior to driving on the adjacent streets.
- Utilize sediment basins, sediment traps and/or sediment filters in the erosion control plan to capture sediment from run-off and from water produced by dewatering operations.
- Use portable sediment tanks to remove sediment from water generated by dewatering operations. All water from dewatering shall be treated before discharge into any surface water bodies, unless the turbidity of the effluent is less than the ambient level of the receiving water body as measured by the turbidity meter in standard units (i.e. NTU's).
- The Contractor shall supply all portable equipment.
- Use silt fence as shown on Contract Drawings, unless otherwise directed by the Engineer.
- Schedule work in wet areas, such as the mitigation site, during relatively dry summer months.
- Employ water diversions to direct the stream away from the area being worked on, so as to create drier conditions for in-stream work.
- Use temporary pumping sump to control water level at site.
- Prior to the start of construction activities, such as sewer installation, inspect all erosion control measures and continually monitor them, especially after each storm event.
- If the Contractor uses dewatering methods which produce effluent



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discharges, the Contractor shall monitor each discharge effluent and receiving water body. Discharges shall not cause substantial visible contrast to the natural condition in any receiving water body. A meter which records turbidity in standard units (i.e. NTUs) shall be utilized to establish ambient conditions in each water prior to discharge. If any monitored turbidity level exceeds the ambient level of the receiving water body, the Contractor shall insure (e.g., by reducing the flow rate or otherwise adjusting the dewatering system) that no substantial visible contrast to the natural condition in the receiving water body occurs. The action(s) taken, or the decision not to take any action, shall be recorded in the monitors log.

The Contractor shall not receive any payment for the preparation of the Erosion and Sedimentation Control Plan. Installation of the Erosion and Sedimentation features and maintenance of them will result in payment for their respective items as described in Section 7.501 through 7.516. The work shall take place at the mitigation site only and is not payment for street work or the installation of sewers; with the exception of the Erosion and Sediment Control Licensed Professional (Section 7.404-B). The Erosion and Sediment Control Licensed Professional shall oversee construction and the installation of the sewers for the entire project.

The work shall include items of work specified under the following sections:

<u>Section Number</u>	<u>Title</u>
7.501	Maintenance of Erosion Control Measures
7.504-A	Silt Fence
7.509-A	Stabilized Construction Entrance

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7.501

MAINTENANCE OF EROSION CONTROL MEASURES

Maintenance/repair of the erosion and sediment control measures shall be performed by the Contractor only as directed by the Engineer.

When, in the judgment of the Engineer, Restoration Specialist, and NYCDDC Construction Monitor, the soil erosion control measures have deteriorated to a point of not functioning adequately because of storm events, the Contractor shall be notified to make the necessary repairs.

If the Engineer deems that the erosion control device was not adequately installed in the first place, repair of such a device shall be the sole responsibility of the Contractor.

Damage to the erosion control measures caused by the construction activity of the Contractor is the responsibility of the Contractor. If the Engineer determines that the damage is the result of the Contractor's construction activity, then the Engineer shall order that the devices are repaired. The Contractor shall make the repairs at his/her own expense.

In the event that the erosion control measures are damaged as a result of vandalism by the general public, the Contractor shall notify his insurance company and put forth his claim for remuneration to the said damage.

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7.502

CONSTRUCTION LIMIT FENCE

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7.503A STAKED STRAW BALES

NO TEXT ON THIS PAGE

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7.504-A SILT FENCE

A. Description of Work

The Contractor shall furnish all materials, labor, and equipment necessary to construct silt fence specified herein and as shown on the Contract Drawings, including all incidental and appurtenant work required for a complete job.

Upon furnishing and installing the approved silt fence but prior to commencing any other work on-site, the Contractor shall notify the Engineer and arrange for an on-site inspection.

The silt fence shall be maintained in good condition and repaired as necessary by the Contractor during the construction and post-construction/site stabilization phases as directed by the Engineer.

B. Materials and Methods

1. Welded Wire Fence: The welded wire fence shall be a welded wire fence with a minimum height of 20 inches. The fence shall be constructed of wire fabric fastened to the middle rails and to vertical line posts.

Wire fabric shall be of No. 14 gauge wire with a mesh of approximately 4 inches. The upper edge of the fabric shall be twisted and barbed. The fabric shall be securely fastened to vertical line posts by means of ties and spaced not more than 12 inches apart on rails and not more than 14 inches apart on line posts.

The silt fence shall be located where indicated on the Contract Drawings. The fence shall be adjusted to avoid interference with trees and to maintain access to houses.

Line posts shall be spaced not more than 6 feet on centers. Posts shall be securely set in the ground. Line posts shall extend at least 16 inches below finished grade. Post locations shall be adjusted to avoid tree roots as appropriate.

2. Filter Fabric: Filter fabric shall be securely attached to the vertical line posts and wire fabric.

The filter fabric shall be purchased and delivered in a continuous roll and cut on-site to the length of the barrier(s) to avoid the use of joints. Dimensions of the roll shall be thirty-six (36) inches by one hundred (100) feet in length. When joints are necessary, filter cloth shall be spliced together only at a line post, with a minimum 6-inch overlap, and securely sealed. The filter fabric shall be Fabric MUTUAL MISF 1776 as manufactured by Mutual Industries Inc.,

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Fabric # GTF190SF as manufactured by Thrace Linq, Fabric # Geotex2130 as manufactured by Propex, or approved equal.

A trench shall be excavated approximately 6 inches wide and 6 inches deep along the line of posts and upslope from the barrier. The filter fabric shall be extending into the trench, the trench backfilled, and the soil compacted over the filter fabric.

Silt fences shall be removed when they have served their useful purpose, but not before the upslope area has been permanently stabilized.

C. Maintenance

The silt fences shall be inspected periodically (at least once per week), or as directed by the Engineer. Any required repairs shall be made immediately.

Filter fabric shall be inspected at least once per week and immediately after each rainfall and at least daily during prolonged rainfall. Any required repairs shall be made immediately. Should the fabric decompose or become ineffective prior to the end of the expected usable life while the barrier is still necessary, the fabric shall be replaced promptly.

D. Measurement and Payment

The quantity to be measured for payment under this section shall be the total number of linear feet of silt fence, installed and maintained in accordance with the plans, specifications and directions of the Engineer. The welded wire fence and filter fabric which together make up the silt fence shall be measured as one erosion and sediment control feature.

The bid price shall constitute full compensation for all labor, materials and equipment and incidental expenses necessary to complete the work in accordance with the plans and specifications and to the satisfaction of the Engineer.

*Payment will be made under:*

Item No.	Item	Pay Unit
BMP-7.504A	Silt Fence	LF

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7.505

SAND BAGS

NO TEXT ON THIS PAGE

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7.506

SEDIMENT TRAP WITH FILTER

NO TEXT ON THIS PAGE



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7.507

SEDIMENT FILTER

NO TEXT ON THIS PAGE

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7.508

SEDIMENT BASIN

NO TEXT ON THIS PAGE

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7.509-A      STABILIZED CONSTRUCTION ENTRANCE

A.      Description of Work

The Contractor shall furnish all materials, labor, and equipment necessary to construct the stabilized construction entrance specified herein and within the limits as shown on the Contract Drawings, including all incidental and appurtenant work required for a complete job.

Upon furnishing and installing the stabilized construction entrance but prior to commencing any other work on-site, the Contractor shall notify the Engineer and arrange for an on-site inspection.

The entrance shall be maintained in good condition and repaired as necessary by the Contractor during the construction phases as directed by the Engineer.

B.      Materials and Methods

1.      The entrance areas shall be cleared and stripped of all vegetation, roots and other objectionable material prior to installation of the access way as specified.
2.      Provide surface drainage and divert excess runoff to stabilized areas as required and as directed by the Engineer.
3.      Rock - use NYSDOT Size No. 3 coarse aggregate.
4.      Thickness - not less than six (6) inches for rock.
5.      Width shall be twenty-four (24) feet minimum.
6.      Filter cloth shall be placed over the entire area prior to placing of stone. Filter cloth shall be as specified below.

Filter cloth underliner shall be suitable for heavy duty construction traffic and have the following minimum properties:

Grab tensile strength	220 lbs.
Elongation at failure	220%
Mullen Burst Strength	430%
Puncture Strength	120 lbs.
Equivalent opening size	40-80 mm

Filter cloth shall be TenCate Mirafi 600X, Beltech 315, TerraTexHD or approved equal.

7.      Surface water - All surface water flowing or diverted toward construction entrances shall be piped across the entrance. If piping is impractical, a mountable berm with 5:1 slopes will be permitted.

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8. Maintenance - the entrance shall be maintained in a condition which will prevent tracking or flowing of sediment onto public rights-of-way. All sediment spilled, dropped, washed or tracked onto public rights-of-way must be removed immediately.
9. When truck washing is required, it shall be done on an area stabilized with stone and which drains into an approved sediment trapping device.
10. Periodic inspection and needed maintenance shall be provided after each rain.
11. After completion of the project, the stabilized construction entrance shall be removed and regraded to its original condition. Prior to grading and planting, the area shall be tilled to lessen the compaction of the soils.

C.

Maintenance

1. Maintenance of the stabilized construction entrance will include periodic inspection of the surface condition. Top dress with new gravel as needed. Any areas producing sediment should be treated immediately.
2. After completion of the project, the stabilized construction entrance shall be removed and the areas regraded to their original elevations. Prior to seeding and planting, the areas shall be tilled to lessen the compaction of the soils.
3. For those stabilized construction entrances that are in the beds of accessways, the rock can stay in place for use in accessways.

D.

Measurement and Payment

The contract price bid per EACH for the Stabilized Construction Entrance shall be as indicated on the BID SCHEDULE OF PRICES, Item No. BMP-7.509-A. The bid price shall constitute full compensation for all labor, materials, equipment, insurance and incidental expenses necessary to complete the work in accordance with the Contact Drawings, specifications, and the directions of the Engineer.

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

# ADDENDA CONTROL SHEET

BID OPENING DATE: **FEBRUARY 1, 2018**

PROJECT NO.: **SE-823**

DESCRIPTION: **CONSTRUCTION OF STORM SANITARY AND COMBINED  
SEWERS IN 229TH STREET, ETC.**

Addendum		Addendum Contains:				
No.	Date	Revised Bid Date/Time	Revised Bid Schedule	Questions & Responses	Additional Amendments	Drawings (number)
1	01/03/2018	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> (0)
2	01/10/2018	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> (1)
		<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)
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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: SE823

CONSTRUCTION OF SANITARY AND STORM SEWERS AND APPURTENANCES IN 229TH STREET  
BETWEEN 145TH AVENUE AND 147TH AVENUE, ETC.

INCLUDING WATER MAIN WORK

Together With All Work Incidental Thereto  
BOROUGH OF QUEENS  
CITY OF NEW YORK  
ADDENDUM NO. 2

DATED: JANUARY 10, 2018

THIS ADDENDUM IS HEREBY MADE A PART OF THE CONTRACT DOCUMENTS

- (1) Refer to the Bid and Contract Documents, VOLUME 1 OF 3, Page A-1, Attachment 1 - Bid Information;  
Change the dates shown for Submission of Bids To: and for Bid Opening: from "January 19, 2018" to read "February 1, 2018."
- (2) Refer to the Bid and Contract Documents, VOLUME 1 OF 3, Page 13, Schedule B - MWBE;  
Change the dates shown for Bid/Proposal Response Date: from January 19, 2018" to read "February 1, 2018."
- (3) Refer to the Bid and Contract Documents, VOLUME 1 OF 3, BID SCHEDULE, pages B-3 to B-42 and ADDENDUM NO. 1 BID SCHEDULE, B-3 (REVISION #1) through B-44 (REVISION #1);  
Delete the BID SCHEDULE pages in their entirety;  
Substitute with attached revised BID SCHEDULE, B-3 (REVISION #2) through B-45 (REVISION #2).
- (4) Refer to the Bid and Contract Documents, VOLUME 3 OF 3, SW-PAGES;  
Delete SW-PAGES in their entirety;  
Substitute with the attached revised SW-PAGES.
- (5) Refer to Contract Drawings, sheet No. 10 of 76  
Correct Storm Sewer indication "9'-0" W x 5'-0"H" on the plan view to read " 8'-0"W x 5'-0"H

(6) For additional information, see the attached FOUR (4) pages of "Questions Submitted by Bidders and DDC's Responses".

**END OF ADDENDUM NO. 2**

By signing in the space provided below, the bidder acknowledges receipt of this Addendum consisting of two (2) pages, attachments consisting of sixty nine (69) pages and four(4) pages of questions and answers with one (1) attached sheet of drawing.

**THIS ADDENDUM MUST BE SIGNED BY ALL BIDDERS AND ATTACHED TO THEIR BID**



GURDIP SAINI, P.E.  
Associate Commissioner/Design I

\_\_\_\_\_  
Name of Bidder

By: \_\_\_\_\_

**Questions Submitted by Bidders and DDC's Responses**

**QUESTION #1:**

*The revised bid sheets provided in Addendum No. 1 include a duplication of Item 7.13 B, Maintenance of Site, and the two instances have different minimum bid requirements?.*

**DDC'S RESPONSE:**

Please see Article 3 of this ADDENDUM for corrections.

**QUESTION #2:**

*There is no item for Rodent Survey, which is typically included in all project. Please clarify if this item was omitted intentionally, and if so, how the work will be completed and paid for.?*

**DDC'S RESPONSE:**

See Article 3 of this Addendum.

**QUESTION #3:**

*As per Subsection 71.41.4 (E), what is the specific restoration to 148<sup>th</sup> Ave (50' west of 229<sup>th</sup> Str intersection to 230<sup>th</sup> Place intersection? Also for 147<sup>th</sup> Ave (between 230<sup>th</sup> Str through 230<sup>th</sup> Place)?.*

**DDC'S RESPONSE:**

Location has been added to attached revised SW Pages.

**QUESTION #4:**

*Where will the 6" of dense graded stone to be placed under the Macadam layer be paid under?*

**DDC'S RESPONSE:**

Item 6.67 6" Subbase course material, select granular material shall be placed under Macadam layer and this item has been added to the scope. It must be paid under Item No. 6.67., See Article 3 of this Addendum



**QUESTION #5:**

*What are the traffic stipulations for 230th Street between 147th to 148th?*

**DDC'S RESPONSE:**

See the attached QEC 16-153 amendment #2 traffic stipulations in the revised SW pages.

**QUESTION #6:**

*Is there a "No Less than Bid" for bid item #286 – GM Crossing of the 4.5' x 4.5' Flat Top Reinforced Concrete Storm Sewer?*

**DDC'S RESPONSE:**

There is no squense No. 286 in this project.

**QUESTION #7:**

*Complete dimensions of base, walls and roof for Chamber #1.*

**DDC'S RESPONSE:**

For Chamber No. 1 the dimensions are as follow:  
Roof slab 15" Typ., Base Slab 18" Typ. and Walls 12" Typ.

**QUESTION #8:**

*As per the note on sheet 3 of 47 (U1) regarding the removal of the existing 17'x6' double barrel bulkhead and "curved section", is there any additional information regarding the existing "curved section" of the 17'x6' double barrel culvert in order for us to provide an accurate estimate?*

**DDC'S RESPONSE:**

See the attached existing As-built drawing.

**QUESTION #9:**

*As per Addendum #1 – Revision #1 "Bid Item #17B – Maintenance of Site" seems to have been changed to only a 3 month period with a Not less than unit bid of \$0. Please confirm this correction.*

**DDC'S RESPONSE:**

Refer to Article 3 of this Addendum

**QUESTION #10:**

*Reference is made to the captioned contract and more specifically to Schedule A, Page SA-2, Article 24. It states that a 60 month guarantee period is figured for BMP work. Please clarify exactly what scope of work (ITEMS) are to be guaranteed for 60 months after completion of the project. This is not a typical guarantee period and the surety company is requiring clarification.*

**DDC'S RESPONSE:**

See attached revised schedule A page SA-2R.

**QUESTION #11:**

*No traffic stipulations are provided for 148th Avenue between 227th Street and 230th Place. Please advise.*

**DDC'S RESPONSE:**

See the attached QEC 16-153 amendment #2 traffic stipulations in the revised SW pages

**QUESTION #12:**

*Reference is made to Note #17 beginning on Page SW-2 which indicates that no work shall commence until a dewatering and wetland permit has been obtained. Please clarify work unrelated to these permits (such as water main) can begin prior to these permits being obtained.*

**DDC'S RESPONSE:**

Work can begin in areas that do not require any permits.

**QUESTION #13:**

*Reference is made to Note #18 on Page SW-3 which indicates that no work shall commence until the Coastal Management Program Consistency Determination has been obtained. Please clarify if work unrelated to these permits can begin prior to these permits being obtained.*

**DDC'S RESPONSE:**

Refer to Article 4 of this Addendum.

**QUESTION #14:**

*Please provide peak and average flow for existing 48" Sanitary Sewer along 147th Avenue.*

**DDC'S RESPONSE:**

The requested information is not available.

**QUESTION #15:**

*On sheet #11 of 76 it shows 47' of 8'-0" w x 5'-0" h FTRC Storm sewer on CFA Piles. There are no bid items for either the storm sewer or the piles.*

**DDC'S RESPONSE:**

There are no piles in this project, Sheet No. 11 of 76: storm sewer indication on the profile should read "8'-0"W X 5'-0"H STORM SEWER.

## 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 initiated 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 # 2] Through B - 45 [REVISION # 2]

PLEASE BE SURE A LEGIBLE BID IS ENTERED FOR EACH ITEM.  
THE BIDDER SHALL INSERT THE TOTAL BID PRICE IN  
THE BID FORM ON PAGE C-4 OF THIS BID BOOKLET.

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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	C.TS	DOLLARS	C.TS
001	4.01 RAG ASPHALT MACADAM PAVEMENT, 6" THICK	20,000.00	S.Y.				
002	4.02 AB-R ASPHALTIC CONCRETE WEARING COURSE, 1-1/2" THICK	500.00	S.Y.				
003	4.02 AF-R ASPHALTIC CONCRETE WEARING COURSE, 2" THICK	21,000.00	S.Y.				
004	4.02 AG ASPHALTIC CONCRETE WEARING COURSE, 3" THICK	4,400.00	S.Y.				
005	4.02 CA BINDER MIXTURE	7,547.00	TONS				
006	4.04 AC CONCRETE BASE FOR PAVEMENT, 6" THICK, CLASS B-32	600.00	C.Y.				

## 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
007	4.04 DD CONCRETE BASE FOR PAVEMENT, 9" THICK, CLASS A-40	100.00	C.Y.		
008	4.04 H CONCRETE BASE FOR PAVEMENT, VARIABLE THICKNESS FOR TRENCH RESTORATION, (HIGH-EARLY STRENGTH)	170.00	C.Y.		
009	4.05 AX HIGH-EARLY STRENGTH REINFORCED CONCRETE PAVEMENT (BUS STOPS)	250.00	C.Y.		
010	4.08 AA CONCRETE CURB (18" DEEP)	3,250.00	L.F.		
011	4.08 BA CONCRETE CURB (21" DEEP)	9,700.00	L.F.		
012	4.09 AD STRAIGHT STEEL FACED CONCRETE CURB (18" DEEP)	1,300.00	L.F.		



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NEW YORK CITY DEPARTMENT OF DESIGN AND CONSTRUCTION PROJECT ID: SE823  
DIVISION OF INFRASTRUCTURE - BUREAU OF DESIGN CONTRACT PIN: 8502017SE0009C

## 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	
013	4.09 AE STRAIGHT STEEL FACED CONCRETE CURB (21" DEEP)	650.00	L.F.				
014	4.09 AF STRAIGHT STEEL FACED CONCRETE CURB (27" DEEP)	500.00	L.F.				
015	4.09 CD CORNER STEEL FACED CONCRETE CURB (18" DEEP)	800.00	L.F.				
016	4.09 CE CORNER STEEL FACED CONCRETE CURB (21" DEEP)	60.00	L.F.				
017	4.11 CA FILL, PLACE MEASUREMENT	145.00	C.Y.				
018	4.13 AAS 4" CONCRETE SIDEWALK (UNPIGMENTED)	47,400.00	S.F.				



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## 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	EXTENDED AMOUNT (IN FIGURES) DOLLARS
019	4.13 BAS 7" CONCRETE SIDEWALK (UNPIGMENTED)	17,895.00	S.F.		
020	4.13 DE EMBEDDED PREFORMED DETECTABLE WARNING UNITS	610.00	S.F.		
021	4.15 TOPSOIL	180.00	C.Y.		
022	4.16 AA TREES REMOVED (4" TO UNDER 12" CALIPER)	30.00	EACH		
023	4.16 AAT TREES TRANSPLANTED, UP TO 4" CALIPER, ALL TYPES	25.00	EACH		
024	4.16 AB TREES REMOVED (12" TO UNDER 18" CALIPER)	20.00	EACH		



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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) DOLLARS CTS		COL 8 EXTENDED AMOUNT (IN FIGURES) DOLLARS CTS	
				DOLLARS	CTS	DOLLARS	CTS
025	4.16 AC TREES REMOVED (18" TO UNDER 24" CALIPER)	10.00	EACH				
026	4.16 ADE TREES REMOVED (24" TO UNDER 48" CALIPER)	10.00	EACH				
027	4.16 CA405 TREES PLANTED, 3" TO 3-1/2" CALIPER, ALL TYPES, IN 4' X 5' TREE PITS	427.00	EACH				
028	4.16 EAT TREES TRANSPLANTED, 4" TO 5" CALIPER, ALL TYPES	10.00	EACH				
029	4.16 STUMP STUMP REMOVAL	1.00	UNITS				
030	4.18 A MAINTENANCE TREE PRUNING (UNDER 12" CAL.)	91.00	EACH				

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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	CTS	DOLLARS	CTS
031	4.18 B MAINTENANCE TREE PRUNING (12" TO UNDER 18" CAL.)	65.00	EACH				
032	4.18 C MAINTENANCE TREE PRUNING (18" TO UNDER 24" CAL.)	45.00	EACH				
033	4.18 D MAINTENANCE TREE PRUNING (24" CAL. AND OVER)	25.00	EACH				
034	4.19 SODDING	1,200.00	S.Y.				
035	4.20 SEEDING	3,690.00	S.Y.				
036	4.21 TREE CONSULTANT	856.00	P/HR				



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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) DOLLARS CTS		COL 6 EXTENDED AMOUNT (IN FIGURES) DOLLARS CTS	
037	50.11CS166060 16'-6"W X 6'-0"H SINGLE BARREL FLAT TOP REINFORCED CONCRETE COMBINED SEWER	400.00	L.F.				
038	50.11CS166080 16'-6"W X 8'-0"H SINGLE BARREL FLAT TOP REINFORCED CONCRETE COMBINED SEWER	3,300.00	L.F.				
039	50.11MS080050 8'-0"W X 5'-0"H SINGLE BARREL FLAT TOP REINFORCED CONCRETE STORM SEWER	40.00	L.F.				
040	50.11MS080060 8'-0"W X 6'-0"H SINGLE BARREL FLAT TOP REINFORCED CONCRETE STORM SEWER	450.00	L.F.				
041	50.11MS090050 9'-0"W X 5'-0"H SINGLE BARREL FLAT TOP REINFORCED CONCRETE STORM SEWER	2,000.00	L.F.				
042	50.21M3C023W 23"W X 14"H R.C.P. CLASS HE-III STORM SEWER, ON CONCRETE CRADLE	40.00	L.F.				



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

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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	CTS	DOLLARS	CTS
043	50.21M3C024D 24" R.C.P. CLASS III STORM SEWER, ON CONCRETE CRADLE	60.00	L.F.				
044	50.21M3C030D 30" R.C.P. CLASS III STORM SEWER, ON CONCRETE CRADLE	780.00	L.F.				
045	50.21M3C036D 36" R.C.P. CLASS III STORM SEWER, ON CONCRETE CRADLE	290.00	L.F.				
046	50.21M3C042D 42" R.C.P. CLASS III STORM SEWER, ON CONCRETE CRADLE	280.00	L.F.				
047	50.21M3C054D 54" R.C.P. CLASS III STORM SEWER, ON CONCRETE CRADLE	1,500.00	L.F.				
048	50.21M3E024D 24" R.C.P. CLASS III STORM SEWER, ENCASED IN CONCRETE	550.00	L.F.				

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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 CTS		COL 6 EXTENDED AMOUNT (IN FIGURES) DOLLARS CTS	
				DOLLARS	CTS	DOLLARS	CTS
049	50.21M3E030D 30" R.C.P. CLASS III STORM SEWER, ENCASED IN CONCRETE	210.00	L.F.				
050	50.21M3E036D 36" R.C.P. CLASS III STORM SEWER, ENCASED IN CONCRETE	300.00	L.F.				
051	50.21M3E042D 42" R.C.P. CLASS III STORM SEWER, ENCASED IN CONCRETE	200.00	L.F.				
052	50.21M3E054D 54" R.C.P. CLASS III STORM SEWER, ENCASED IN CONCRETE	530.00	L.F.				
053	50.21M3E060D 60" R.C.P. CLASS III STORM SEWER, ENCASED IN CONCRETE	300.00	L.F.				
054	50.21S4C024D 24" R.C.P. CLASS IV SANITARY SEWER, ON CONCRETE CRADLE	1,600.00	L.F.				

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				DOLLARS	CTS	DOLLARS	CTS
055	50.31MC15 15" E.S.V.P. STORM SEWER, ON CONCRETE CRADLE	310.00	L.F.				
056	50.31MC18 18" E.S.V.P. STORM SEWER, ON CONCRETE CRADLE	100.00	L.F.				
057	50.31ME18 18" E.S.V.P. STORM SEWER, ENCASED IN CONCRETE	100.00	L.F.				
058	50.31SC10 10" E.S.V.P. SANITARY SEWER, ON CONCRETE CRADLE	3,800.00	L.F.				
059	50.31SC12 12" E.S.V.P. SANITARY SEWER, ON CONCRETE CRADLE	675.00	L.F.				
060	50.31SC15 15" E.S.V.P. SANITARY SEWER, ON CONCRETE CRADLE	600.00	L.F.				

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				DOLLARS	CTS.	DOLLARS	CTS.
061	50.31SC18 18" E.S.V.P. SANITARY SEWER, ON CONCRETE CRADLE	550.00	L.F.				
062	50.41M6E24 24" D.I.P. CLASS 56 STORM SEWER, ENCASED IN CONCRETE	100.00	L.F.				
063	50.41S6E10 10" D.I.P. CLASS 56 SANITARY SEWER, ENCASED IN CONCRETE	130.00	L.F.				
064	50.41S6E12 12" D.I.P. CLASS 56 SANITARY SEWER, ENCASED IN CONCRETE	150.00	L.F.				
065	50.41S6E18 18" D.I.P. CLASS 56 SANITARY SEWER, ENCASED IN CONCRETE	50.00	L.F.				
066	50.41S6E48 48" D.I.P. CLASS 56 SANITARY SEWER, ENCASED IN CONCRETE	50.00	L.F.				

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067	51.11C001 CHAMBER NO. 1	1.00	EACH		
068	51.11C002 CHAMBER NO. 2	1.00	EACH		
069	51.11C003 CHAMBER NO. 3	1.00	EACH		
070	51.11C004 CHAMBER NO. 4	1.00	EACH		
071	51.11C005 CHAMBER NO. 5	1.00	EACH		
072	51.11C006 CHAMBER NO. 6	1.00	EACH		



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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
073	51.11C007 CHAMBER NO. 7	1.00	EACH				
074	51.11C008 CHAMBER NO. 8	1.00	EACH				
075	51.11C009 CHAMBER NO. 9	1.00	EACH				
076	51.11C010 CHAMBER NO. 10	1.00	EACH				
077	51.11C011 CHAMBER NO. 11	1.00	EACH				
078	51.11C012 CHAMBER NO. 12	1.00	EACH				



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079	51.11C013 CHAMBER NO. 13	1.00	EACH		
080	51.11C014 CHAMBER NO. 14	1.00	EACH		
081	51.11C015 CHAMBER NO. 15	1.00	EACH		
082	51.11P004 STANDARD 4'-0" DIAMETER PRECAST MANHOLE	7.00	EACH		
083	51.11P005 STANDARD 5'-0" DIAMETER PRECAST MANHOLE	2.00	EACH		
084	51.11P006 STANDARD 6'-0" DIAMETER PRECAST MANHOLE	2.00	EACH		



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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	CTS	DOLLARS	CTS
085	51.11P007 STANDARD 7'-0" DIAMETER PRECAST MANHOLE	3.00	EACH				
086	51.11P008 STANDARD 8'-0" DIAMETER PRECAST MANHOLE	2.00	EACH				
087	51.21A000000C ACCESS MANHOLE	25.00	EACH				
088	51.21C000000C CLEANOUT MANHOLE	4.00	EACH				
089	51.21L000000V SPECIAL MANHOLE	1.00	EACH				
090	51.21S0A1000E STANDARD MANHOLE TYPE A-1 ON EXISTING SEWER	2.00	EACH				



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

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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	CENTS	DOLLARS	CENTS
091	51.21S0A1000V STANDARD MANHOLE TYPE A-1	8.00	EACH				
092	51.21S0A2000V STANDARD MANHOLE TYPE A-2	1.00	EACH				
093	51.21S0A3000V STANDARD SHALLOW MANHOLE TYPE A-3	13.00	EACH				
094	51.21S0B1000V STANDARD MANHOLE TYPE B-1	34.00	EACH				
095	51.21S0B2000V STANDARD MANHOLE TYPE B-2	18.00	EACH				
096	51.21S0C1036R STANDARD MANHOLE TYPE C-1 ON 36" R.C.P. SEWER	2.00	EACH				

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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) DOLLARS		COL 6 EXTENDED AMOUNT (IN FIGURES) DOLLARS	
				DOLLARS	CTS	DOLLARS	CTS
097	51.21S0C1042R STANDARD MANHOLE TYPE C-1 ON 42" R.C.P. SEWER	1.00	EACH				
098	51.21S0C1054R STANDARD MANHOLE TYPE C-1 ON 54" R.C.P. SEWER	10.00	EACH				
099	51.21S0C2048D STANDARD MANHOLE TYPE C-2 ON 48" D.I.P. SEWER	1.00	EACH				
100	51.41S001 STANDARD CATCH BASIN, TYPE 1	96.00	EACH				
101	52.11D12 12" DUCTILE IRON PIPE BASIN CONNECTION	2,100.00	L.F.				
102	52.21V08 8" E.S.V.P. RISER FOR HOUSE CONNECTION	500.00	V.F.				



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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
103	52.31V06S10 6" E.S.V.P. SPUR FOR HOUSE CONNECTION ON 10" E.S.V.P. SANITARY SEWER	60.00	EACH				
104	52.31V06S12 6" E.S.V.P. SPUR FOR HOUSE CONNECTION ON 12" E.S.V.P. SANITARY SEWER	20.00	EACH				
105	52.41D06R 6" D.I.P. HOUSE CONNECTION DRAIN ON CONCRETE CRADLE (RECONNECTION)	450.00	L.F.				
106	52.41V06R 6" E.S.V.P. HOUSE CONNECTION DRAIN ON CONCRETE CRADLE (RECONNECTION)	1,100.00	L.F.				
107	53.11DR TELEVISION INSPECTION AND DIGITAL AUDIO-VISUAL RECORDING OF SEWERS	12,800.00	L.F.				
108	54.11SC SEWER CLEANING	1,500.00	L.F.				

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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	CTS	DOLLARS	CTS
109	54.12CS CLEANING OF DRAINAGE STRUCTURES	50.00	C.Y.				
110	6.01 AC CLEARING AND GRUBBING	2,980.00	S.Y.				
111	6.02 AAN UNCLASSIFIED EXCAVATION	10,160.00	C.Y.				
112	6.03 AA STRIPPING PAVEMENT SURFACE (ASPHALTIC CONCRETE)	180.00	S.Y.				
113	6.25 RS TEMPORARY SIGNS	12,430.00	S.F.				
114	6.26 TIMBER CURB	56,420.00	L.F.				



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NEW YORK CITY DEPARTMENT OF DESIGN AND CONSTRUCTION  
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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) DOLLARS CTS	COL 6 EXTENDED AMOUNT (IN FIGURES) DOLLARS CTS
115	6.28 AA LIGHTED TIMBER BARRICADES	5,015.00	L.F.		
116	6.33 B STEEL FACED MALL NOSING, 3' TO UNDER 6' RADIUS	6.00	EACH		
117	6.40 D ENGINEER'S FIELD OFFICE (TYPE D)	42.00	MONTH		
118	6.44 THERMOPLASTIC REFLECTORIZED PAVEMENT MARKINGS (4" WIDE)	21,420.00	L.F.		
119	6.49 TEMPORARY PAVEMENT MARKINGS (4" WIDE)	41,420.00	L.F.		
120	6.52 CG CROSSING GUARD	6,410.00	P/HR		





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## 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
121	6.53 REMOVE EXISTING LANE MARKINGS (4" WIDE)	21,710.00	L.F.		
122	6.55 SAWCUTTING EXISTING PAVEMENT	1,015.00	L.F.		
123	6.67 SUBBASE COURSE, SELECT GRANULAR MATERIAL	4,500.00	C.Y.		
124	6.82 A REMOVING EXISTING TRAFFIC AND STREET NAME SIGNS	250.00	S.F.		
125	6.82 B REMOVING EXISTING TRAFFIC AND STREET NAME SIGN POSTS	350.00	L.F.		
126	6.83 AA FURNISHING NEW NON-REFLECTORIZED TRAFFIC SIGNS	100.00	S.F.		

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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	CTS	DOLLARS	CTS
127	6.83 AB FURNISHING NEW TRAFFIC SIGN POSTS	250.00	L.F.				
128	6.83 AR FURNISHING NEW REFLECTORIZED TRAFFIC SIGNS	160.00	S.F.				
129	6.83 BA INSTALLING TRAFFIC SIGNS	260.00	S.F.				
130	6.83 BB INSTALLING TRAFFIC SIGN POSTS	250.00	L.F.				
131	6.84 B LOLLIPOP TYPE BUS STOP SIGNS PRICE BID SHALL BE FOR THE FIXED SUM OF \$ 15,500.00	1.00	F.S.	15,500	00	\$15,500	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	CTS	DOLLARS	CTS
132	6.86 AA FURNISHING NEW STREET NAME SIGNS	100.00	S.F.				
133	6.86 AB FURNISHING NEW STREET NAME SIGN POSTS	150.00	L.F.				
134	6.86 BA INSTALLING STREET NAME SIGNS	100.00	S.F.				
135	6.86 BB INSTALLING STREET NAME SIGN POSTS	150.00	L.F.				
136	6.87 PLASTIC BARRELS	6,630.00	EACH				
137	6.91 REFLECTIVE CRACKING MEMBRANE (18" WIDE)	2,415.00	L.F.				



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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	CTS	
138	60.11R520 FURNISHING AND DELIVERING 20-INCH DUCTILE IRON RESTRAINED JOINT PIPE (CLASS 55)	2,000.00	L.F.			
139	60.11R606 FURNISHING AND DELIVERING 6-INCH DUCTILE IRON RESTRAINED JOINT PIPE (CLASS 56)	500.00	L.F.			
140	60.11R608 FURNISHING AND DELIVERING 8-INCH DUCTILE IRON RESTRAINED JOINT PIPE (CLASS 56)	6,400.00	L.F.			
141	60.11R612 FURNISHING AND DELIVERING 12-INCH DUCTILE IRON RESTRAINED JOINT PIPE (CLASS 56)	3,400.00	L.F.			
142	60.12D06 LAYING 6-INCH DUCTILE IRON PIPE AND FITTINGS	550.00	L.F.			
143	60.12D08 LAYING 8-INCH DUCTILE IRON PIPE AND FITTINGS	6,600.00	L.F.			



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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	CTS	DOLLARS	CTS
144	60.12D12 LAYING 12-INCH DUCTILE IRON PIPE AND FITTINGS	3,600.00	L.F.				
145	60.12D20 LAYING 20-INCH DUCTILE IRON PIPE AND FITTINGS	2,200.00	L.F.				
146	60.13M0A24 FURNISHING AND DELIVERING DUCTILE IRON MECHANICAL JOINT 24- -INCH DIAMETER AND SMALLER FITTINGS, INCLUDING WEDGE TYPE RETAINER GLANDS	16.00	TONS				
147	60.18BJC20EL FURNISHING, DELIVERING AND INSTALLING BELL JOINT CLAMPS, COMPLETE FOR 20-INCH PIPE AND LESS	11.00	EACH				
148	61.11DMM06 FURNISHING AND DELIVERING 6-INCH MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	36.00	EACH				

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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	CTS	DOLLARS	CTS
149	61.11DMM08 FURNISHING AND DELIVERING 8-INCH MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	30.00	EACH				
150	61.11DMM12 FURNISHING AND DELIVERING 12-INCH MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	15.00	EACH				
151	61.11DMM20 FURNISHING AND DELIVERING 20-INCH MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	10.00	EACH				
152	61.11TWC03 FURNISHING AND DELIVERING 3-INCH WET CONNECTION TAPPING VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	2.00	EACH				
153	61.11TWC04 FURNISHING AND DELIVERING 4-INCH WET CONNECTION TAPPING VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	2.00	EACH				

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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) DOLLARS CTS		COL 6 EXTENDED AMOUNT (IN FIGURES) DOLLARS CTS	
				DOLLARS	CTS	DOLLARS	CTS
154	61.12DMM06 SETTING 6-INCH MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	36.00	EACH				
155	61.12DMM08 SETTING 8-INCH MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	30.00	EACH				
156	61.12DMM12 SETTING 12-INCH MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	15.00	EACH				
157	61.12DMM20 SETTING 20-INCH MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	10.00	EACH				
158	61.12TWC03 SETTING 3-INCH WET CONNECTION TAPPING VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	2.00	EACH				
159	61.12TWC04 SETTING 4-INCH WET CONNECTION TAPPING VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	2.00	EACH				

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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	CENTS	DOLLARS	CENTS
160	62.11SD FURNISHING AND DELIVERING HYDRANTS	36.00	EACH				
161	62.12SG SETTING HYDRANTS COMPLETE WITH WEDGE TYPE RETAINER GLANDS	36.00	EACH				
162	62.13RH REMOVING HYDRANTS	25.00	EACH				
163	62.14FS FURNISHING, DELIVERING AND INSTALLING HYDRANT FENDERS	72.00	EACH				
164	63.11VC FURNISHING AND DELIVERING VARIOUS CASTINGS	45.00	TONS				
165	64.11EL WITHDRAWING AND REPLACING HOUSE SERVICES USING 1-1/2- INCH OR LARGER SCREW TAPS	100.00	EACH				



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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	CENTS	DOLLARS	CENTS
166	64.11ST WITHDRAWING AND REPLACING HOUSE SERVICES USING SMALLER THAN 1-1/2-INCH SCREW TAPS	220.00	EACH				
167	64.12COEG CUTTING AND OFFSETTING HOUSE SERVICE WATER CONNECTIONS (EQUAL TO OR GREATER THAN 3-INCH DIAMETER)	300.00	L.F.				
168	64.12COLT CUTTING AND OFFSETTING HOUSE SERVICE WATER CONNECTIONS (LESS THAN 3-INCH DIAMETER)	2,500.00	L.F.				
169	64.12ESEG EXTENDING HOUSE SERVICE WATER CONNECTIONS (EQUAL TO OR GREATER THAN 3-INCH DIAMETER)	300.00	L.F.				
170	64.12ESLT EXTENDING HOUSE SERVICE WATER CONNECTIONS (LESS THAN 3- INCH DIAMETER)	2,500.00	L.F.				
171	64.13WC08 FURNISHING, DELIVERING AND INSTALLING WET CONNECTION SLEEVE ON 8-INCH WATER MAIN PIPE WITH VARIOUS OUTLETS	1.00	EACH				



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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	CTS	DOLLARS	CTS
172	64.13WC12 FURNISHING, DELIVERING AND INSTALLING WET CONNECTION SLEEVE ON 12-INCH WATER MAIN PIPE WITH VARIOUS OUTLETS	1.00	EACH				
173	64.13WC20 FURNISHING, DELIVERING AND INSTALLING WET CONNECTION SLEEVE ON 20-INCH WATER MAIN PIPE WITH VARIOUS OUTLETS	1.00	EACH				
174	65.11BR FURNISHING, DELIVERING AND INSTALLING BANDS, RODS, WASHERS, ETC., COMPLETE, FOR RESTRAINING JOINTS	700.00	LBS.				
175	65.31FF FURNISHING, DELIVERING AND PLACING FILTER FABRIC Unit price bid shall not be less than: \$ 0.10	90,000.00	S.F.				
176	65.51PC FURNISHING AND PLACING CAST-IN-PLACE CONCRETE CLASS 40 AND PRECAST CONCRETE CLASS 50	50.00	C.Y.				
177	65.61SS FURNISHING, DELIVERING AND PLACING STRUCTURAL, REINFORCING AND MISCELLANEOUS STEEL	56,000.00	LBS.				

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## 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
178	65.71SG FURNISHING, DELIVERING AND PLACING SCREENED GRAVEL OR SCREENED BROKEN STONE BEDDING	1,500.00	C.Y.		
179	7.07 MB2 MARTELLO BOLLARD, VERSION 2.0	3.00	EACH		
180	7.13 B MAINTENANCE OF SITE Unit price bid shall not be less than: \$ 8,000.00	36.00	MONTH		
181	7.19 LOAD TRANSFER JOINT	915.00	L.F.		
182	7.36 PEDESTRIAN STEEL BARRICADES	40,820.00	L.F.		
183	7.88 AA RODENT INFESTATION SURVEY AND MONITORING Unit price bid shall not be less than: \$ 10,000.00	1.00	L.S.		

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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	CTS	DOLLARS	CTS
184	7.88 AB RODENT BAIT STATIONS Unit price bid shall not be less than: \$ 60.00	450.00	EACH				
185	7.88 AC BATING OF RODENT BAIT STATIONS Unit price bid shall not be less than: \$ 12.50	450.00	EACH				
186	7.88 AD WATERBUG BAIT APPLICATIONS Unit price bid shall not be less than: \$ 70.00	540.00	BLOCK				
187	70.21DK DECKING	26,400.00	S.Y.				
188	70.31FN FENCING Unit price bid shall not be less than: \$ 2.00	55,500.00	L.F.				
189	70.51EO EXCAVATION OF BOULDERS IN OPEN CUT Unit price bid shall not be less than: \$ 50.00	20.00	C.Y.				

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## 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	EXTENDED AMOUNT (IN FIGURES) DOLLARS
190	70.61RE ROCK EXCAVATION	20.00	C.Y.		
191	70.71SB STONE BALLAST Unit price bid shall not be less than: \$ 15.00	2,400.00	C.Y.		
192	70.81CB CLEAN BACKFILL Unit price bid shall not be less than: \$ 12.50	27,000.00	C.Y.		
193	70.91SW12 FURNISHING AND PLACING SHEETING AND BRACING IN TRENCH FOR WATER MAIN PIPE 12-INCH IN DIAMETER AND LESS	30,000.00	S.F.		
194	70.91SW20 FURNISHING AND PLACING SHEETING AND BRACING IN TRENCH FOR WATER MAIN PIPE 20-INCH IN DIAMETER	16,000.00	S.F.		
195	72.11HF HYDRAULIC FILL FOR ABANDONED SEWERS AND WATER MAINS	900.00	C.Y.		



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## BID SCHEDULE FORM

COL 1 SEQ. NO.	COL 2 ITEM NUMBER and DESCRIPTION	COL 3 ENGINEERS ESTIMATE OF QUANTITY	COL 4 UNIT	COL 5 UNIT PRICE (IN FIGURES)		COL 6 EXTENDED AMOUNT (IN FIGURES)	
				DOLLARS	CTS	DOLLARS	CTS
196	73.11AB ADDITIONAL BRICK MASONRY Unit price bid shall not be less than: \$ 37.50	150.00	C.Y.				
197	73.21AC ADDITIONAL CONCRETE Unit price bid shall not be less than: \$ 62.50	200.00	C.Y.				
198	73.31AE0 ADDITIONAL EARTH EXCAVATION INCLUDING TEST PITS (ALL DEPTHS) Unit price bid shall not be less than: \$ 15.00	3,100.00	C.Y.				
199	73.41AG ADDITIONAL SELECT GRANULAR BACKFILL Unit price bid shall not be less than: \$ 15.00	4,000.00	C.Y.				
200	73.51AS ADDITIONAL STEEL REINFORCING BARS Unit price bid shall not be less than: \$ 1.25	10,000.00	LBS.				
201	73.61AT ADDITIONAL STONE BALLAST Unit price bid shall not be less than: \$ 17.50	350.00	C.Y.				

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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	CTS	DOLLARS	CTS
202	8.01 C1 HANDLING, TRANSPORTING AND DISPOSAL OF NON-HAZARDOUS CONTAMINATED SOIL	30,000.00	TONS				
203	8.01 C2 SAMPLING AND TESTING OF CONTAMINATED/POTENTIALLY HAZARDOUS SOIL FOR DISPOSAL PURPOSES	30.00	SETS				
204	8.01 H HANDLING, TRANSPORTING AND DISPOSAL OF HAZARDOUS SOIL	5,000.00	TONS				
205	8.01 S HEALTH AND SAFETY	1.00	L.S.				
206	8.01 W1 REMOVAL, TREATMENT, AND DISCHARGE/DISPOSAL OF CONTAMINATED WATER	20.00	DAY				
207	8.01 W2 SAMPLING AND TESTING OF CONTAMINATED WATER	10.00	SETS				



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## BID SCHEDULE FORM

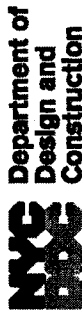
COL 1 SEQ. NO	COL 2 ITEM NUMBER and DESCRIPTION	COL 3 ENGINEER'S ESTIMATE OF QUANTITY	COL 4 UNIT	COL 5 UNIT PRICE (IN FIGURES) DOLLARS CTS		COL 6 EXTENDED AMOUNT (IN FIGURES) DOLLARS CTS	
				DOLLARS	CTS	DOLLARS	CTS
208	9.04 HW ALLOWANCE FOR ANTI-FREEZE ADDITIVE IN CONCRETE PRICE BID SHALL BE FOR THE FIXED SUM OF \$ 50,000.00	1.00	F.S.	50,000	00	50,000	00
209	9.30 STORM WATER POLLUTION PREVENTION	1.00	L.S.				
210	BMP-7.09 LICENSED SURVEYOR	2.00	DAY				
211	BMP-7.307-A GRADING	26,820.00	S.F.				
212	BMP-7.401-J HERBACEOUS PLANTS (PLUGS)	9,626.00	EACH				



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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) DOLLARS CTS	COL 6 EXTENDED AMOUNT (IN FIGURES) DOLLARS CTS
213	BMP-7.403 TOPSOIL	2,710.00	C.Y.		
214	BMP-7.404-A RESTORATION SPECIALIST	460.00	HRS		
215	BMP-7.404-B EROSION AND SEDIMENT CONTROL LICENSED/CERTIFIED PROFESSIONAL	60.00	DAY		
216	BMP-7.407-A EROSION CONTROL MAT	36,510.00	S.F.		
217	BMP-7.504A SILT FENCE	960.00	L.F.		
218	BMP-7.509-A STABILIZED CONSTRUCTION ENTRANCE	1.00	EACH		



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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.T.S.		C.T.S.
219	PK-304 CHAIN LINK FENCE 6'-0" HT	380.00	L.F.				
220	PK-318 DOUBLE GATE FOR CHAIN LINK FENCE 6' HT.	1.00	EACH				
221	PM-01 PLANT MAJOR TREES (2.5" TO 3" CALIPER)	6.00	EACH				
222	PM-02 PLANT MAJOR TREES (3.5" TO 4" CALIPER)	5.00	EACH				
223	PM-03 PLANT FLOWERING AND ORNAMENTAL TREES	10.00	EACH				
224	UTL-6.01.1 GAS MAIN CROSSING SEWER UP TO 24" IN DIAMETER (\$6.01) Unit price bid shall not be less than: \$ 1,040.00	14.00	EACH				

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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	CTS	DOLLARS	CTS
225	UTL-6.01.3 GAS MAIN CROSSING SEWER 36" THRU 42" IN DIAMETER (\$6.01) Unit price bid shall not be less than: \$ 2,040.00	4.00	EACH				
226	UTL-6.01.4 GAS MAIN CROSSING SEWER 48" THRU 54" IN DIAMETER (\$6.01) Unit price bid shall not be less than: \$ 2,120.00	6.00	EACH				
227	UTL-6.01.5 GAS MAIN CROSSING SEWER 60" IN DIAMETER (\$6.01) Unit price bid shall not be less than: \$ 2,340.00	1.00	EACH				
228	UTL-6.01.7WW GAS MAIN CROSSING 16-5"W X 8'-0"H FLAT TOP REINFORCED CONCRETE STORM SEWER (\$6.01) Unit price bid shall not be less than: \$ 2,740.00	5.00	EACH				
229	UTL-6.01.7YY GAS MAIN CROSSING 9'-0"W X 5'-0"H FLAT TOP REINFORCED CONCRETE STORM SEWER (\$6.01) Unit price bid shall not be less than: \$ 2,740.00	4.00	EACH				
230	UTL-6.01.8 GAS SERVICES CROSSING TRENCHES AND/OR EXCAVATIONS (\$6.01) Unit price bid shall not be less than: \$ 465.00	117.00	EACH				



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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
231	UTL-6.01.9 GAS MAIN CROSSING WATER MAIN UP TO 20" IN DIAMETER (\$6.01) Unit price bid shall not be less than: \$ 485.00	31.00	EACH				
232	UTL-6.02 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	4.00	EACH				
233	UTL-6.03 REMOVAL OF ABANDONED GAS FACILITIES. ALL SIZES. (\$6.03) Unit price bid shall not be less than: \$ 15.00	5,200.00	L.F.				
234	UTL-6.03.1 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	200.00	L.F.				
235	UTL-6.04 ADJUST HARDWARE TO GRADE USING SPACER RINGS/ADAPTORS. (STREET REPAVING.) (\$6.04) Unit price bid shall not be less than: \$ 35.00	20.00	EACH				
236	UTL-6.05 ADJUST HARDWARE TO GRADE BY RESETTING. (ROAD RECONSTRUCTION.) (\$6.05) Unit price bid shall not be less than: \$ 65.00	25.00	EACH				

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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) DOLLARS CTS	COL. 6 EXTENDED AMOUNT (IN FIGURES) DOLLARS CTS
237	UTL-6.06 SPECIAL CARE EXCAVATION AND BACKFILLING (S6.06) Unit price bid shall not be less than: \$ 180.00	5,000.00	C.Y.		
238	UTL-6.07 TEST PITS FOR GAS FACILITIES (S6.07) Unit price bid shall not be less than: \$ 100.00	50.00	C.Y.		
239	UTL-GCS-2WS 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

SUB-TOTAL: \$

240	6.39 A MOBILIZATION BID PRICE OF MOBILIZATION SHALL NOT EXCEED 4% OF THE ABOVE SUB-TOTAL PRICE.	1.00	L.S.		
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## 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

TOTAL BID PRICE: \$ \_\_\_\_\_

PLEASE BE SURE A LEGIBLE BID IS ENTERED FOR EACH ITEM.  
 THE BIDDER SHALL INSERT THE TOTAL BID PRICE IN  
 THE BID FORM ON PAGE C-4 OF THIS BID BOOKLET.

**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 January 5, 2009), 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 SEWER AND WATER MAIN SPECIFICATIONS
- C. REVISIONS TO THE SPECIFICATIONS FOR TRUNK MAIN WORK
- D. CHIN LINK FENCE SPECIFICATION

**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 1<sup>st</sup>, April 1<sup>st</sup>, July 1<sup>st</sup> and September 1<sup>st</sup>) 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 is advised that at some locations, there presently exists sewers, manholes, water mains, etc. which are to remain undisturbed and are in close proximity to the line of the proposed work. The Contractor shall exercise extreme care, minimize the trench width to the proposed sewers and take all necessary precautions in placing sheeting and during excavation of the trenches to prevent any damage to the existing structures that are to remain while working adjacent to them. The Contractor shall repair any damage to any portion of the existing structures that are to remain due to the Contractor's operations as directed by the Engineer. The cost of such repair shall be borne by the Contractor solely at the Contractor's own expense.
- (12) The Contractor is advised that at some locations indicated on the contract plans, new water mains are to be installed over new storm sewers. Should the cover of the new water main to be installed be less than two (2) feet, the Contractor shall install the new water main with shallow cover provisions in compliance with Water Main Standard Drawing No. 46464-Z. The cost for any additional work required in order to install the water main in accordance with shallow cover provisions shall be made under appropriate bid items as directed by the Engineer.
- (13) The Contractor shall install new 8-inch and 12-inch water mains crossing under or over the new and existing sewers at the locations indicated on the contract plans. The Contractor shall perform all the work required and necessary in compliance with the details shown on the contract plan Sheet No. 21 and with Standard Water Main Specifications. Payment for all work required to perform this work shall be made under the appropriate water main (WM) item of the contract. (The cost for any work required to complete this work for which there is no contract item(s) shall be deemed included in the prices bid for all items of the contract.)
- (14) The Contractor is advised that no additional or separate payment shall be made for the removal of existing pile caps in the project area. The cost of such work shall be deemed included in the prices bid for all contract items of work.
- (15) The Contractor is advised that a Memorandum Of Understanding (MOU) between Parks and DEP for BLOCK 13714, LOTS 50, 53, 55 and 60 (park area) is under process. A finalized MOU will be available for the contractor during construction. The contractor shall obtain all necessary permits and MOU requirements to work in this area.
- (16) All fences, gates, shrubbery, lawn areas, pipes, retaining walls, paved entrances and exits, and all other encroachments, encumbrances, or obstructions above or below ground surface, and the related foundations and appurtenances which are affected by the installation of water mains and sewers shall be removed by the Contractor to the extent directed by the Engineer, and shall be replaced and/or rebuilt to the satisfaction of the Engineer and the property owner. The Contractor shall remove or restore all affected encumbrances and/or encroachments to at least the same condition in which they were prior to the start of construction. The Contractor shall furnish all new materials required or necessary to perform the above work to the satisfaction of the Engineer. The Contractor shall maintain access to the buildings and parking lot at all times. The Contractor shall maintain all the existing services at all times. The cost of all labor, materials, plant, insurance, and equipment necessary and required to remove, replace, and/or rebuild such encumbrances shall be deemed included in the prices bid for all items of work.
- (17) The Contractor is advised that the Department of Design and Construction is in the process of filing permit application for Dewatering and Wetland Permit with the New York State Department of Conservation (NYSDEC) under the Environmental Conservation Law, Article 15 for Temporary Well Point Permit Application and Article 25 for Tidal Wetlands. No work shall commence until such permit

has been obtained for this project by the Contractor. No additional or separate payment shall be made for the work of complying with NYSDEC requirements; for the required updating of permits and obtaining of permits. The cost of such work shall be deemed included in the prices bid for all contract items of work.

- (18) The Contractor is advised that the Department of Design and Construction is in the process of filing permit application with the New York State Department of State (NYSDOS); Coastal Management Program Consistency Determination. No additional or separate payment shall be made for the work in order to comply with the requirements, for the required updating of permits and obtaining the permits. The cost of such work shall be deemed included in the prices bid for all contract items of work.
- (19) The Contractor is advised that the prior to bulkheading/abandoning/removing any section of the existing 84" Storm Sewer on 147th Avenue, Chamber No. 7 shall be fully operational as well as all downstream storm sewers up to Chamber No. 2.
- (20) The Contractor is advised that Chamber 15, "Regulator Chamber", requires a Sluice Gate as per specifications on Sheet 29 of the contract plans. The sluice gate shall be of the size indicated on the plans and shall be designed for installation in the structure as shown on plans. The sluice gate equipment and appurtenances shall be installed in accordance with the Installation Manual furnished by the gate manufacturer. Extreme care shall be used in the handling, storage, and installation of this equipment to prevent damage or distortion of the equipment and to insure proper performance. The Contractor shall submit manufacturers drawings, specifications for approval to NYC DEP and Engineer.

**B. REVISIONS TO THE STANDARD SEWER AND WATER MAIN SPECIFICATIONS**

- (1) **Refer to Subsection 10.15 - Notice To Utility Companies, Etc., To Remove Structures Occupying Place Of Sewers, Water Mains Or Appurtenances, Page 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) 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. David Reid at (718) 977-8138.

(4) TIME WARNER CABLE OF NEW YORK CITY

There are TIME WARNER CABLE facilities in the area of construction. The Contractor shall notify TIME WARNER CABLE at least seventy-two (72) hours prior to the start of construction by contacting Mr. Mark Larm at (917) 335-9181.

- (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 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. James Cruickshank at (718) 965-7739.

(5) N.Y.C. TRANSIT AUTHORITY

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.

Arrangements shall be made through:

Ms. Sarah Wyss  
Director Of Short Range, Bus Service Planning (SRB)  
New York City Transit  
2 Broadway, 17<sup>th</sup> Floor  
New York, N.Y. 10004  
Telephone No. (646) 252-5517  
sarah.wyss@nyct.com

- (4) **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 (seven (7) pages) that are attached to the end of this section, and as directed by the Engineer.

- (5) **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.

(6) 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.
- (6) Groundwater Analysis - The Environmental Scientist shall develop and submit a sampling and analysis program subject to NYSDEC Approval (a minimum of one groundwater sample from a site well shall be collected and analyzed). A laboratory certified by the New York State Health Department shall analyze the samples. The sampling and analysis program must include but is not limited to the following:

## NYSDEC REGION 2 - DEWATERING PROJECTS SAMPLING INFORMATION

NO.	PARAMETERS	TYPE	EPA METHOD	DETECTION
1	pH	Grab	150.1	EPA min
2	Temperature	°F	After Pumping	EPA min
3	Fecal Coliform	Grab	5-Tubes/3-Dilutions	2-MPN/100-ml
4	Oil & Grease	Grab	413.1	EPA min
5	BOD <sub>5</sub>	Grab	405.1	EPA min
6	Total Suspended Solids	Grab	160.2	EPA min
7	Settleable Solids	Grab	160.5	EPA min
8	Chlorides	Grab	325.1-325.3	EPA min
9	Benzene	Grab	602	EPA min
10	Toluene	Grab	602	EPA min
11	Xylenes	Grab	602	EPA min
12	Ethylbenzene	Grab	602	EPA min
13	PCB's	Grab	608	(See Note 1)
14	Pesticides	Grab	608	EPA min
15	13 Priority Metals	Grab	200 series	EPA min
16	Acids Base/Neutrals	Grab	625-GC/MS	EPA min
17	Halogenated Volatiles	Grab	601-GC	EPA min
18	Nitrate/Nitrite	Grab	300 or 353.3	EPA min
19	Aromatic Volatiles	Grab	602-GC	EPA min
20	Cyanide (total or amenable)	Grab	335.1/335.2	EPA min

## NOTE:

- (1) List each individual aroclor found and report the concentration of each aroclor tested.  
Use the N.Y.S. detection limit, which is 0.065-µg/l.

Small dewatering projects with a total estimated pumped volume up to 15-Million Gallons (MG) require sampling analysis for parameters No.'s 1 through 12.

Medium dewatering projects with a total estimated pumped volume between 15-MG and 60-MG require sampling analysis for parameters No.'s 1 through 14.

Large dewatering projects with a total estimated pumped volume greater than 60-MG require sampling analysis for parameters No.'s 1 through 20.

Samples are to be collected after development of the well by a licensed well driller.

A laboratory certified by the NYS Department of Health must conduct all testing.

Irrespective of the aforementioned sampling requirements based on total estimated pumped volumes, the Department may require sampling of additional parameters if the proposed dewatering site is suspected of being contaminated.

**40.14.4 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.

- (7) **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) In 229th Street starting fifty (50) feet north of the intersection with 147th Avenue to 145th Avenue, including intersections; 145th Avenue between 226th Street and 230th Place, including intersections; 230th Place south of the intersection with 147th Avenue to 148th Avenue; 227th street between 148th Avenue and 147th Avenue including intersection with 148th Ave; 148th Avenue between 230th Place and 229th Street, including intersections, the restoration shall be as follows:

The permanent restoration shall consist of Six (6) inches Asphaltic Macadam Pavement, on six (6) inches of Subbase Course from curb to curb or from edge to edge of existing roadway, to match existing grade as directed by the engineer."

- (2) In 148th Avenue starting fifty (50) feet east of 227th Street to fifty (50) feet west of 229th Street, including intersection; 230th Place starting fifty (50) feet south of 145th Avenue to fifty (50) feet north of 147th Avenue, including intersections;; the restoration shall be as follows:

- (a) The permanent restoration over the trench width and cutbacks only shall consist of a top course of a one and one-half (1 ½) inches of binder mixture on a base course of a minimum of four and a half (4 ½) inches of binder mixture to match the existing pavement as directed by the engineer.

- (a) 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.

- (3) In 148th Avenue between 226th Street and 225th Street, excluding intersections; 230th Street between 147th Avenue and 148th Avenue, excluding intersections; the restoration shall be as follows:



The permanent restoration over the **trench width and cutbacks only** shall consist of a top course of one and one-half (1 ½) inches of asphaltic wearing course on a minimum of four and one-half (4 ½) inches of binder mixture as directed by the Engineer.

- (4) In 147<sup>th</sup> Avenue from 227<sup>th</sup> Street to 229<sup>th</sup> Street, including intersections;  
Intersection of 147<sup>th</sup> Avenue and 230<sup>th</sup> Street; the restoration shall be as follows:

The entire width of roadway 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 minimum of six (6) inches of concrete base and three (3) inches of asphaltic concrete wearing course to match the existing grade as directed by the Engineer.

- (5) In 147<sup>th</sup> Avenue starting fifty (50) feet east of 229<sup>th</sup> Street to fifty (50) feet east of 230<sup>th</sup> Place; the restoration shall be as follows:

Two existing raised speed bumps/reducers shall be restored in kind and the cost shall be deemed included in the prices bid for all items of work. No additional payment shall be made to the contractor for this work.

- (6) In 147<sup>th</sup> Avenue starting fifty (50) feet east of 227<sup>th</sup> Street to fifty (50) feet west of 230<sup>th</sup> Street, including ; Intersection of 147<sup>th</sup> Avenue and 230<sup>th</sup> Street; the restoration shall be as follows:

- a. The permanent restoration over the **trench width and cutbacks only** shall consist of three (3) inches of binder mixture over six (6) to nine (9) inches of concrete base as encountered to match 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.

- (7) 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>
4.01 RAG	Asphaltic Macadam Pavement, 6" Thick	(For curb to curb or edge to edge.)
4.02 AB-R	Asphaltic Concrete Wearing Course, 1-1/2" Thick	(For top wearing course when no overlay is required.)
4.02 AF-R	Asphaltic Concrete Pavement, 2" Thick	(For curb to curb or edge to edge.)
4.02 AG	Asphaltic Concrete Pavement, 3" Thick	(For curb to curb or edge to edge.)
4.02 CA	Binder Mixture	(For asphaltic concrete base course over trenches and cutbacks; top filler course under wearing course when no overlay is required; top course when overlay is required; and to fill in roadway depressions and to provide a leveling course prior to overlay where ordered.)
4.04 AC	Concrete Base For Pavement, 6" Thick	(For curb to curb or edge to edge.)
4.04 H	Concrete Base for Pavement, Variable Thickness for Trench Restoration, (High-Early Strength)	(For concrete base course over trenches and cutbacks.)
4.05 AX	High-Early Strength Reinforced Concrete Pavement (Bus Stop)	(For reinforced concrete pavement at bus stops.)

**C. REVISIONS TO THE SPECIFICATIONS FOR TRUNK MAIN WORK**

- 1) Refer to Part 1 – Furnishing And Delivering Steel Pipes And Appurtenances 30 Inches In Diameter And Larger, Section 11. 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 except for fabrication of tees and reducers.

- 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.

**D. CHIN LINK FENCE SPECIFICATION**

- (8) Refer to Page VII-104:  
Add the following new Section:

<u>ITEM NO. PK-302</u>	<u>CHAIN LINK FENCE 3'-6" HT.</u>
<u>ITEM NO. PK-303</u>	<u>CHAIN LINK FENCE 4'-0" HT.</u>
<u>ITEM NO. PK-304</u>	<u>CHAIN LINK FENCE 6'-0" HT.</u>
<u>ITEM NO. PK-305</u>	<u>CHAIN LINK FENCE 8'-0" HT.</u>
<u>ITEM NO. PK-306</u>	<u>CHAIN LINK FENCE 10'-0" HT.</u>
<u>ITEM NO. PK-307</u>	<u>CHAIN LINK FENCE 12'-0" HT., 1 3/4" MESH (TENNIS)</u>
<u>ITEM NO. PK-308</u>	<u>CHAIN LINK FENCE 12'-0" HT., 2" MESH</u>
<u>ITEM NO. PK-309</u>	<u>CHAIN LINK FENCE 14'-0" HT.</u>
<u>ITEM NO. PK-310</u>	<u>CHAIN LINK FENCE 16'-0" HT., 1" MESH (HANDBALL)</u>
<u>ITEM NO. PK-311</u>	<u>CHAIN LINK FENCE 16'-0" HT., 2" MESH</u>
<u>ITEM NO. PK-312</u>	<u>CHAIN LINK FENCE 18'-0" HT.</u>
<u>ITEM NO. PK-313</u>	<u>CHAIN LINK FENCE 20'-0" HT.</u>
<u>ITEM NO. PK-314</u>	<u>SINGLE GATE FOR CHAIN LINK FENCE 4' HT.</u>
<u>ITEM NO. PK-315</u>	<u>SINGLE GATE FOR CHAIN LINK FENCE 6' HT.</u>
<u>ITEM NO. PK-316</u>	<u>SINGLE GATE FOR CHAIN LINK FENCE 8' HT. &amp; OVER</u>
<u>ITEM NO. PK-317</u>	<u>DOUBLE GATE FOR CHAIN LINK FENCE 4' HT.</u>
<u>ITEM NO. PK-318</u>	<u>DOUBLE GATE FOR CHAIN LINK FENCE 6' HT.</u>
<u>ITEM NO. PK-319</u>	<u>DOUBLE GATE FOR CHAIN LINK FENCE 8' HT.</u>
<u>ITEM NO. PK-320</u>	<u>DOUBLE GATE FOR CHAIN LINK FENCE 10' HT. &amp; OVER</u>

**WORK:** Under these Items, the Contractor shall furnish and erect powder coated chain link fences and powder coated chain link fence gates of the heights and sizes shown on the drawings, in accordance with the plans and specifications and directions of the Engineer.

**INTENT:** It is the intent of these items to effectively enclose the areas shown on the plans, and when new fences terminate at existing or new structures or fences within the areas or adjacent to the areas, the clear spaces between the fences and structures shall not exceed three and one half

(3 1/2") inches. Closures, if necessary, shall be made by the Contractor in a manner approved by the Engineer. Payment for such closures will be made per linear foot or a fraction thereof, at the unit prices bid for the fences.

**MATERIAL:** All fittings, hardware and equipment shall be designed to carry one hundred percent (100%) overload.

Malleable iron castings shall be powder coated after hot dipped galvanizing in accordance with ASTM Serial Designation: A153.

Pressed steel fittings and appurtenances shall be powder coated after hot dipped galvanizing in accordance with ASTM Serial Designation: A123.

All fittings, hardware and equipment shall be powder coated of a color to match the framework and shall be of the materials listed in the following schedule:

**FENCE/GATE PART****MATERIAL**

Boulevards, Corner (Split)

Malleable Iron or Pressed Steel-3/16" thick

Fittings and End Fittings

Post Caps and Post Line Tops

Malleable Iron or Pressed Steel - 3/16" thick

Couplings

Galv. Steel Pipe - 1/8" thick with 1/4" Dia. Full  
Depth Rivet

Gate Hinges

Malleable Iron or Pressed Steel-1/4" thick with  
1" Dia. Stainless Steel Pin Welded to 1/2" thick  
Pin Support

Bolts and Nuts

Galv. Steel or Stainless Steel as indicated on  
Plans

Tension Bars

1/8" x 1" Pressed Steel

Truss Rods

1/2" Dia. Galv. Steel

Truss Tightener

3/8" x 1" Galv. Steel

Truss Clamp

1/4" Pressed Steel

Gate Locking System

Rotating Locking Mechanism- Galv. Steel pipe.  
All other components shall be mild steel.

Gate Stop

7/16" thick malleable iron

Drive Pins and Set Screws

Stainless Steel, 18-8

**POSTS AND RAILS: TYPE I** - Posts and rails shall be standard weight galvanized steel pipe of the sizes shown on the plans and shall conform to ASTM Serial Designation F-1083 Schedule 40, except for chain link fence posts 20'-0" height, which shall be Schedule 80. Posts and rails shall be hot dip galvanized inside and outside in accordance with ASTM Serial Designation F-1083 or: For fence up to and including ten (10) feet height, posts and rails may be **TYPE II**, SS-40 steel tubing as manufactured by Allied Tube and Conduit Corp. of Harvey, Illinois, or approved equal. Tubing must conform to ASTM A1011/A1011M, cold rolled steel pipe and coated with a minimum of 0.9 ounces of zinc per square foot, a minimum of 15 micrograms of zinc chromate per square inch. Steel pipe supplied under this option shall be of the same outside diameter as Schedule 40 pipe and achieve minimum yield strength of 50,000 p.s.i.

**SURFACE COATINGS:** All posts, rails and fittings shall be powder coated with either polyvinyl chloride (PVC) or TGIC-Polyester (with the exception of the turnbuckles and threaded ends of the truss rods, both of which shall be sprayed with powder coat touch-up after installation).

Galvanizing of all components shall provide an acceptable substrate for applied powder coatings. No lacquer, urethane or other coatings which would prevent proper adhesion of powder coating shall be applied to the pipe.

The powder coating shall be applied to the galvanized surfaces in such a manner that the coating will not peel off. Insure surfaces to be coated are clean and dry and free of grease, dust, rust, etc. All galvanized parts, prior to powdercoating, shall first receive phosphating and chromating treatments to improve the adhesion of the surface coating. Color to be black unless otherwise indicated on the plans.

The entire fence installation shall be coated with one of the two following types of powder coating, (with the exception of gates, all of which shall be TGIC-Polyester and fabric which shall always be PVC). All Fence components shall be coated on all surfaces, of a color to match the framework. All coated surfaces shall comply with the adhesion specifications listed in ASTM F1043.

**TYPE A - Polyvinyl Chloride Powder Coating:** PVC Powder coating shall be applied to the galvanized steel or iron by the fluid bed method to a preheated base which has been cleaned and primed prior to submersion in vinyl, resulting in a firm bond between the PVC and the metal. PVC shall be applied to a film thickness of 10 to 15 mils on framework and fittings, and 7 to 12 mils on fabric without voids, tears or cuts that reveal the substrate and shall thoroughly adhere to the metal without peeling when scratched with a pick device or knife blade point.

**TYPE B - TGIC-Polyester Powder Coating:** TGIC-Polyester Powder shall be applied to the galvanized steel or iron in such a manner that the coating will not peel off. The TGIC-Polyester shall be applied at a film thickness of 3 to 6 mils by electrostatic spray process and bake finished

per manufacturer's directions. The TGIC-Polyester shall be applied without voids, tears or cuts that reveal the substrate and shall thoroughly adhere to the metal without peeling when scratched with a pick device or knife blade point.

### **TESTS:**

**Field Test for PVC Powder Coating:** As per ASTM F668, three sample sections of the PVC powder coated fence shall be tested for bonding of the powder coat to the metal. Each test will consist of making two cuts parallel to the axis of the pipe or fitting, through the coating, appx. 1/16 inch (1.6 mm) apart, at least 1/2 inch (12.7 mm) long. With a knife peel back a section of the coating between 1/8 inch (3.2 mm) and 1/4 inch (6.4 mm) long to produce a tab. Attempt to remove the 1/16 inch strip of coating by pulling the tab. The fence shall be deemed acceptable if the coating breaks rather than separates from the metal on all three samples.

**Laboratory Test for TGIC-Polyester Powder Coat:** At the discretion of the Engineer, a sample of the TGIC-Polyester powder coated fence shall be laboratory tested for bonding of the powder coating to the metal. Test shall be the Cross Hatch test per ASTM D3359, Method B. Failure to satisfactorily pass this test shall be a basis for rejection.

**TOUCH-UP & REPAIR:** For minor damage caused by installation, transportation, field welding and cutting of metal powder coated surfaces: clean welds, bolted connections, abraded or sawcut areas, then:

1. On welded and cut surfaces, apply organic zinc repair paint complying with ASTM A780, then repair powder coating per number 2 below. Galvanizing repair paint shall have 65 percent zinc by weight. Thickness of repair paint shall be not less than that required by ASTM A123.
2. On damaged powder coated surfaces, touch-up finish in conformance with manufacturer's recommendations. Provide touch-up such that repair is not visible from a distance of six feet (6').

**FABRIC:** Fabric shall be hot dip galvanized steel wire mesh as per ASTM A641, with a thermally fused polyvinyl chloride powder coating of 7 to 12 mils thick as per ASTM F668 class 2b. Color to match framework. Fabric shall be produced by methods recognized as good commercial practices. Core wire tensile strength shall be 75,000 psi (517 MPa).

Wire used for the manufacture of fabric shall meet the requirements of ASTM F668 and shall be capable of being woven into fabric without the PVC coating cracking or peeling. PVC coating shall be a dense, impervious covering free of voids. Excessive roughness, bubbles, blisters, bruises and flaking will be a basis for rejection. PVC shall be thermally fused. Bonded or extruded and glued surface coating will not be permitted. Fabric shall be stretched to provide a smooth, taut, uniform appearance free from sag.

**Field Test:** PVC coating on fabric shall be field tested for adherence to the metal as outlined elsewhere in this specification.

**Thickness of Fabric:** One (1) Inch Mesh: Uncoated wire dimension shall be 0.120 inches in diameter (11 gauge). Zinc coating shall be 0.30 ounces per square foot of wire surface.

**One and Three Quarter (1-3/4) Inch and Two (2) Inch Mesh:** Uncoated wire dimension shall be 0.148 inches in diameter (9 gauge). Zinc coating shall be .3 ounces per square foot of wire surface.

**Selvages:** Fabric shall be barbed at the top and knuckled at the bottom on fences over 6'-0" high. Fabric on fences 4'-0" and 6'-0" shall be knuckled top and bottom. Loops of knuckled fabric shall be closed or nearly closed. The wire ends of barbed selvages shall be twisted in a closed helix of 1- matching turns and cut at an acute angle. The length of the ends beyond the twist shall be at least 1/4 inch long. One (1) inch mesh shall be knuckled both top and bottom.

**TIES:** Tie-wire core thickness shall be 9 gauge (0.148") wrought aluminum alloy 1100-H16 wire with an extruded vinyl coating in accordance with ASTM A641 Class 3. PVC shall be applied to a film thickness of 20 to 22 mils. Ties shall be spaced fifteen (15) inches apart on rails and twelve (12) inches apart on posts. The ends of ties shall be wound in a telegraph twist two and one half turns. Color to match mesh. Contractor shall touch-up PVC coating on ties damaged as result of installation.

**GATES:** Gates shall be furnished and installed on reinforced concrete slabs where indicated on the plans or directed by the Engineer. All gates shall be galvanized steel and shall be TGIC-Polyester powder coated after fabrication per requirements for fence framework outlined elsewhere in this specification. Welded joints shall have a suitable rust preventive coating applied to the welds prior to powder coating. Gate fabric shall match line fabric adjacent to gate opening. Gates shall be installed plumb, level and secure for full opening without interference. The hinges shall be so designed to permit the gate to swing a full 180 degrees.

**Gate Locking System:** Gate locking system shall be fabricated in accordance with the Standard Details and shall be manufactured by Shannon Gates and Railings, Deer Park, NY, or approved equal. The Gate Locking System shall consist of three elements: 1) A steel drop bolt arranged to engage the gate stop. The drop bolt shall have a flange that meets a fixed locking eyelet, welded on the gate, to lock the gate in the open and closed position. 2) A rotating locking mechanism consisting of flanges that can be padlocked together and 3) gate stops. All necessary fittings and gate holders to lock gates in both open and closed positions shall be furnished. The gate locking system shall be installed to face the fenced in area, unless otherwise directed by the Engineer. All welds shall be ground smooth to a neat finish and shall conform to the requirements given under the "Materials and Methods of Construction", Section B of NYCDPR and as directed by the Engineer.

**Padlock:** The Contractor shall furnish one (1) padlock for each single gate and for each leaf of the double gates. The padlocks shall be American No. 5571 as manufactured by American Lock Co. of Crete, Illinois, or approved equal. All padlocks for the same park facility shall be keyed alike, with two (2) inch width by three-quarter (3/4) inch thick brass body, maximum security, five (5) pin tumblers with hardened alloy steel chrome plated shackle no less than three-eighths (3/8) inch diameter and two (2) inch clearance (elongated shackle). The Contractor shall furnish two (2) keys for each padlock.

**REINFORCED CONCRETE SLAB:** At gates shall be as shown on the standard details and as specified under "Reinforced Concrete Pavement".

**Concrete:** Concrete shall be 3,200 psi Average Concrete as specified in Section B of NYCDPR and as directed by the Engineer.

**ERECTION:** The posts shall be set in holes which shall have been formed in the concrete curb as shown on the plans or directed by the Engineer. Voids for posts shall be formed in the concrete by removable waxed sonotubes or galvanized sheet metal sleeves to remain. Core drilling is not permitted. After the posts have been set in place and properly supported to hold them in line and grade, the resulting space shall be neatly filled with a grout consisting of one (1) part cement and two (2) parts sand or approved equal. All gates and all end, corner and gateposts, regardless of height of fence shall have a 1/2" diameter truss rod and turnbuckle. Rod shall be tied to the mesh every 12 inches on center with tie-wires. Bolts on the turnbuckle shall be tack welded to prevent loosening. The only exception to the above is that truss rods are not required for end, corner and gateposts for fences 4'-0" ht. and under.

Chain link fabric shall be attached to line and corner posts and top, intermediate and bottom rails. Maintain a min. 1" (inch) clearance between finished grade and fence fabric. Posts shall be set plumb and true to line and grade. Any post not set true to line and grade shall be removed and replaced at the Contractor's expense. Bending posts to make them plumb will not be permitted.

The Contractor shall maintain the chain link fences and gates during the life of the contract and shall repair and replace all members that are disturbed, damaged, or destroyed from any cause at no cost to the City.

**Bolt and Hardware Installation:** Nuts and bolts shall be galvanized but not powder coated. Cans of TGIC-Polyester or PVC touch-up powder coating shall be used to paint the nuts and bolts per manufacturer's recommendations. The ends of all bolts shall be peened after tightening.

Bolts which are installed six feet (6') or less above grade shall not protrude more than 1/4" beyond the nut after tightening. All rough edges resulting from the cutting of bolts to achieve this requirement shall be filed smooth to the satisfaction of the Engineer. All post caps, corner and end fittings, and gate hinges on all fence elevations are to be secured in place with #14 SS drive screws to the satisfaction of the Engineer.

**SUBMITTALS:** All submittals shall be in accordance with the requirements of the General Conditions, Section C, Special Provision, Article 11.

**Certification:** The Contractor shall submit, at his own expense, a certification from the supplier for the following:

1. All castings are made from malleable iron.
2. All hot-dipped galvanized items have met the ASTM serial designations as indicated in this specification.
3. All powder coating meets the ASTM serial designations as indicated in these specifications.

**Shop Drawings:** Before the work in the shop is started, the Contractor shall submit shop drawings for approval. Include complete details of fence and gate construction, fence height, post spacing, dimensions and unit weights of framework and concrete footing detail. A shop drawing shall be submitted for the Gate Locking System showing all three elements, a steel drop bolt, a rotating locking mechanism and gate stops.

**Samples:** Prior to erection of the fence the following shall be submitted:



Fence framework: One piece of each pipe size, twelve (12") inches long.

Fence Fabric: One piece twelve (12") inches square.

Shipping Lists: The shipping list for the materials furnished shall be endorsed with the manufacturer's voucher certifying that the materials used comply with these specifications.

**MEASUREMENT AND PAYMENT:** The quantity of **CHAIN LINK FENCE** to be paid for shall be the number of **LINEAR FEET** of each height, furnished and erected complete in accordance with the plans, specifications and directions of the Engineer.

The price bid shall be a unit price per **LINEAR FOOT** of **CHAIN LINK FENCE** of each height and shall include the cost of all labor, material, equipment, insurance and all incidental expenses necessary to complete the work, including powder coating and powder coating touch-up, required to furnish and erect chain link fence with PVC powder coated steel fabric, all in accordance with the plans and specifications, to the satisfaction of the Engineer.

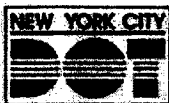
The quantity of **GATES** for chain link fence with PVC powder coated fabric shall be the number of TGIC-Polyester powder coated gates for chain link fence with PVC powder coated steel fabric (including both leaves of two-leaf gates, gate posts, locking system, gate stop and chain link fence over the gates) furnished and erected complete in accordance with the plans, specifications, and directions of the Engineer.

The price bid for PVC powder coated gates shall be a unit price for **EACH GATE** for the height of fence specified and shall include the cost of all labor, material, equipment, insurance and all incidental expenses necessary to complete the work, including gate stop, padlocks, powder coating and powder coating touch-up required to furnish and erect gates with PVC powder coated steel fabric, and incidentals, all in accordance with the plans and specifications, to the satisfaction of the Engineer.

The cost of excavation and concrete will be paid for under their respective contract Items. No deductions will be made for openings in fence except where gates occur. The cost for installing portals, as shown on the plans, shall be deemed included in the unit prices bid for these items.

**END OF SECTION**

**This Section consists of eighteen (18) pages plus seven (7) pages of attachments.**



# Department of Transportation

POLLY TROTTERBERG, Commissioner

## OCMC TRAFFIC STIPULATIONS - AMENDMENT #2

JANUARY 3, 2018

OCMC FILE NO: QEC-16-153  
CONTRACT NO: SE-823  
PROJECT: CONSTRUCTION OF STORM AND SANITARY SEWERS AND APPURTENANCES IN QUEENS  
COMMUNITY BOARD 13

LOCATION(S): VARIOUS LOCATIONS IN SOUTH JAMAICA (QUEENS)

STIPULATIONS ORIGINALLY DATED **APRIL 26, 2016** 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 LOCATION(S) BELOW FOR THE PURPOSE OF CARRYING OUT THE ABOVE NOTED PROJECT, IS HEREBY AMENDED TO **ALLOW WORK HOURS AT THE LOCATIONS BELOW** AS FOLLOWS:

### I. MAINTENANCE AND PROTECTION OF TRAFFIC - NEW STORM AND SANITARY SEWERS AND APPURTENANCES

#### 1. 230 STREET BETWEEN 148 AVENUE AND 147 AVENUE

1. Work hours shall be as follows: 7am to 6pm Monday through Friday.
2. During work hours, the permittee shall maintain one 12 foot lane for local and emergency access.
3. After sewer work hours:
  - a. The Permittee shall maintain one (1) 12-foot lane for local and emergency traffic. In areas where the roadway is not wide enough to allow for local and emergency traffic, the Permittee's work shall not exceed one hundred (100) linear feet, so that the NYC Fire Department/EMS and the NYC Police Department can have access to the local residents on the affected street segment. The work area shall include the excavated trench, equipment and stored materials necessary for the work.
  - b. It will be the Permittee's responsibility to inform the NYC Fire Department/EMS, NYC Police Department and local Community Board daily, in writing, including the location of the work area and the layout of the emergency access from either side of the work area. This notification shall be specific by the house number where possible. Representatives of the local NY Fire Battalion, NYC Police Department and the local Community Board shall sign such notice daily.
4. The permittee shall maintain a minimum of 5 feet wide sidewalk or 5 feet wide protected pedestrian walkway in the roadway at all times.

#### 2. 147 AVENUE AND 230 STREET

1. Work hours shall be as follows: 9am to 4pm Monday through Friday.
2. During work hours the permittee shall maintain one 11 foot lane for two-way traffic with flaggers at both ends of the work zone on 147 Avenue and one 12 foot lane for local and emergency access on 130 Street south of 147 Avenue and two lanes for traffic with one lane in each direction north of 147 Avenue.
3. Full width of roadway shall be opened to traffic when site is unattended.

#### 3. 148 AVENUE AND 230 STREET

1. Work hours shall be as follows: 9am to 2pm Monday through Friday and 8am to 4pm Saturday when school is in session and 9am to 4pm Monday through Friday when school is in recess.
2. During work hours the permittee shall maintain one 11 foot lane for two-way traffic with flaggers at both ends of the work zone 148 Avenue and one 12 foot lane for local and emergency traffic on 230 Street north of 148 Avenue and two lanes for traffic with one lane in each direction south of 148 Avenue.
3. Full width of roadway shall be opened to traffic when site is unattended.

### II. GENERAL NOTES

- A. **THIS IS NOT A PERMIT.** THIS STIPULATION SHEET MUST BE SUBMITTED WITH ALL REQUESTS FOR PERMITS PERTAINING TO THE ABOVE CONTRACT AND PRESENT AT THE WORK SITE ALONG WITH ALL ACTIVE CONSTRUCTION PERMITS WHEN THE APPROVED WORK IS BEING PERFORMED.

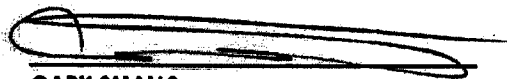
NYC Department of Transportation  
Bureau of Permit Management and Construction Control  
55 Water Street - 7<sup>th</sup> Floor, New York, NY 10041  
T: 212.839.9637 F: 212.839.8970  
[www.nyc.gov/dot](http://www.nyc.gov/dot)

OCMC FILE NO: QEC-14-153 AMENDMENT #2  
CONTRACT NO: SE-823  
PROJECT: CONSTRUCTION OF STORM AND SANITARY SEWERS AND APPURTENANCIES IN QUEENS COMMUNITY BOARD 13

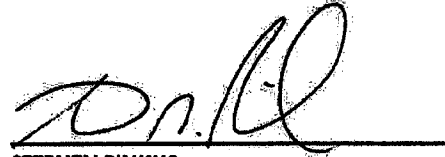
1-03-2018

Page 2 of 2

- B. ALL OTHER STIPULATIONS UNDER ORIGINAL NYCDOT STIPULATIONS SHEET QEC-14-153 DATED APRIL 24, 2014, WHICH HAVE NOT BEEN CHANGED BY THIS AMENDMENT REMAIN IN EFFECT.
- C. THE PERMITTEE IS ADVISED THAT OTHER CONTRACTORS MAY BE WORKING IN THE GENERAL AREA DURING THE TERM OF THIS STIPULATION. IN WHICH EVENT, THE PERMITTEE MAY REQUIRE MODIFICATIONS BY THE OCMC-STREETS.
- D. 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.
- E. 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.
- F. THE PERMITTEE MUST COMPLY WITH ALL CONSTRUCTION EMBARGOS ISSUED BY THE NYCDOT INCLUDING THE HOLIDAY EMBARGO.



**GARY SMALLS**  
DIRECTOR  
OCMC-STREETS



**STEPHEN PINKUS**  
PROJECT MANAGER  
OCMC-STREETS

<p align="center"><b><u>CONTRACT ARTICLE 21.</u></b> <b><u>RETAINAGE</u></b></p> <p>The <b>Commissioner</b> shall deduct and retain until the substantial completion of the <b>Work</b> the percent value of the <b>Work</b> indicated to the right.</p>	<p><u>5 %</u> of the value of the <b>Work</b></p>
<p align="center"><b><u>CONTRACT ARTICLE 22.</u></b> <b><u>(Per Directions Below)</u></b></p>	<p>See pages SA-5 through SA-12</p>
<p align="center"><b><u>CONTRACT ARTICLE 24.</u></b> <b><u>DEPOSIT GUARANTEE</u></b></p> <p>As security for the faithful performance of its obligations, the <b>Contractor</b>, upon filing its requisition for payment on <b>Substantial Completion</b>, shall deposit with the <b>Commissioner</b> a sum equal to the percentage of the <b>Contract</b> price indicated to the right.</p>	<p>1% of <b>Contract</b> price</p>
<p align="center"><b><u>CONTRACT ARTICLE 24.</u></b> <b><u>PERIOD OF GUARANTEE</u></b></p> <p>Periods of maintenance and guarantee other than the period set forth in Article 24.1 are indicated to the right.</p>	<p>Eighteen (18) Months, excluding Trees</p> <p>Twenty-four (24) Months for Tree Planting</p> <p>Thirty Six (36) Months for BMP work</p>
<p align="center"><b><u>CONTRACT ARTICLE 74.</u></b> <b><u>STATEMENT OF WORK</u></b></p> <p>The <b>Contractor</b> shall furnish all labor and materials and perform all <b>Work</b> in strict accordance with the <b>Contract Drawings</b>, <b>Specifications</b>, and all <b>Addenda</b> thereto, as shown in the column to the right.</p>	<p><b>Addenda</b>, numbered:</p> <hr/>
<p align="center"><b><u>CONTRACT ARTICLE 75.</u></b> <b><u>COMPENSATION TO BE PAID TO CONTRACTOR</u></b></p> <p>The <b>City</b> shall pay and the <b>Contractor</b> shall accept in full consideration for the performance of the <b>Contract</b>, subject to additions and deductions as provided herein, the total sum shown in the column to the right, being the amount at which the <b>Contract</b> was awarded to the <b>Contractor</b> at a public letting thereof, based upon the <b>Contractor's</b> bid for the <b>Contract</b>.</p>	<p>Amount for which the <b>Contract</b> was Awarded:</p> <hr/> <p align="right">Dollars</p> <p>(\$ <hr/> )</p>
<p align="center"><b><u>CONTRACT ARTICLE 79.</u></b> <b><u>PARTICIPATION BY MINORITY-OWNED AND WOMEN-OWNED BUSINESS ENTERPRISES IN CITY PROCUREMENT</u></b></p>	<p>See M/WBE Utilization Plan in the Bid Booklet</p>

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

## ADDENDA CONTROL SHEET

BID OPENING DATE: FEBRUARY 1, 2018

PROJECT NO.: SE-823

DESCRIPTION: CONSTRUCTION OF STORM SANITARY AND COMBINED  
SEWERS IN 229TH STREET, ETC.

Addendum		Addendum Contains:				
No.	Date	Revised Bid Date/Time	Revised Bid Schedule	Questions & Responses	Additional Ammendments	Drawings (number)
1	01/03/2018	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> (0)
2	01/10/2018	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> (1)
3	01/19/2018	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" 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)
		<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: SE823

CONSTRUCTION OF SANITARY AND STORM SEWERS AND APPURTENANCES IN 229TH STREET BETWEEN  
145TH AVENUE AND 147TH AVENUE, ETC.

INCLUDING WATER MAIN WORK

Together With All Work Incidental Thereto  
BOROUGH OF QUEENS  
CITY OF NEW YORK  
ADDENDUM NO. 3

DATED: JANUARY 19, 2018

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 to B-42, ADDENDUM NO. 1 BID SCHEDULE, B-3 (REVISION #1) through B-44 (REVISION #1), and ADDENDUM NO. 2 BID SCHEDULE, B-3 (REVISION #2) through B-45 (REVISION #2);  
Delete the BID SCHEDULE pages in their entirety;  
Substitute with attached revised BID SCHEDULE, B-3 (REVISION #3) through B-45 (REVISION #3).
- (2) For additional information, see the attached ONE (1) pages of "Questions Submitted by Bidders and DDC's Responses".

END OF ADDENDUM NO. 3

By signing in the space provided below, the bidder acknowledges receipt of this Addendum consisting of one (1) page, attachments consisting of forty-three (43) pages, and one (1) page of questions and answers.

THIS ADDENDUM MUST BE SIGNED BY ALL BIDDERS AND ATTACHED TO THEIR BID



GURDIP SAINI, P.E.  
Associate Commissioner/Design I

\_\_\_\_\_  
Name of Bidder

By: \_\_\_\_\_

**Questions Submitted by Bidders and DDC's Responses**

**QUESTION #1:**

There are two bid items that are not on the drawings  
50.21M3C024D 24"rcp pipe on concrete cradle 51.21C000000C Clean out manhole.  
Please clarify

**DDC'S RESPONSE:**

- a) Item 50.21M3C024D 24" RCP pipe on concrete cradle has been deleted. Item 50.21M3E024D should be changed from 550LF to 610LF.  
Also, refer to Article 1 of this Addendum for revised BID SCHEDULE.
- b) There are four Clean out manholes (Item 51.21C000000C). For location refer to sheet number 5 of 47, 10 of 47 and 16 of 47.



Department of  
Design and  
Construction

NEW YORK CITY DEPARTMENT OF DESIGN AND CONSTRUCTION CONTRACT PIN:8502017SE0009C  
DIVISION OF INFRASTRUCTURE - BUREAU OF PROJECT ID:SE823

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## 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 Initiated 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 - 45 [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 ON PAGE C-4 OF THIS BID BOOKLET.





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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) DOLLARS CTS	COL 6 EXTENDED AMOUNT (IN FIGURES) DOLLARS CTS
001	4.01 RAG ASPHALT MACADAM PAVEMENT, 6" THICK	20,000.00	S.Y.		
002	4.02 AB-R ASPHALTIC CONCRETE WEARING COURSE, 1-1/2" THICK	500.00	S.Y.		
003	4.02 AF-R ASPHALTIC CONCRETE WEARING COURSE, 2" THICK	21,000.00	S.Y.		
004	4.02 AG ASPHALTIC CONCRETE WEARING COURSE, 3" THICK	4,400.00	S.Y.		
005	4.02 CA BINDER MIXTURE	7,547.00	TONS		
006	4.04 AC CONCRETE BASE FOR PAVEMENT, 6" THICK, CLASS B-32	600.00	C.Y.		

## 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
007	4.04 DD CONCRETE BASE FOR PAVEMENT, 9" THICK, CLASS A-40	100.00	C.Y.		
008	4.04 H CONCRETE BASE FOR PAVEMENT, VARIABLE THICKNESS FOR TRENCH RESTORATION, (HIGH-EARLY STRENGTH)	170.00	C.Y.		
009	4.05 AX HIGH-EARLY STRENGTH REINFORCED CONCRETE PAVEMENT (BUS STOPS)	250.00	C.Y.		
010	4.08 AA CONCRETE CURB (18" DEEP)	3,250.00	L.F.		
011	4.08 BA CONCRETE CURB (21" DEEP)	9,700.00	L.F.		
012	4.09 AD STRAIGHT STEEL FACED CONCRETE CURB (18" DEEP)	1,300.00	L.F.		

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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) DOLLARS CTS	COL 6 EXTENDED AMOUNT (IN FIGURES) DOLLARS CTS
013	4.09 AE STRAIGHT STEEL FACED CONCRETE CURB (21" DEEP)	650.00	L.F.		
014	4.09 AF STRAIGHT STEEL FACED CONCRETE CURB (27" DEEP)	500.00	L.F.		
015	4.09 CD CORNER STEEL FACED CONCRETE CURB (18" DEEP)	800.00	L.F.		
016	4.09 CE CORNER STEEL FACED CONCRETE CURB (21" DEEP)	60.00	L.F.		
017	4.11 CA FILL, PLACE MEASUREMENT	145.00	C.Y.		
018	4.13 AAS 4" CONCRETE SIDEWALK (UNPIGMENTED)	47,400.00	S.F.		

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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) DOLLARS CTS	COL 6 EXTENDED AMOUNT (IN FIGURES) DOLLARS CTS
019	4.13 BAS 7" CONCRETE SIDEWALK (UNPIGMENTED)	17,895.00	S.F.		
020	4.13 DE EMBEDDED PREFORMED DETECTABLE WARNING UNITS	610.00	S.F.		
021	4.15 TOPSOIL	180.00	C.Y.		
022	4.16 AA TREES REMOVED (4" TO UNDER 12" CALIPER)	30.00	EACH		
023	4.16 AAT TREES TRANSPLANTED, UP TO 4" CALIPER, ALL TYPES	25.00	EACH		
024	4.16 AB TREES REMOVED (12" TO UNDER 18" CALIPER)	20.00	EACH		

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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	CTS	DOLLARS	CTS
025	4.16 AC TREES REMOVED (18" TO UNDER 24" CALIPER)	10.00	EACH				
026	4.16 ADE TREES REMOVED (24" TO UNDER 48" CALIPER)	10.00	EACH				
027	4.16 CA405 TREES PLANTED, 3" TO 3-1/2" CALIPER, ALL TYPES, IN 4' X 5' TREE PITS	427.00	EACH				
028	4.16 EAT TREES TRANSPLANTED, 4" TO 5" CALIPER, ALL TYPES	10.00	EACH				
029	4.16 STUMP STUMP REMOVAL	1.00	UNITS				
030	4.18 A MAINTENANCE TREE PRUNING (UNDER 12" CAL.)	91.00	EACH				



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NEW YORK CITY DEPARTMENT OF DESIGN AND CONSTRUCTION PROJECT ID: SE823  
DIVISION OF INFRASTRUCTURE - BUREAU OF DESIGN CONTRACT PIN: 8502017SE0009C

## 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
031	4.18 B MAINTENANCE TREE PRUNING (12" TO UNDER 18" CAL.)	65.00	EACH				
032	4.18 C MAINTENANCE TREE PRUNING (18" TO UNDER 24" CAL.)	45.00	EACH				
033	4.18 D MAINTENANCE TREE PRUNING (24" CAL. AND OVER)	25.00	EACH				
034	4.19 SODDING	1,200.00	S.Y.				
035	4.20 SEEDING	3,690.00	S.Y.				
036	4.21 TREE CONSULTANT	856.00	P/HR				



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

PROJECT ID: SE823

CONTRACT PIN: 8502017SE0009C

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## 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
037	50.11CS166060 16'-6"W X 6'-0"H SINGLE BARREL FLAT TOP REINFORCED CONCRETE COMBINED SEWER	400.00	L.F.		
038	50.11CS166080 16'-6"W X 8'-0"H SINGLE BARREL FLAT TOP REINFORCED CONCRETE COMBINED SEWER	3,300.00	L.F.		
039	50.11MS080050 8'-0"W X 5'-0"H SINGLE BARREL FLAT TOP REINFORCED CONCRETE STORM SEWER	40.00	L.F.		
040	50.11MS080060 8'-0"W X 6'-0"H SINGLE BARREL FLAT TOP REINFORCED CONCRETE STORM SEWER	450.00	L.F.		
041	50.11MS090050 9'-0"W X 5'-0"H SINGLE BARREL FLAT TOP REINFORCED CONCRETE STORM SEWER	2,000.00	L.F.		
042	50.21M3C023W 23"W X 14"H R.C.P. CLASS HE-III STORM SEWER, ON CONCRETE CRADLE	40.00	L.F.		



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

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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	CTS	DOLLARS	CTS
043	50.21M3C030D 30" R.C.P. CLASS III STORM SEWER, ON CONCRETE CRADLE	780.00	L.F.				
044	50.21M3C036D 36" R.C.P. CLASS III STORM SEWER, ON CONCRETE CRADLE	290.00	L.F.				
045	50.21M3C042D 42" R.C.P. CLASS III STORM SEWER, ON CONCRETE CRADLE	280.00	L.F.				
046	50.21M3C054D 54" R.C.P. CLASS III STORM SEWER, ON CONCRETE CRADLE	1,500.00	L.F.				
047	50.21M3E024D 24" R.C.P. CLASS III STORM SEWER, ENCASED IN CONCRETE	610.00	L.F.				
048	50.21M3E030D 30" R.C.P. CLASS III STORM SEWER, ENCASED IN CONCRETE	210.00	L.F.				





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

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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	CTS	DOLLARS	CTS
049	50.21M3E036D 36" R.C.P. CLASS III STORM SEWER, ENCASED IN CONCRETE	300.00	L.F.				
050	50.21M3E042D 42" R.C.P. CLASS III STORM SEWER, ENCASED IN CONCRETE	200.00	L.F.				
051	50.21M3E054D 54" R.C.P. CLASS III STORM SEWER, ENCASED IN CONCRETE	530.00	L.F.				
052	50.21M3E060D 60" R.C.P. CLASS III STORM SEWER, ENCASED IN CONCRETE	300.00	L.F.				
053	50.21S4C024D 24" R.C.P. CLASS IV SANITARY SEWER, ON CONCRETE CRADLE	1,600.00	L.F.				
054	50.31MC15 15" E.S.V.P. STORM SEWER, ON CONCRETE CRADLE	310.00	L.F.				

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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) DOLLARS CTS	COL 6 EXTENDED AMOUNT (IN FIGURES) DOLLARS CTS
055	50.31MC18 18" E.S.V.P. STORM SEWER, ON CONCRETE CRADLE	100.00	L.F.		
056	50.31ME18 18" E.S.V.P. STORM SEWER, ENCASED IN CONCRETE	100.00	L.F.		
057	50.31SC10 10" E.S.V.P. SANITARY SEWER, ON CONCRETE CRADLE	3,800.00	L.F.		
058	50.31SC12 12" E.S.V.P. SANITARY SEWER, ON CONCRETE CRADLE	675.00	L.F.		
059	50.31SC15 15" E.S.V.P. SANITARY SEWER, ON CONCRETE CRADLE	600.00	L.F.		
060	50.31SC18 18" E.S.V.P. SANITARY SEWER, ON CONCRETE CRADLE	550.00	L.F.		



Department of  
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NEW YORK CITY DEPARTMENT OF DESIGN AND CONSTRUCTION  
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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	CTS	DOLLARS	CTS
061	50.41M6E24 24" D.I.P. CLASS 56 STORM SEWER, ENCASED IN CONCRETE	100.00	L.F.				
062	50.41S6E10 10" D.I.P. CLASS 56 SANITARY SEWER, ENCASED IN CONCRETE	130.00	L.F.				
063	50.41S6E12 12" D.I.P. CLASS 56 SANITARY SEWER, ENCASED IN CONCRETE	150.00	L.F.				
064	50.41S6E18 18" D.I.P. CLASS 56 SANITARY SEWER, ENCASED IN CONCRETE	50.00	L.F.				
065	50.41S6E48 48" D.I.P. CLASS 56 SANITARY SEWER, ENCASED IN CONCRETE	50.00	L.F.				
066	51.11C001 CHAMBER NO. 1	1.00	EACH				



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NEW YORK CITY DEPARTMENT OF DESIGN AND CONSTRUCTION PROJECT ID: SE823  
DIVISION OF INFRASTRUCTURE - BUREAU OF DESIGN CONTRACT PIN: 8502017SE0009C

## 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
067	51.11C002 CHAMBER NO. 2	1.00	EACH				
068	51.11C003 CHAMBER NO. 3	1.00	EACH				
069	51.11C004 CHAMBER NO. 4	1.00	EACH				
070	51.11C005 CHAMBER NO. 5	1.00	EACH				
071	51.11C006 CHAMBER NO. 6	1.00	EACH				
072	51.11C007 CHAMBER NO. 7	1.00	EACH				



Department of  
Design and  
Construction

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

PROJECT ID: SE823  
CONTRACT PIN: 8502017SE0009C

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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	CTS	DOLLARS	CTS
073	51.11C008 CHAMBER NO. 8	1.00	EACH				
074	51.11C009 CHAMBER NO. 9	1.00	EACH				
075	51.11C010 CHAMBER NO. 10	1.00	EACH				
076	51.11C011 CHAMBER NO. 11	1.00	EACH				
077	51.11C012 CHAMBER NO. 12	1.00	EACH				
078	51.11C013 CHAMBER NO. 13	1.00	EACH				

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## 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
079	51.11C014 CHAMBER NO. 14	1.00	EACH		
080	51.11C015 CHAMBER NO. 15	1.00	EACH		
081	51.11P004 STANDARD 4'-0" DIAMETER PRECAST MANHOLE	7.00	EACH		
082	51.11P005 STANDARD 5'-0" DIAMETER PRECAST MANHOLE	2.00	EACH		
083	51.11P006 STANDARD 6'-0" DIAMETER PRECAST MANHOLE	2.00	EACH		
084	51.11P007 STANDARD 7'-0" DIAMETER PRECAST MANHOLE	3.00	EACH		

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## 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
085	51.11P008 STANDARD 8'-0" DIAMETER PRECAST MANHOLE	2.00	EACH		
086	51.21A000000C ACCESS MANHOLE	25.00	EACH		
087	51.21C000000C CLEANOUT MANHOLE	4.00	EACH		
088	51.21L000000V SPECIAL MANHOLE	1.00	EACH		
089	51.21S0A1000E STANDARD MANHOLE TYPE A-1 ON EXISTING SEWER	2.00	EACH		
090	51.21S0A1000V STANDARD MANHOLE TYPE A-1	8.00	EACH		

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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) DOLLARS CTS	COL 6 EXTENDED AMOUNT (IN FIGURES) DOLLARS CTS
091	51.21S0A2000V STANDARD MANHOLE TYPE A-2	1.00	EACH		
092	51.21S0A3000V STANDARD SHALLOW MANHOLE TYPE A-3	13.00	EACH		
093	51.21S0B1000V STANDARD MANHOLE TYPE B-1	34.00	EACH		
094	51.21S0B2000V STANDARD MANHOLE TYPE B-2	18.00	EACH		
095	51.21S0C1036R STANDARD MANHOLE TYPE C-1 ON 36" R.C.P. SEWER	2.00	EACH		
096	51.21S0C1042R STANDARD MANHOLE TYPE C-1 ON 42" R.C.P. SEWER	1.00	EACH		





Department of  
Design and  
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NEW YORK CITY DEPARTMENT OF DESIGN AND CONSTRUCTION  
DIVISION OF INFRASTRUCTURE - BUREAU OF DESIGN

PROJECT ID: SE823  
CONTRACT PIN: 8502017SE00009C

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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	CTS	DOLLARS	CTS
097	51.21S0C1054R STANDARD MANHOLE TYPE C-1 ON 54" R.C.P. SEWER	10.00	EACH				
098	51.21S0C2048D STANDARD MANHOLE TYPE C-2 ON 48" D.I.P. SEWER	1.00	EACH				
099	51.41S001 STANDARD CATCH BASIN, TYPE 1	96.00	EACH				
100	52.11D12 12" DUCTILE IRON PIPE BASIN CONNECTION	2,100.00	L.F.				
101	52.21V08 8" E.S.V.P. RISER FOR HOUSE CONNECTION	500.00	V.F.				
102	52.31V06S10 6" E.S.V.P. SPUR FOR HOUSE CONNECTION ON 10" E.S.V.P. SANITARY SEWER	60.00	EACH				

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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	CTS	DOLLARS	CTS
103	52.31V06S12 6" E.S.V.P. SPUR FOR HOUSE CONNECTION ON 12" E.S.V.P. SANITARY SEWER	20.00	EACH				
104	52.41D06R 6" D.I.P. HOUSE CONNECTION DRAIN ON CONCRETE CRADLE (RECONNECTION)	450.00	L.F.				
105	52.41V06R 6" E.S.V.P. HOUSE CONNECTION DRAIN ON CONCRETE CRADLE (RECONNECTION)	1,100.00	L.F.				
106	53.11DR TELEVISION INSPECTION AND DIGITAL AUDIO-VISUAL RECORDING OF SEWERS	12,800.00	L.F.				
107	54.11SC SEWER CLEANING	1,500.00	L.F.				
108	54.12CS CLEANING OF DRAINAGE STRUCTURES	50.00	C.Y.				

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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	CTS	DOLLARS	CTS
109	6.01 AC CLEARING AND GRUBBING	2,980.00	S.Y.				
110	6.02 AAN UNCLASSIFIED EXCAVATION	10,160.00	C.Y.				
111	6.03 AA STRIPPING PAVEMENT SURFACE (ASPHALTIC CONCRETE)	180.00	S.Y.				
112	6.25 RS TEMPORARY SIGNS	12,430.00	S.F.				
113	6.26 TIMBER CURB	56,420.00	L.F.				
114	6.28 AA LIGHTED TIMBER BARRICADES	5,015.00	L.F.				

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## 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
115	6.33 B STEEL FACED WALL NOSING, 3' TO UNDER 6' RADIUS	6.00	EACH		
116	6.40 D ENGINEER'S FIELD OFFICE (TYPE D)	42.00	MONTH		
117	6.44 THERMOPLASTIC REFLECTORIZED PAVEMENT MARKINGS (4" WIDE)	21,420.00	L.F.		
118	6.49 TEMPORARY PAVEMENT MARKINGS (4" WIDE)	41,420.00	L.F.		
119	6.52 CG CROSSING GUARD	6,410.00	P/HR		
120	6.53 REMOVE EXISTING LANE MARKINGS (4" WIDE)	21,710.00	L.F.		

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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	CTS	DOLLARS	CTS
121	6.55 SAWCUTTING EXISTING PAVEMENT	1,015.00	L.F.				
122	6.67 SUBBASE COURSE, SELECT GRANULAR MATERIAL	4,500.00	C.Y.				
123	6.82 A REMOVING EXISTING TRAFFIC AND STREET NAME SIGNS	250.00	S.F.				
124	6.82 B REMOVING EXISTING TRAFFIC AND STREET NAME SIGN POSTS	350.00	L.F.				
125	6.83 AA FURNISHING NEW NON-REFLECTORIZED TRAFFIC SIGNS	100.00	S.F.				
126	6.83 AB FURNISHING NEW TRAFFIC SIGN POSTS	250.00	L.F.				



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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	CENTS	DOLLARS	CENTS
127	6.83 AR FURNISHING NEW REFLECTORIZED TRAFFIC SIGNS	160.00	S.F.				
128	6.83 BA INSTALLING TRAFFIC SIGNS	260.00	S.F.				
129	6.83 BB INSTALLING TRAFFIC SIGN POSTS	250.00	L.F.				
130	6.84 B LOLLIPOP TYPE BUS STOP SIGNS PRICE BID SHALL BE FOR THE FIXED SUM OF \$ 15,500.00	1.00	F.S.	15,500	00	\$15,500	00
131	6.86 AA FURNISHING NEW STREET NAME SIGNS	100.00	S.F.				

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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	CTS	DOLLARS	CTS
132	6.86 AB FURNISHING NEW STREET NAME SIGN POSTS	150.00	L.F.				
133	6.86 BA INSTALLING STREET NAME SIGNS	100.00	S.F.				
134	6.86 BB INSTALLING STREET NAME SIGN POSTS	150.00	L.F.				
135	6.87 PLASTIC BARRELS	6,630.00	EACH				
136	6.91 REFLECTIVE CRACKING MEMBRANE (18" WIDE)	2,415.00	L.F.				
137	60.11R520 FURNISHING AND DELIVERING 20-INCH DUCTILE IRON RESTRAINED JOINT PIPE (CLASS 55)	2,000.00	L.F.				

## 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
138	60.11R606 FURNISHING AND DELIVERING 6-INCH DUCTILE IRON RESTRAINED JOINT PIPE (CLASS 56)	500.00	L.F.				
139	60.11R608 FURNISHING AND DELIVERING 8-INCH DUCTILE IRON RESTRAINED JOINT PIPE (CLASS 56)	6,400.00	L.F.				
140	60.11R612 FURNISHING AND DELIVERING 12-INCH DUCTILE IRON RESTRAINED JOINT PIPE (CLASS 56)	3,400.00	L.F.				
141	60.12D06 LAYING 6-INCH DUCTILE IRON PIPE AND FITTINGS	550.00	L.F.				
142	60.12D08 LAYING 8-INCH DUCTILE IRON PIPE AND FITTINGS	6,600.00	L.F.				
143	60.12D12 LAYING 12-INCH DUCTILE IRON PIPE AND FITTINGS	3,600.00	L.F.				



## BID SCHEDULE FORM

COL 1 SEQ. NO.	COL 2 ITEM NUMBER and DESCRIPTION	COL 3 ENGINEERS ESTIMATE OF QUANTITY	COL 4 UNIT	COL 5 UNIT PRICE (IN FIGURES)		COL 6 EXTENDED AMOUNT (IN FIGURES)	
				DOLLARS	CTS	DOLLARS	CTS
144	60.12D20 LAYING 20-INCH DUCTILE IRON PIPE AND FITTINGS	2,200.00	L.F.				
145	60.13M0A24 FURNISHING AND DELIVERING DUCTILE IRON MECHANICAL JOINT 24-INCH DIAMETER AND SMALLER FITTINGS, INCLUDING WEDGE TYPE RETAINER GLANDS	16.00	TONS				
146	60.18BJC20EL FURNISHING, DELIVERING AND INSTALLING BELL JOINT CLAMPS, COMPLETE FOR 20-INCH PIPE AND LESS	11.00	EACH				
147	61.11DMM06 FURNISHING AND DELIVERING 6-INCH MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	36.00	EACH				
148	61.11DMM08 FURNISHING AND DELIVERING 8-INCH MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	30.00	EACH				

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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	CTS	DOLLARS	CTS
149	61.11DMM12 FURNISHING AND DELIVERING 12-INCH MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	15.00	EACH				
150	61.11DMM20 FURNISHING AND DELIVERING 20-INCH MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	10.00	EACH				
151	61.11TWC03 FURNISHING AND DELIVERING 3-INCH WET CONNECTION TAPPING VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	2.00	EACH				
152	61.11TWC04 FURNISHING AND DELIVERING 4-INCH WET CONNECTION TAPPING VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	2.00	EACH				
153	61.12DMM06 SETTING 6-INCH MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	36.00	EACH				

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## 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
154	61.12DMM08 SETTING 8-INCH MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	30.00	EACH		
155	61.12DMM12 SETTING 12-INCH MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	15.00	EACH		
156	61.12DMM20 SETTING 20-INCH MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	10.00	EACH		
157	61.12TWC03 SETTING 3-INCH WET CONNECTION TAPPING VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	2.00	EACH		
158	61.12TWC04 SETTING 4-INCH WET CONNECTION TAPPING VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	2.00	EACH		
159	62.11SD FURNISHING AND DELIVERING HYDRANTS	36.00	EACH		

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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	CTS	DOLLARS	CTS
160	62.12SG SETTING HYDRANTS COMPLETE WITH WEDGE TYPE RETAINER GLANDS	36.00	EACH				
161	62.13RH REMOVING HYDRANTS	25.00	EACH				
162	62.14FS FURNISHING, DELIVERING AND INSTALLING HYDRANT FENDERS	72.00	EACH				
163	63.11VC FURNISHING AND DELIVERING VARIOUS CASTINGS	45.00	TONS				
164	64.11EL WITHDRAWING AND REPLACING HOUSE SERVICES USING 1-1/2- INCH OR LARGER SCREW TAPS	100.00	EACH				
165	64.11ST WITHDRAWING AND REPLACING HOUSE SERVICES USING SMALLER THAN 1-1/2-INCH SCREW TAPS	220.00	EACH				



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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
166	64.12COEG CUTTING AND OFFSETTING HOUSE SERVICE WATER CONNECTIONS (EQUAL TO OR GREATER THAN 3-INCH DIAMETER)	300.00	L.F.				
167	64.12COLT CUTTING AND OFFSETTING HOUSE SERVICE WATER CONNECTIONS (LESS THAN 3-INCH DIAMETER)	2,500.00	L.F.				
168	64.12ESEG EXTENDING HOUSE SERVICE WATER CONNECTIONS (EQUAL TO OR GREATER THAN 3-INCH DIAMETER)	300.00	L.F.				
169	64.12ESLT EXTENDING HOUSE SERVICE WATER CONNECTIONS (LESS THAN 3- INCH DIAMETER)	2,500.00	L.F.				
170	64.13WC08 FURNISHING, DELIVERING AND INSTALLING WET CONNECTION SLEEVE ON 8-INCH WATER MAIN PIPE WITH VARIOUS OUTLETS	1.00	EACH				
171	64.13WC12 FURNISHING, DELIVERING AND INSTALLING WET CONNECTION SLEEVE ON 12-INCH WATER MAIN PIPE WITH VARIOUS OUTLETS	1.00	EACH				



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PROJECT ID: SE823  
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## 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
172	64.13WC20 FURNISHING, DELIVERING AND INSTALLING WET CONNECTION SLEEVE ON 20-INCH WATER MAIN PIPE WITH VARIOUS OUTLETS	1.00	EACH		
173	65.11BR FURNISHING, DELIVERING AND INSTALLING BANDS, RODS, WASHERS, ETC., COMPLETE, FOR RESTRAINING JOINTS	700.00	LBS.		
174	65.31FF FURNISHING, DELIVERING AND PLACING FILTER FABRIC Unit price bid shall not be less than: \$ 0.10	90,000.00	S.F.		
175	65.51PC FURNISHING AND PLACING CAST-IN-PLACE CONCRETE CLASS 40 AND PRECAST CONCRETE CLASS 50	50.00	C.Y.		
176	65.61SS FURNISHING, DELIVERING AND PLACING STRUCTURAL, REINFORCING AND MISCELLANEOUS STEEL	56,000.00	LBS.		
177	65.71SG FURNISHING, DELIVERING AND PLACING SCREENED GRAVEL OR SCREENED BROKEN STONE BEDDING	1,500.00	C.Y.		

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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) DOLLARS CTS	COL 6 EXTENDED AMOUNT (IN FIGURES) DOLLARS CTS
178	7.07 MB2 MARTELLO BOLLARD, VERSION 2.0	3.00	EACH		
179	7.13 B MAINTENANCE OF SITE Unit price bid shall not be less than: \$ 8,000.00	36.00	MONTH		
180	7.19 LOAD TRANSFER JOINT	915.00	L.F.		
181	7.36 PEDESTRIAN STEEL BARRICADES	40,820.00	L.F.		
182	7.88 AA RODENT INFESTATION SURVEY AND MONITORING Unit price bid shall not be less than: \$ 10,000.00	1.00	L.S.		
183	7.88 AB RODENT BAIT STATIONS Unit price bid shall not be less than: \$ 60.00	450.00	EACH		

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				DOLLARS	CTS	DOLLARS	CTS
184	7.88 AC BAITING OF RODENT BAIT STATIONS Unit price bid shall not be less than: \$ 12.50	450.00	EACH				
185	7.88 AD WATERBUG BAIT APPLICATIONS Unit price bid shall not be less than: \$ 70.00	540.00	BLOCK				
186	70.21DK DECKING	26,400.00	S.Y.				
187	70.31FN FENCING Unit price bid shall not be less than: \$ 2.00	55,500.00	L.F.				
188	70.51EO EXCAVATION OF BOULDERS IN OPEN CUT Unit price bid shall not be less than: \$ 50.00	20.00	C.Y.				
189	70.61RE ROCK EXCAVATION	20.00	C.Y.				



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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) DOLLARS CTS	COL 6 EXTENDED AMOUNT (IN FIGURES) DOLLARS CTS
190	70.71SB STONE BALLAST Unit price bid shall not be less than: \$ 15.00	2,400.00	C.Y.		
191	70.81CB CLEAN BACKFILL Unit price bid shall not be less than: \$ 12.50	27,000.00	C.Y.		
192	70.91SW12 FURNISHING AND PLACING SHEETING AND BRACING IN TRENCH FOR WATER MAIN PIPE 12-INCH IN DIAMETER AND LESS	30,000.00	S.F.		
193	70.91SW20 FURNISHING AND PLACING SHEETING AND BRACING IN TRENCH FOR WATER MAIN PIPE 20-INCH IN DIAMETER	16,000.00	S.F.		
194	72.11HF HYDRAULIC FILL FOR ABANDONED SEWERS AND WATER MAINS	900.00	C.Y.		
195	73.11AB ADDITIONAL BRICK MASONRY Unit price bid shall not be less than: \$ 37.50	150.00	C.Y.		

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## BID SCHEDULE FORM

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				DOLLARS	CTS	DOLLARS	CTS
196	73.21AC ADDITIONAL CONCRETE Unit price bid shall not be less than: \$ 62.50	200.00	C.Y.				
197	73.31AE0 ADDITIONAL EARTH EXCAVATION INCLUDING TEST PITS (ALL DEPTHS) Unit price bid shall not be less than: \$ 15.00	3,100.00	C.Y.				
198	73.41AG ADDITIONAL SELECT GRANULAR BACKFILL Unit price bid shall not be less than: \$ 15.00	4,000.00	C.Y.				
199	73.51AS ADDITIONAL STEEL REINFORCING BARS Unit price bid shall not be less than: \$ 1.25	10,000.00	LBS.				
200	73.61AT ADDITIONAL STONE BALLAST Unit price bid shall not be less than: \$ 17.50	350.00	C.Y.				
201	8.01 C1 HANDLING, TRANSPORTING AND DISPOSAL OF NON-HAZARDOUS CONTAMINATED SOIL	30,000.00	TONS				

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				DOLLARS	CTS	DOLLARS	CTS
202	8.01 C2 SAMPLING AND TESTING OF CONTAMINATED/POTENTIALLY HAZARDOUS SOIL FOR DISPOSAL PURPOSES	30.00	SETS				
203	8.01 H HANDLING, TRANSPORTING AND DISPOSAL OF HAZARDOUS SOIL	5,000.00	TONS				
204	8.01 S HEALTH AND SAFETY	1.00	L.S.				
205	8.01 W1 REMOVAL, TREATMENT, AND DISCHARGE/DISPOSAL OF CONTAMINATED WATER	20.00	DAY				
206	8.01 W2 SAMPLING AND TESTING OF CONTAMINATED WATER	10.00	SETS				



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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) DOLLARS		COL 6 EXTENDED AMOUNT (IN FIGURES) DOLLARS	
					CTS		CTS
207	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
208	9.30 STORM WATER POLLUTION PREVENTION	1.00	L.S.				
209	BMP-7.09 LICENSED SURVEYOR	2.00	DAY				
210	BMP-7.307-A GRADING	26,820.00	S.F.				
211	BMP-7.401-J HERBACEOUS PLANTS (PLUGS)	9,626.00	EACH				

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				DOLLARS	CTS	DOLLARS	CTS
212	BMP-7.403 TOPSOIL	2,710.00	C.Y.				
213	BMP-7.404-A RESTORATION SPECIALIST	460.00	HRS				
214	BMP-7.404-B EROSION AND SEDIMENT CONTROL LICENSED/CERTIFIED PROFESSIONAL	60.00	DAY				
215	BMP-7.407-A EROSION CONTROL MAT	36,510.00	S.F.				
216	BMP-7.504A SILT FENCE	960.00	L.F.				
217	BMP-7.509-A STABILIZED CONSTRUCTION ENTRANCE	1.00	EACH				

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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 CTS	COL 6 EXTENDED AMOUNT (IN FIGURES) DOLLARS CTS
218	PK-304 CHAIN LINK FENCE 6'-0" HT	380.00	L.F.		
219	PK-318 DOUBLE GATE FOR CHAIN LINK FENCE 6' HT.	1.00	EACH		
220	PM-01 PLANT MAJOR TREES (2.5" TO 3" CALIPER)	6.00	EACH		
221	PM-02 PLANT MAJOR TREES (3.5" TO 4" CALIPER)	5.00	EACH		
222	PM-03 PLANT FLOWERING AND ORNAMENTAL TREES	10.00	EACH		
223	UTL-6.01.1 GAS MAIN CROSSING SEWER UP TO 24" IN DIAMETER (\$6.01) Unit price bid shall not be less than: \$ 1,040.00	14.00	EACH		

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				DOLLARS	CTS	DOLLARS	CTS
224	UTL-6.01.3 GAS MAIN CROSSING SEWER 36" THRU 42" IN DIAMETER (\$6.01) Unit price bid shall not be less than: \$ 2,040.00	4.00	EACH				
225	UTL-6.01.4 GAS MAIN CROSSING SEWER 48" THRU 54" IN DIAMETER (\$6.01) Unit price bid shall not be less than: \$ 2,120.00	6.00	EACH				
226	UTL-6.01.5 GAS MAIN CROSSING SEWER 60" IN DIAMETER (\$6.01) Unit price bid shall not be less than: \$ 2,340.00	1.00	EACH				
227	UTL-6.01.7WW GAS MAIN CROSSING 16-6"W X 8'-0"H FLAT TOP REINFORCED CONCRETE STORM SEWER (\$6.01) Unit price bid shall not be less than: \$ 2,740.00	5.00	EACH				
228	UTL-6.01.7YY GAS MAIN CROSSING 9'-0"W X 5'-0"H FLAT TOP REINFORCED CONCRETE STORM SEWER (\$6.01) Unit price bid shall not be less than: \$ 2,740.00	4.00	EACH				
229	UTL-6.01.8 GAS SERVICES CROSSING TRENCHES AND/OR EXCAVATIONS (\$6.01) Unit price bid shall not be less than: \$ 465.00	117.00	EACH				

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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	CENTS	DOLLARS	CENTS
230	UTL-6.01.9 GAS MAIN CROSSING WATER MAIN UP TO 20" IN DIAMETER (\$6.01) Unit price bid shall not be less than: \$ 485.00	31.00	EACH				
231	UTL-6.02 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	4.00	EACH				
232	UTL-6.03 REMOVAL OF ABANDONED GAS FACILITIES. ALL SIZES. (\$6.03) Unit price bid shall not be less than: \$ 15.00	5,200.00	L.F.				
233	UTL-6.03.1 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	200.00	L.F.				
234	UTL-6.04 ADJUST HARDWARE TO GRADE USING SPACER RINGS/ADAPTORS. (STREET REPAVING.) (\$6.04) Unit price bid shall not be less than: \$ 35.00	20.00	EACH				
235	UTL-6.05 ADJUST HARDWARE TO GRADE BY RESETTING. (ROAD RECONSTRUCTION.) (\$6.05) Unit price bid shall not be less than: \$ 65.00	25.00	EACH				

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[REVISION # 3]



1/19/2018 11:35 AM

## 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
236	UTL-6.06 SPECIAL CARE EXCAVATION AND BACKFILLING (\$6.06) Unit price bid shall not be less than: \$ 180.00	5,000.00	C.Y.		
237	UTL-6.07 TEST PITS FOR GAS FACILITIES (\$6.07) Unit price bid shall not be less than: \$ 100.00	50.00	C.Y.		
238	UTL-GCS-2WS 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

SUB-TOTAL: \$

239	6.39 A MOBILIZATION BID PRICE OF MOBILIZATION SHALL NOT EXCEED 4% OF THE ABOVE SUB-TOTAL PRICE.	1.00	L.S.		
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1/19/2018 11:35 AM

## 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

TOTAL BID PRICE: \$ \_\_\_\_\_

PLEASE BE SURE A LEGIBLE BID IS ENTERED FOR EACH ITEM.  
THE BIDDER SHALL INSERT THE TOTAL BID PRICE IN  
THE BID FORM ON PAGE C-4 OF THIS BID BOOKLET.

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

## ADDENDA CONTROL SHEET

BID OPENING DATE: FEBRUARY 1, 2018

PROJECT NO.: SE-823

DESCRIPTION: CONSTRUCTION OF STORM SANITARY AND COMBINED  
SEWERS IN 229TH STREET, ETC.

Addendum		Addendum Contains:				
No.	Date	Revised Bid Date/Time	Revised Bid Schedule	Questions & Responses	Additional Ammendments	Drawings (number)
1	01/03/2018	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> (0)
2	01/10/2018	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> (1)
3	01/19/2018	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)
4	01/23/2018	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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)
		<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: SE823

CONSTRUCTION OF SANITARY AND STORM SEWERS AND APPURTENANCES IN 229TH STREET BETWEEN  
145TH AVENUE AND 147TH AVENUE, ETC.

INCLUDING WATER MAIN WORK

Together With All Work Incidental Thereto  
BOROUGH OF QUEENS  
CITY OF NEW YORK  
ADDENDUM NO. 4

DATED: JANUARY 23, 2018

THIS ADDENDUM IS HEREBY MADE A PART OF THE CONTRACT DOCUMENTS

(1) For additional information, see the attached ONE (1) pages of "Questions Submitted by Bidders and  
DDC's Responses".

END OF ADDENDUM NO. 4

By signing in the space provided below, the bidder acknowledges receipt of  
this Addendum consisting of one (1) page Addendum plus one (1) page of Attachment.

THIS ADDENDUM MUST BE SIGNED BY ALL BIDDERS AND ATTACHED TO THEIR BID



GURDIP SAINI, P.E.  
Associate Commissioner/Design I

\_\_\_\_\_  
Name of Bidder

By: \_\_\_\_\_

**Questions Submitted by Bidders and DDC's Responses**

**QUESTION #1:**

*Can the 16'-6" x 6' Box Culvert and the 16'-6" x 8' Box Culvert be considered precast instead of poured in place?*

**DDC'S RESPONSE:**

16'-6" x 6' Box Culvert and 16'-6" x 8' Box Culvert should be poured in place only.

**QUESTION #2:**

*Will In-Situ Testing be allowed prior to site excavation in order to perform the necessary soil analysis throughout the project?*

**DDC'S RESPONSE:**

Yes., In-Situ Testing will be allowed.

**QUESTION #3:**

*ITEM 8.01WS has a quantity of 20 days. When comparing the borings given and the amount of contaminated nonhazardous soil to be removed, these 20 days are well under estimated. There are more like 200 days of pumping needed to install all the sewer work. All the water from these trenches will need to be treated in one way or another based on the samples taken. .Please clarify.*

**DDC'S RESPONSE:**

Based on the Phase II subsurface investigation performed for this project by DDC, no contamination was identified in the groundwater samples. As such, an estimate of 20 days was put in place for item 8.01 W1 as a contingency for the removal, treatment and discharge/disposal of any contaminated water.

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

## ADDENDA CONTROL SHEET

BID OPENING DATE: **FEBRUARY 1, 2018**

PROJECT NO.: **SE-823**

DESCRIPTION: **CONSTRUCTION OF STORM SANITARY AND COMBINED  
SEWERS IN 229TH STREET, ETC.**

Addendum		Addendum Contains:				
No.	Date	Revised Bid Date/Time	Revised Bid Schedule	Questions & Responses	Additional Ammendments	Drawings (number)
1	01/03/2018	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> (0)
2	01/10/2018	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> (1)
3	01/19/2018	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)
4	01/23/2018	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)
5	01/25/2018	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" 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)
		<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: SE823

CONSTRUCTION OF SANITARY AND STORM SEWERS AND APPURTENANCES IN 229TH STREET BETWEEN  
145TH AVENUE AND 147TH AVENUE, ETC.

INCLUDING WATER MAIN WORK

Together With All Work Incidental Thereto  
BOROUGH OF QUEENS  
CITY OF NEW YORK  
ADDENDUM NO. 5

DATED: JANUARY 25, 2018

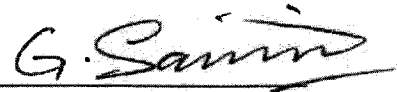
THIS ADDENDUM IS HEREBY MADE A PART OF THE CONTRACT DOCUMENTS

- (1) Refer to the Bid AND Contract Documents, VOLUME 3 OF 3, I PAGES;  
Add Attached Martello Bollard Specification.
- (2) Refer to the Bid AND Contract Documents, VOLUME 3 OF 3, I PAGES;  
Add Attached Sluice Gate Specification.
- (3) Refer to the Bid AND Contract Documents, VOLUME 3 OF 3, SW PAGES;  
Delete Page 10R in its entirety.  
Replace with attached Page 10RR.
- (4) For additional information, see the attached Three (3) pages of "Questions Submitted by Bidders and DDC's Responses".

END OF ADDENDUM NO. 5

By signing in the space provided below, the bidder acknowledges receipt of  
this Addendum consisting of one (1) page Addendum plus eleven(11) pages of Attachments.

THIS ADDENDUM MUST BE SIGNED BY ALL BIDDERS AND ATTACHED TO THEIR BID



GURDIP SAINI, P.E.  
Associate Commissioner/Design I

\_\_\_\_\_  
Name of Bidder

By: \_\_\_\_\_

**Questions Submitted by Bidders and DDC's Responses****QUESTION # 1:**

*Note 1 on Sheet 4 indicates that the cost of all labor, materials, plant, insurance and equipment necessary and required to remove, replace, and/or rebuild such encumbrances shall be deemed included in the prices bid for all items of work. However, Section 19-133 of Subchapter 1 of the New York City Administrative Code authorizes the Commissioner to serve an order upon the owner of any premises requiring such owner to remove or alter any unauthorized projection or encroachment, on or in front of his premises, within a period to be specified in such order. Furthermore, at any time after the expiration of the time specified for that purpose in the order, if such encroachment or projection shall not then have been removed or altered, the Commissioner may remove or alter or cause such encroachment or projection to be removed or altered at the expense of the owner thereof, who shall be liable to the City for all expenses that it may incur by such removal or alteration. The note clearly violates the Administrative Code whereby the cost of such work is being shifted from the homeowner to the contractor, in essence the City of N.Y. Please clarify.*

**DDC'S RESPONSE:**

DDC directives for Encumbrances to be followed are:

- A- Sub Section 10.07 ENCUMBRANCES at p. I-6, SECTION 10 of NYCDEP Standard Sewer and Water Main Specifications.
- B- Note 1 on sheet 4 of 47 of the Contract Drawings.

Please note that the cost of all labor, materials, plant, insurance and equipment necessary and required to remove, replace and/or rebuild such encumbrances shall be deemed included in the prices bid for all items of work.

**QUESTION # 2:**

*Although there is a pay item for 7.07 MB2-Martello Bollards, Version 2.0, there are no specifications for this in the bid documents. Please advise.*

**DDC'S RESPONSE:**

Refer to Article 1 of this Addendum.

**QUESTION # 3:**

*On Sheet 24 of 47, Chamber No. 10, the size/number of the rebars around the manhole and sewer openings are not indicated. Please clarify.*

**DDC'S RESPONSE:**

Rebars around manhole opening should be 3#7(T&B) and for sewer openings should be 3#7.



**QUESTION # 4:**

*On Sheet 25 of 47, Chamber No. 14, the size/number of the rebars around the sewer opening are not indicated. Please clarify.*

**DDC'S RESPONSE:**

Rebars around sewer openings are 3#7.

**QUESTION # 5:**

*On Sheet 26 of 47, Chamber No. 13, the size/number of the rebars around the manhole opening are not indicated. Please clarify.*

**DDC'S RESPONSE:**

Rebars around manhole opening are 3#7(T&B).

**QUESTION # 6:**

*On Sheets 27/28 of 47, Chamber No. 15 (Regulator Chamber), there is a conflict regarding the wall thicknesses. On Sheet 27 of 47, the wall thicknesses of the outer walls are shown to be 18". On Sheet 28 of 47, the outer wall thicknesses of Section B-B are shown to be 12". Please clarify.*

**DDC'S RESPONSE:**

All outside walls of Chamber No. 15-Regulator Chamber, must be 18" thick.

**QUESTION # 7:**

*In Addendum 2, on page SW-3R, number (20) states that the size and specifications of the sluice gate would be on Sheet 29 of 47 of the contract plans. No such information was found on this page. In addition to that, no information was found anywhere in the bid regarding the sluice gate besides a small mention on Sheet 28 of 47. We require additional information so we can obtain proper pricing. Please advise.*

**DDC'S RESPONSE:**

Please refer to Article No. 2 of this Addendum.

**QUESTION # 8:**

*Reg. Chamber 15 requires a sluice gate and stop planks. Can a specification & detail be provided for the sluice gate and stop planks?*

**DDC'S RESPONSE:**

For sluice gate Specification, please refer to Article No. 2 of this Addendum.

For stop planks Specification, please refer to NYC DEP standard Sewer and Water specifications, sections 23.06 Timber and Lumber, page II-36 and 24.03 Wood preservative and treatment pages II-39 and II-40.

**QUESTION # 9:**

*In Addendum 2, pages SW-9R to SW-11R, there is an issue with the pavement restoration specifications. The pavement restoration specified under number (4) conflicts with the requirements under (6), as they give completely different requirements for the same location. Please clarify*

**DDC'S RESPONSE:**

Refer to Article No. 3 of this Addendum.

**QUESTION # 10:**

*Please clarify what the grade is of the stainless steel guides for the stop planks in Chamber 15 (Regulator Chamber).*

**DDC'S RESPONSE:**

For Chamber 15, Regulator chamber, delete all mentions of Stainless Steel W14x38 and Stainless Steel C15x50 and replace with "Cast Iron Stop Planks, Campbell Foundry Pattern 4610 or Equal"

**QUESTION # 11:**

*Due to the complexity of the above indicated project, Triumph Construction Corp. respectfully requests a minimum TWO week bid postponement (until Feb. 15th, 2018).*

**DDC'S RESPONSE:**

Postponement will not be allowed for this project.

SECTION 7.07 MB2  
Martello Bollard, Version 2.0

**7.07 MB2.1. DESCRIPTION.**

Under these items, the Contractor shall furnish and install the Martello Bollard, in accordance with the Contract Drawings, the specifications, and directions of the Engineer.

**7.07 MB2.2. MATERIALS.**

(A) Bollard shall be manufactured by:

Reliance Foundry Co. Ltd.  
6450 148 Street #207  
Surrey, BC V3S 7G7  
Phone: 1-888-735-5680  
Fax (604) 590-8875  
Website: [www.reliance-foundry.com](http://www.reliance-foundry.com)  
E-mail [info@reliance-foundry.com](mailto:info@reliance-foundry.com)

(B) Description:

1. Model: Reliance Foundry; R-7651-EM, consisting of:
  - a. Bollard base, to be embedded in and filled with concrete;
  - b. Bollard cap with reflective striping, ready for permanent installation on top of base once concrete has been poured into body;
2. Drawing: 0215-3-0, Rev. C;
3. Size:
  - a. 22-1/2 inches high above grade;
  - b. 25-1/2 inch base diameter;
  - c. 35" high overall;
4. Design: Low profile, sloped-sided oval;
5. Material: Steel meeting ASTM A36;
6. Coating shall be black textured semi-gloss polyester powder coat over epoxy primer.

(C) Concrete used for embedding bollards shall comply with the requirements of Section 4.13.3.(B) in the NYC Department of Transportation (NYCDOT), Standard Highway Specifications.

**7.07 MB2.3. INSTALLATION AND SITE STORAGE.**

- (A) DELIVERY, STORAGE, AND HANDLING: Bollard shall be protected from the elements with a waterproof and ventilated covering to avoid condensation. Protect steel from corrosion, deformation, and other damage during delivery, storage, and handling. Store bollards on platforms or pallets sloped to provide drainage. Box and plastic wrapping of bollard shall not be removed until just prior to installation.
- (B) BOLLARD PLACEMENT: Bollards to be placed where shown on Contract Drawings and directed by Engineer.
- (C) INSTALLATION: Installation shall be performed as described here and as shown on the Contract Drawings.
1. Excavate to required depth and width needed to form for concrete foundation to the size as

shown on the Reliance Foundry Drawing Number 0215-3-0 (see Annexure 1). Concrete shall be placed a minimum of 3" below and a minimum of 6" around the perimeter of the embedded bollard.

2. Place bollard in correct location using rebar and tie downs such that the bollard is plumb and true to the satisfaction of the Engineer.
3. Pour concrete to level just below embedding hole in bollard embedding steel; ensure that the bollard does not move laterally, upward, downward due to buoyancy of concrete.
4. Proceed to open bollard cap and pour concrete into bollard embedment and bollard itself. Be sure to fill bollard and bollard embedment entirely, checking for voids, to the satisfaction of the Engineer.
5. When the bollard is entirely filled and concrete extrudes from embedding hole, fill the rest of the form up to grade. Replace bollard cap.

#### **7.07 MB2.4. FIELD QUALITY CONTROL.**

- (A) Engineer shall verify model and color of product and also verify that the product is built to dimensions specified in Subsection 7.07 MB2.2, above.

#### **7.07 MB2.5. SUBMITTALS.**

All submittals shall be as per Section 1.06.13 of the NYC Department of Transportation's Standard Highway Specifications and in accordance with the following requirements:

- (A) CATALOG CUTS: Bollard manufacturers' catalogue and supporting literature shall be submitted for approval along with color sample.
- (B) SHOP DRAWINGS: All Shop Drawing submittals shall be as per section 1.06.13 of the NYC Department of Transportation's Standard Highway Specifications. Before the work is started, the Contractor shall submit shop drawings for approval.

#### **7.07 MB2.6. MEASUREMENT.**

The quantity of Martello Bollards to be paid for under this item shall be the number of bollards actually installed to the satisfaction of the Engineer.

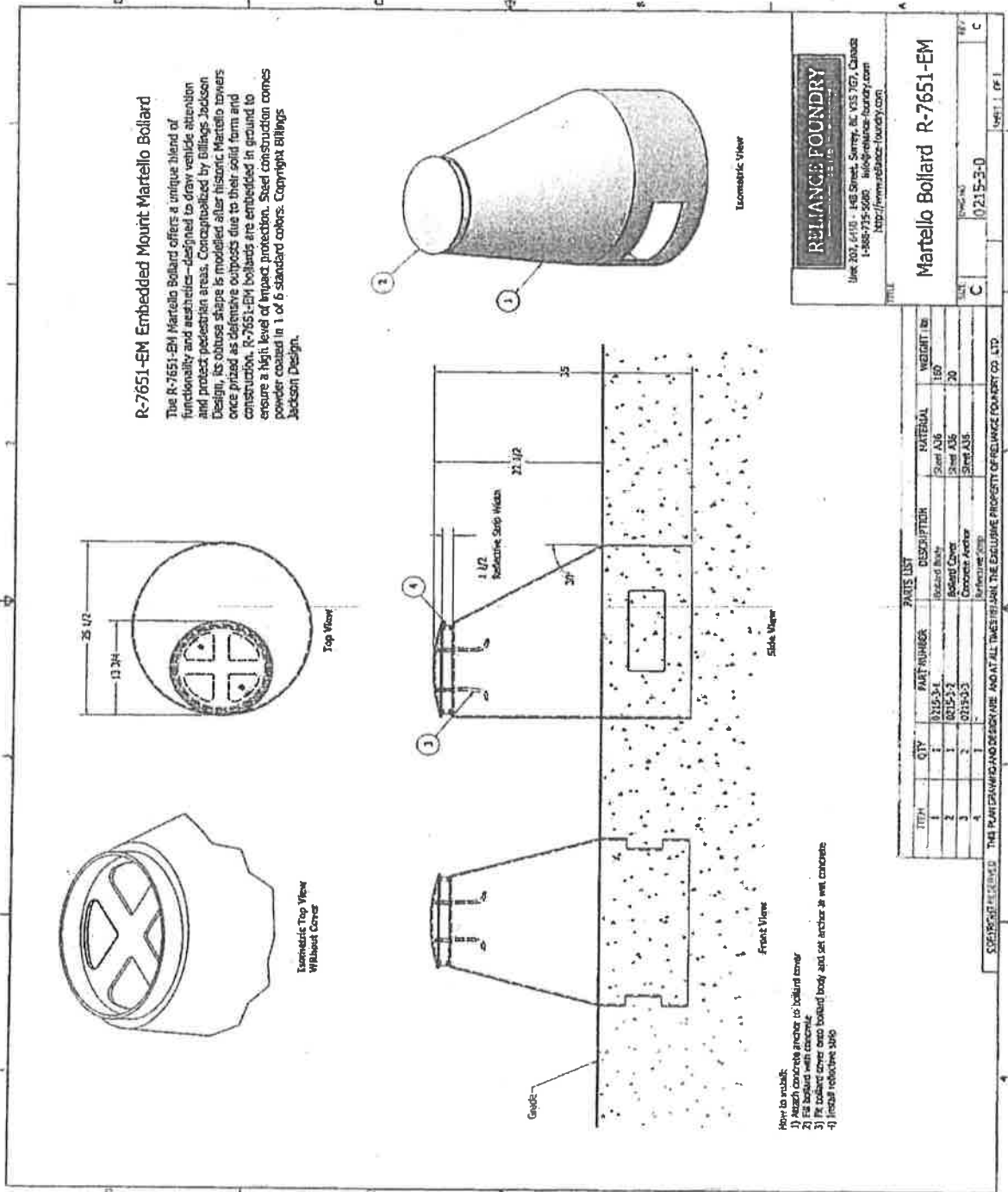
#### **7.07 MB2.7. PRICE TO COVER.**

The price bid shall be unit price for each Martello Bollard and shall include the cost for all labor, materials, hardware, equipment, insurance, and incidentals necessary to complete the work including, but not limited to, excavation, furnishing and installing the bollard, cap, concrete foundation and fill, reflective tape, and any rebar or other necessary items required to set and install the Martello Bollard; all in accordance with the Contract Drawings, the specifications and the directions of the Engineer.

*Payment will be made under:*

Item No.	Item	Pay Unit
7.07 MB2	MARTELLO BOLLARD, VERSION 2.0	EACH

# ANNEXURE 1



## Sluice Gates

Sluice gates shall be designed, manufactured and tested in full conformance with the requirements of AWWA Standard C560 (Cast-Iron Slide Gates), latest edition and shall be cast iron, fully bronze mounted, and shall have side wedges for seating head conditions and side, top, and bottom wedges for unseating head conditions when the width of the gate exceeds 24". Bottom wedges are not required on flush-bottom gates. All gate components shall be designed to safely withstand the heads listed in the Sluice Gate Schedule.

### Self-Contained Gates

The self-contained sluice gate shall have extended side guides to allow the gate to fully open. The heavily designed cast iron or structural steel yoke, attached to machined pads on the side/guides, shall have a machined bearing surface for the stem thrust collar or a mounting plate for the operator. The gate operating thrust shall be transferred to the yoke by the stem thrust collar or operator. The threaded operating stem shall be stainless steel and furnished as part of the sluice gate assembly.

### Frame

The frame shall be of cast iron, one-piece construction with mounting flange and rectangular or circular opening as indicated on the plans. All contact surfaces of the frame shall be machined. The frame shall have machined dovetailed grooves on the front face into which bronze seat facings shall be driven and machined to a 63 micro-inch finish. The back of the frame shall be machined to bolt directly to the machined face of a wall thimble, pipe flange, or for mounting on the concrete. Frames for sluice gates, greater than 24" wide, subject to unseating heads shall have integrally cast pads machined with keyways to receive top and bottom wedge seats.

### Flush Bottom Closure

The flush bottom closure type of gate shall have a compressible resilient seal attached to the bottom of the disc (slide) with a stainless steel bar and fasteners. The seal shall be of a specially extruded shape, and designed to accurately fit to the bottom rib of the disc. The seal shall be shaped to produce a wide sealing area on a machined stainless-steel stop bar that is bolted to the gate frame to form a flush invert. The differential sealing pressure of the resilient seal on the stop bar shall be variable by adjustment of the side and top wedges on the gate. The flush bottom closure gates will be the Hy-Q® design if manufactured by Rodney Hunt Company.

### Disc or Slide

The disc shall be of cast iron, one-piece construction, rectangular with integrally cast vertical and horizontal ribs. A reinforcing rib along each side will be provided to insure rigidity between the side wedges. The disc shall have machined dovetailed grooves on the seating face into which bronze seat facings shall be driven and machined to a 63 micro-inch finish. A tongue on each side, extending the full length of the disc, shall be machined on all sides with a 1/16" clearance maintained between the disc tongue and gate guide groove. If tongue covers are specified, the tongues shall have silicon bronze covers. Wedge pads for side, top, and bottom wedges, when required, shall be cast integrally on the disc and machined to receive adjustable bronze wedges. A heavily reinforced nut pocket shall be cast integrally on the vertical centerline and above the horizontal center, and be of such shape to receive the square-backed thrust nut.

## Guides

The guides shall be cast iron, one-piece, designed to withstand the total thrust due to water pressure and the wedging action. The guides shall be machined on all contact surfaces, and a groove shall be machined the entire length of the guide to allow 1/16" clearance between the disc tongue and guide groove. If guide liners are specified, the guide grooves shall be silicon bronze lined. The guides shall be of such length as to retain and support at least one half the discs in the full open position. The guides shall be integrally cast with or attached to the frame with silicon bronze or stainless steel studs and nuts, and shall be dowelled to prevent any relative motion between the guides and frame. Bronze wedge seats shall be securely attached to machined pads on the guides.

## Wedges

The wedges shall be solid cast bronze, machined on all contact surfaces. They shall be attached to the disc with studs and nuts and shall have adjusting screws with lock nuts.

## Seat Facings

All seat facings shall be malleable extruded bronze of a composition which shall increase in wearing ability with cold working. The extruded seat facings shall be of special shape to fill and permanently lock in the machined dovetailed grooves when driven into place. Attaching pins and screws shall not be allowed. The installed seat facings shall be machined to a 63 micro-inch finish or better.

## Wall Thimbles

Wall thimbles shall be furnished for all sluice gates that are not attached to pipe flanges. Wall thimbles shall be section "F", section "E" or flanged by mechanical joint. The depth shall be as indicated on the plans and listed in the Gate Schedule. They shall be cast iron, one-piece construction of adequate section to withstand all operational and reasonable installation stresses. Wall thimbles shall be internally braced during concrete placement. A center ring or water stop shall be cast around the periphery of the thimble. The front flange shall be machined and have tapped holes for the sluice gate attaching studs, and metal stamped vertical centerlines with the word "top" for correct alignment. Large rectangular wall thimbles shall be provided with holes in the invert to allow air to escape during concrete placement beneath the thimble. A permanent gasket for uniform thickness or suitable mastic shall be provided between the sluice gate and wall thimble.

## Stems

The operating stem shall be of a size to safely withstand, without buckling or permanent distortion, the stresses induced by normal operating forces. The operating stem shall be designed to withstand a manual actuator (or electric motor actuator in manual mode) tension load caused by the application of a 40-lb effort on the crank or hand wheel or a 50 ft-lb torque on a wrench nut without exceeding one fifth of the ultimate tensile strength of the stem material. In compression, the operating stem shall be designed for a critical buckling compressive load assuming a 40-lb effort on the crank or hand wheel or a 50-ft-lb torque on a wrench nut with a safety factor of 2. The critical buckling load shall be determined by using the Euler Column formula. In addition, where hydraulic cylinders are used, the stem design force shall not be less than 1.25 times the actuator output at the maximum system pressure.

## Stem Guides

Stem guides shall be cast iron, bronze bushed, mounted on cast iron brackets. They shall be adjustable in two directions and shall be spaced at sufficient intervals to adequately support the stem. Stem guide spacing shall not exceed an  $U_r$  ratio of 200, and shall not be spaced greater than 10 feet except where required by gate travel.

## Painting

The gate manufacturer shall be responsible for shop prime and finish painting of all gates and appurtenances supplied under this contract. All coatings shall conform to VOC Emission Regulations in effect at the manufacturing location and at project site to allow touch-up or recoating to be performed with the same products. Number of coats, mil thickness, and surface preparation shall be in accordance with the paint manufacturer's recommendations for that application. All coatings shall be free of carcinogens as listed on the IARC monographs.

## A. CAST IRON SLUICE GATE

### Specifications - Scope

This section covers all sluice gates required on this project. The sluice gates shall be of self-contained type manufactured by *Rodney Hunt* or *Coldwell Wilcox* or *Whipps Company*. Each sluice gate shall be furnished and installed complete with wall thimble, operating stem, operating floor stand, and other appurtenances or accessories as specified.

### General

The sluice gates will be in the quantities and sizes indicated on the plans and listed in the Gate schedule elsewhere in the specifications. The sluice gates shall be as designed and manufactured by the Company as specified. Fabricated stainless steel gates are not acceptable. The manufacturer shall have designed and manufactured gates that have been in successful operation for over 20 years.

### Design

Liberal safety factors shall be used in the design of all equipment. Working stresses shall not exceed one fifth of the ultimate strength of the material. The sluice gates and appurtenances shall be designed for installation in the structures shown on the contract documents. The engineering submittal shall be signed and sealed by a Professional Engineer registered in the State where the gates shall be designed and manufactured.

### Workmanship

All work shall be performed in accordance with the best modern practice for the manufacture of high-grade machinery. All parts shall have accurately machined mounting and bearing surfaces so that they can be assembled without fitting, chipping, or re-machining. All parts shall conform accurately to the design dimensions and shall be free of all defects in workmanship or material that shall impair their service. The sluice gates shall be completely shop assembled to insure proper fit and adjustment of all parts.

### Materials

All materials used in construction of the gates and appurtenances shall be the best suited for the application and shall conform to the following specifications:

Part	ASTM Designation
Iron castings for wall thimbles, frame, disc and guides, stem guides, floor stands, and other items	A-126, Class-B
For Castings with 2 % Nickel	Bronze castings for wedges, thrust nut,
For Ni-Resist Castings (Austenitic gray iron)	



Colors are to be manufacturer's standards, provided they are selected for ease of field touch-up and color match and are fade

resistant. Colors shall be selected to provide contrast between the product and prime coat, and between the prime coat and finish coat, to insure uniform covering and coating thickness. All coatings shall be applied in accordance with the paint manufacturer's recommendations for thinning, technique, and safety precautions. Coatings for submerged surfaces shall be Series 141 Epoxoline by Tnemec or Engineer-approved equal. Coatings for exposed surfaces shall be Series 141 primer and Tnemec Series 1075 Endura-Shield II or Engineer-approved equal.

#### Leakage

Under the design seating head, the leakage shall not exceed 0.1 gpm per foot of seating perimeter. Under the design unseating head, the leakage for heads of 20 ft or less shall not exceed 0.2 gpm per foot of seating perimeter. For unseating heads greater than 20ft, the allowable leakage shall not exceed  $0.10 + 0.005$  (unseating head in feet) gpm per foot of seating perimeter.

#### Shop Testing

The completely assembled gate shall be shop inspected for proper seating. Seat facings shall be machined and wedges adjusted to exclude a 0.004" thickness gauge between the frame and disc seating surfaces. The gate disc shall be fully opened and closed in its guide system to insure that it operates freely. Floor stands and bench stands shall be shop operated to insure proper assembly and operation.

#### Installation and Storage

- The sluice gate equipment and appurtenances shall be installed in accordance with the Installation Manual furnished by the gate manufacturer. Extreme care shall be used in the handling, storage, and installation of this equipment to prevent damage or distortion of the equipment and to insure proper performance.

The permanent restoration over the **trench width and cutbacks only** shall consist of a top course of one and one-half (1 ½) inches of asphaltic wearing course on a minimum of four and one-half (4 ½) inches of binder mixture as directed by the Engineer.

- (4) In 147<sup>th</sup> Avenue from 227<sup>th</sup> Street to 229<sup>th</sup> Street, including intersections; the restoration shall be as follows:

The entire width of roadway 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 minimum of six (6) inches of concrete base and three (3) inches of asphaltic concrete wearing course to match the existing grade as directed by the Engineer.

- (5) In 148<sup>th</sup> Avenue between 230<sup>th</sup> Place and 228<sup>th</sup> Street; the restoration shall be as follows:

Two existing raised speed bumps/reducers shall be restored in kind and the cost shall be deemed included in the prices bid for all items of work. No additional payment shall be made to the contractor for this work.

- (6) In 147<sup>th</sup> Avenue starting fifty (50) feet east of 229<sup>th</sup> Street to fifty (50) feet east of 230<sup>th</sup> Place, including intersections; the restoration shall be as follows:

- a. The permanent restoration over the **trench width and cutbacks only** shall consist of three (3) inches of binder mixture over six (6) to nine (9) inches of concrete base as encountered to match 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.

- (7) 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.

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(NO TEXT ON THIS PAGE)

## SPECIFICATIONS AND STANDARDS OF NEW YORK CITY

The following New York City Department of Transportation (NYCDOT) reference documents are available on-line at:

<http://www1.nyc.gov/site/ddc/resources/publications.page> or for purchase between 9:00 A.M. and 3:00 P.M. at 55 Water St., Ground Floor, NYC, N.Y. 10041. Contact: Ms. Vivian Valdez, Tel. (212) 839-9434

1. NYCDOT Standard Highway Specifications, August 1, 2015
2. NYCDOT Standard Highway Details of Construction, July 1, 2010

The following New York City Department of Transportation (NYCDOT) reference documents are available on-line at:

<http://www.nyc.gov/html/dot/html/about/dotlibrary.shtml#spec> or for purchase between 9:00 A.M. and 3:00 P.M. at 55 Water St., Ground Floor, NYC, N.Y. 10041. Contact: Ms. Vivian Valdez, Tel. (212) 839-9434

1. Specifications for furnishing all labor and material necessary and required for the installation, removal or relocation of street lighting equipment in the City of New York, 1992.
2. Standard Drawings, Division of Street Lighting
3. Specifications for Traffic Signals and Intelligent Transportation Systems Construction and Equipment
4. Standard Drawings for Traffic Signals

The following reference documents for New York City Department of Environmental Protection (NYCDEP) are available on-line 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 January 2009

The following reference documents for New York City Department of Environmental Protection (NYCDEP) are available on-line 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. Robert Kuhlmann, Tel. (718) 391-2145

1. NYCDEP Water Main Standard Drawings, November 2010
2. Specifications for Trunk Main Work, July 2014
3. Standards for Green Infrastructure, latest version, available only on-line at:  
[http://www.nyc.gov/html/dep/html/stormwater/green\\_infrastructure\\_standards.shtml](http://www.nyc.gov/html/dep/html/stormwater/green_infrastructure_standards.shtml)

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

## SPECIFICATIONS AND STANDARDS OF NEW YORK CITY

Standard Specifications and Drawings for New York City Fire Department Communications facilities are available 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"><b><u>INFORMATION FOR BIDDERS SECTION 26 BID SECURITY</u></b></p> <p>The <b>Contractor</b> 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"><b><u>INFORMATION FOR BIDDERS SECTION 26 PERFORMANCE AND PAYMENT BONDS</u></b></p> <p>The <b>Contractor</b> 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"><b><u>INFORMATION FOR BIDDERS DEPARTMENT OF DESIGN AND CONSTRUCTION SAFETY REQUIREMENTS</u></b></p> <p>The <b>Contractor</b> shall provide the safety personnel as indicated to the right.</p>	<ul style="list-style-type: none"> <li>■ Project Safety Representative</li> <li>■ Dedicated, full-time Project Safety Manager</li> </ul>
<p align="center"><b><u>CONTRACT ARTICLE 14 DATE FOR SUBSTANTIAL COMPLETION</u></b></p> <p>The <b>Contractor</b> shall substantially complete the <b>Work</b> in the number of calendar days indicated to the right.</p>	<p>See Page SA-4</p>
<p align="center"><b><u>CONTRACT ARTICLE 15 LIQUIDATED DAMAGES</u></b></p> <p>If the <b>Contractor</b> fails to substantially complete the <b>Work</b> within the time fixed for substantial completion plus authorized time extensions or if the <b>Contractor</b>, in the sole determination of the <b>Commissioner</b>, has abandoned the <b>Work</b>, the <b>Contractor</b> shall pay to the <b>City</b> the amount indicated to the right.</p>	<p>\$7000.00. for each consecutive calendar day over substantial completion time</p>
<p align="center"><b><u>CONTRACT ARTICLE 17. SUB-CONTRACTOR</u></b></p> <p>The <b>Contractor</b> shall not make subcontracts totaling an amount more than the percentage of the total <b>Contract</b> price indicated to the right.</p>	<p>Not to exceed <u>35</u> % of the <b>Contract</b> price</p>

<p align="center"><b><u>CONTRACT ARTICLE 21.</u></b> <b><u>RETAINAGE</u></b></p> <p>The <b>Commissioner</b> shall deduct and retain until the substantial completion of the <b>Work</b> the percent value of the <b>Work</b> indicated to the right.</p>	<p><u>5 %</u> of the value of the <b>Work</b></p>
<p align="center"><b><u>CONTRACT ARTICLE 22.</u></b> <b><u>(Per Directions Below)</u></b></p>	<p>See pages SA-5 through SA-12</p>
<p align="center"><b><u>CONTRACT ARTICLE 24.</u></b> <b><u>DEPOSIT GUARANTEE</u></b></p> <p>As security for the faithful performance of its obligations, the <b>Contractor</b>, upon filing its requisition for payment on <b>Substantial Completion</b>, shall deposit with the <b>Commissioner</b> a sum equal to the percentage of the <b>Contract</b> price indicated to the right.</p>	<p>1% of <b>Contract</b> price</p>
<p align="center"><b><u>CONTRACT ARTICLE 24.</u></b> <b><u>PERIOD OF GUARANTEE</u></b></p> <p>Periods of maintenance and guarantee other than the period set forth in Article 24.1 are indicated to the right.</p>	<p>Eighteen (18) Months, excluding Trees</p> <p>Twenty-four (24) Months for Tree Planting</p> <p>Sixty (60) Months for BMP work</p>
<p align="center"><b><u>CONTRACT ARTICLE 74.</u></b> <b><u>STATEMENT OF WORK</u></b></p> <p>The <b>Contractor</b> shall furnish all labor and materials and perform all <b>Work</b> in strict accordance with the <b>Contract Drawings</b>, <b>Specifications</b>, and all <b>Addenda</b> thereto, as shown in the column to the right.</p>	<p><b>Addenda</b>, numbered:</p> <p>_____</p> <p>_____</p>
<p align="center"><b><u>CONTRACT ARTICLE 75.</u></b> <b><u>COMPENSATION TO BE PAID TO CONTRACTOR</u></b></p> <p>The <b>City</b> shall pay and the <b>Contractor</b> shall accept in full consideration for the performance of the <b>Contract</b>, subject to additions and deductions as provided herein, the total sum shown in the column to the right, being the amount at which the <b>Contract</b> was awarded to the <b>Contractor</b> at a public letting thereof, based upon the <b>Contractor's</b> bid for the <b>Contract</b>.</p>	<p>Amount for which the <b>Contract</b> was Awarded:</p> <p>_____ Dollars</p> <p>(\$ _____)</p>
<p align="center"><b><u>CONTRACT ARTICLE 79.</u></b> <b><u>PARTICIPATION BY MINORITY-OWNED AND WOMEN-OWNED BUSINESS ENTERPRISES IN CITY PROCUREMENT</u></b></p>	<p>See M/WBE Utilization Plan in the Bid Booklet</p>



<p align="center"><b><u>STANDARD HIGHWAY SPECIFICATIONS</u></b>  <b><u>SECTION 6.40</u></b>  <b><u>LIQUIDATED DAMAGES FOR ENGINEER'S FIELD OFFICE</u></b></p> <p>If the Contractor fails to satisfactorily provide the field office and all equipment specified in <b>Section 6.40 - Engineer's Field Office</b>, 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 <b>Section 6.40.5</b>, is not corrected.</p>	<p>\$ <u>500.00</u> for each calendar day of deficiency</p>
<p align="center"><b><u>STANDARD HIGHWAY SPECIFICATIONS</u></b>  <b><u>SECTION 6.70</u></b>  <b><u>LIQUIDATED DAMAGES FOR MAINTENANCE AND PROTECTION OF TRAFFIC</u></b></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"><b><u>STANDARD HIGHWAY SPECIFICATIONS</u></b>  <b><u>SECTION 7.13</u></b>  <b><u>LIQUIDATED DAMAGES FOR MAINTENANCE OF SITE</u></b></p> <p>If the Contractor fails to comply, within three (3) consecutive hours after written notice from the Engineer, with the requirements of <b>Section 7.13 - Maintenance of Site</b>, 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>1400.00</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 1095 consecutive calendar days ("ccds").

The Final Contract Duration shall be the Base Contract Duration when a check mark is indicated before the word "NO", below, and shall be the Base Contract Duration adjusted by the table set forth below when a check mark is indicated before the word "YES", below.

✓ YES                             NO

When the Final Contract Duration is indicated above to be adjusted by the table below, the table may increase the Base Contract Duration depending on the date of scheduled substantial completion to avoid a scheduled substantial completion of the Work during the winter months. The date of scheduled substantial completion shall be determined by adding the Base Contract Duration to the date specified to commence work in the written Notice to Proceed. The Final Contract Duration shall then be determined as follows:

- (a) Find the row that corresponds to the month of substantial completion based on the Base Contract Duration added to the date specified to commence work in the written Notice to Proceed.
- (b) Find the number of days to be added to the Base Contract Duration in the table below. Add that number of days to the Base Contract Duration to obtain the Final Contract Duration in consecutive calendar days.

<b>Month of Substantial Completion based on the Base Contract Duration</b>	<b>Number of Days of adjustment</b>
<b>January</b>	150
<b>February</b>	120
<b>March</b>	90
<b>April</b>	60
<b>May</b>	30
<b>June</b>	0
<b>July</b>	0
<b>August</b>	0
<b>September</b>	0
<b>October</b>	0
<b>November –December 15</b>	0
<b>December 16 – December 31</b>	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
<p>■ Commercial General Liability    Art. 22.1.1</p>	<p>The minimum limits shall be \$ <u>3,000,000</u> per occurrence and \$ <u>6,000,000</u> per project aggregate applicable to this <b>Contract</b>.</p> <p>Additional Insureds:</p> <ol style="list-style-type: none"> <li>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,</li> <li>2. All person(s) or organization(s), if any, that Article 22.1.1(b) of the <b>Contract</b> 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),</li> <li>3. National Grid</li> </ol>

<p> <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>	<p>Workers' Compensation, Employers' Liability, and Disability Benefits Insurance: Statutory per New York State law without regard to jurisdiction.</p> <p><b>Note:</b> 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><input type="checkbox"/> Additional Requirements:</p>
<p><input type="checkbox"/> Builders' Risk      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><b>Contractor</b> the Named Insured; the <b>City</b> both an Additional Insured and one of the loss payees as its interests may appear.</p> <p>If the <b>Work</b> does not involve construction of a new building or gut renovation work, the <b>Contractor</b> may provide an installation floater in lieu of Builders Risk insurance.</p> <p>Note: Builders Risk Insurance may terminate upon <b>Substantial Completion</b> of the <b>Work</b> in its entirety.</p>

<input type="checkbox"/> Commercial Auto Liability      Art. 22.1.5	<p>\$ <u>2,000,000</u> per accident combined single limit</p> <p>If vehicles are used for transporting hazardous materials, the <b>Contractor</b> 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>
<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:</p> <ol style="list-style-type: none"> <li>1. City of New York, including its officials and employees, and</li> <li>2. _____</li> <li>3. _____</li> </ol>
<input type="checkbox"/> Marine Protection and Indemnity Art. 22.1.7(a)	<p>\$ _____ each occurrence \$ _____ aggregate</p> <p>Additional Insureds:</p> <ol style="list-style-type: none"> <li>1. City of New York, including its officials and employees, and</li> <li>2. _____</li> <li>3. _____</li> </ol>
<input type="checkbox"/> Hull and Machinery Insurance      Art. 22.1.7(b)	<p>\$ _____ per occurrence \$ _____ aggregate</p> <p>Additional Insureds:</p> <ol style="list-style-type: none"> <li>1. City of New York, including its officials and employees, and</li> <li>2. _____</li> <li>3. _____</li> </ol>

<input type="checkbox"/> Marine Pollution Liability <div style="float: right;">Art. 22.1.7(c)</div>	<div style="text-align: right;">\$ <u>1,000,000</u> per occurrence</div> <div style="text-align: right;">\$ <u>1,000,000</u> aggregate</div> <p>Additional Insureds:</p> <ol style="list-style-type: none"> <li>1. City of New York, including its officials and employees, and</li> <li>2. _____</li> <li>3. _____</li> </ol>
<div style="text-align: right;">[OTHER] Art. 22.1.8</div> <input type="checkbox"/> Railroad Protection Liability Policy <p>(ISO-RIMA or equivalent form) approved by Permitior 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:</p> <ul style="list-style-type: none"> <li>• Policy Endorsement CG 28 31 - Pollution Exclusion Amendment is required to be endorsed onto the policy when environmental-related work and/or exposures exist.</li> <li>• 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.</li> <li>• Evidence of Railroad Protective Liability Insurance, must be provided in the form of the <u>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.</u></li> </ul>	<div style="text-align: right;">\$ <u>2,000,000</u> per occurrence</div> <div style="text-align: right;">\$ <u>6,000,000</u> annual aggregate</div> <p>Named Insureds:</p> <ol style="list-style-type: none"> <li>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.</li> <li>2. _____</li> </ol>

[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.

**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)**

## **REVISIONS TO STANDARD SPECIFICATIONS**

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### **NOTICE**

The Specification Bulletin(s) ("SB(s)") contained 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 – RODENT AND WATERBUG PEST CONTROL
- 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

**(NO TEXT ON THIS PAGE)**



# Department of Design and Construction

## SPECIFICATION BULLETIN

# SB

**16-001****Title: REVISIONS TO NYC DOT STANDARD HIGHWAY SPECIFICATIONS****Prepared:**

6/29/2016

Richard Jones, P.E. CWI  
Director, Specifications – Infrastructure Design**Approved:**

6/29/2016

Mohsen Zargareh, P.E.  
Assistant Commissioner – Infrastructure Design**APPLICABILITY:**

- This Specification Bulletin (SB) is effective for projects advertised on or after 7/11/16.


**SUPERSEDEENCE:**

- This SB supersedes the following SBs: **NONE**


**REVISIONS TO THE NEW YORK CITY DEPARTMENT OF TRANSPORTATION  
STANDARD HIGHWAY SPECIFICATIONS VOLUME 1 OF 2, DATED 8/1/15:**

All references contained below are to the New York City Department of Transportation Standard Highway Specifications, Dated August 1, 2015. Said Standard Highway Specifications are hereby revised as follows:

- a) Refer to Page 3, Subsection 1.06.3;  
Delete the third paragraph;  
Substitute the following new paragraph:  
"Any doubt as to the meaning of this contract or the specifications thereof, or any obscurity as to the wording of them, or any discrepancy between them, or any discrepancy between figures and drawings will be explained by the Engineer."
- b) Refer to Page 5, Subsection 1.06.8;  
Delete the words "tentative" wherever it occurs in the last paragraph.
- c) Refer to Page 17, Subsection 1.06.23.(G), last paragraph;  
Delete the word "asbestos" wherever it occurs.
- d) Refer to Page 26, Subsection 1.06.29, line number four (4);  
Delete the words and punctuation mark ", and at the prices fixed herein" in its entirety.

	<b>Department of Design and Construction</b>	<b>SPECIFICATION BULLETIN</b>	<b>SB</b>  <b>16-001</b>
<b>Title: REVISIONS TO NYC DOT STANDARD HIGHWAY SPECIFICATIONS</b>			

- e) Refer to Page 41 Subsection 1.06.48.(C), 2nd paragraph, 1st line;  
Delete from the first line starting from "have maximum grade of one (1) vertical on three (3) horizontal", in its entirety;  
Substitute the following:  
"have a maximum grade of one (1) vertical on twelve (12) horizontal, for pedestrian ramp and one (1) vertical on six (6) horizontal, for driveway ramp".
- f) Refer to Page 87, Subsection 2.18.3(A), 4th paragraph;  
Change "." to "," after "... and Appeals";  
Add the following words: "and the health standards of OSHA of the U.S. Department of Labor."
- g) Refer to Page 104, Subsection 3.01.3.(C).1.(c), 4<sup>th</sup> paragraph;  
Delete the words "to a maximum of 70%"
- h) Refer to Page 120, Subsection 3.05.5.(A), 2<sup>nd</sup> Table 3.05-V;  
Delete the sentence: "Concrete of Type IA, IIA and IIIA shall have an air entrainment of 4 to 7 percent when the coarse aggregate is 1 1/2" stone and 5 to 7 percent when the coarse aggregate is 3/4" stone, with 6.5 percent desired in either case."  
Substitute the following:  
"Concrete of classes shown in Table 3.05-II shall have an air entrainment of 4 to 7 percent for size 357 coarse aggregate and 5 to 7 percent for size 67 or 57 aggregate, with 6.5 percent desired in either case. If concrete is pumped, air entrainment shall be measured after the pump."
- i) Refer to Page 135, Subsection 3.05.9, 4<sup>th</sup> paragraph;  
Add the following words to the end of the 4<sup>th</sup> paragraph: "Dosing of accelerators and retarders shall be per the manufacturer's published recommendations. Addition of an accelerator or retarder per this subsection will not require a separate mix design, unless requested by the Engineer."
- j) Refer to Page 192, Subsection 4.06.12;  
Delete the Subsection 4.06.12, in its entirety and substitute the words "4.06.12. (NO TEXT)." The use of rubble aggregate will not be permitted.
- k) Refer to Page 282, Subsection 5.02.2.(C), 2<sup>nd</sup> paragraph;  
Add the following words: "6 in x 12 in" after "At least four (4)"

	<b>Department of Design and Construction</b>	<b>SPECIFICATION BULLETIN</b>	<b>SB</b>  16-001
<b>Title: REVISIONS TO NYC DOT STANDARD HIGHWAY SPECIFICATIONS</b>			

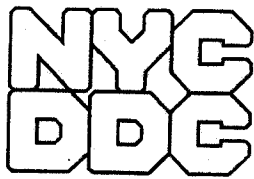
- I) Refer to Page 282, Subsection 5.02.2.(C), 2<sup>nd</sup> paragraph;  
Delete the sentence: "Curing boxes shall be furnished in good operating condition, capable of maintaining cylinders under water at a curing temperature of 72°F. ±5°F."  
Substitute the following:  
"Curing boxes meeting the requirements of ASTM C31 and C511 shall be furnished in good operating condition, and shall maintain cylinders under water at a curing temperature of 73.5°F ±3.5°F. Curing boxes with rusted or corroded interior surfaces shall not be used."

**REVISIONS TO THE NEW YORK CITY DEPARTMENT OF TRANSPORTATION  
STANDARD HIGHWAY SPECIFICATIONS VOLUME 2 OF 2, DATED 8/1/15:**

*No Changes.*

**(NO TEXT THIS PAGE)**





# Department of Design and Construction

## SPECIFICATION BULLETIN

# SB

### 16-002

Title: **REVISIONS TO THE NYC DEP STANDARD SEWER AND WATER MAIN SPECIFICATIONS**

Prepared:

10/11/2016

Richard Jones, P.E. CWI  
Director, Specifications – Infrastructure Design

Approved:

10/11/2016

Mohsen Zargarelahi, P.E.  
Assistant Commissioner – Infrastructure Design

### APPLICABILITY:

- This Specification Bulletin (SB) is effective for projects advertised on or after 11/14/16.

### SUPERSEDEENCE:

- This SB supersedes the following SBs: **NONE**

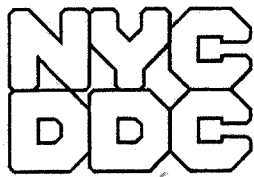
### ATTACHMENTS:

- ATTACHMENT 1:** Revised Section 40.05 – SHEETING AND BRACING  
Pages A1-1 through A1-7
- ATTACHMENT 2:** Revised Section 70.91 – SHEETING  
Pages A2-1 through A2-3

## REVISIONS TO THE NEW YORK CITY DEPARTMENT OF ENVIROMENTAL PROTECTION STANDARD SEWER AND WATER MAIN SPECIFICATIONS, DATED 7/1/14:

All references contained below are to the New York City Department of Environmental Protection Standard Sewer and Water Main Specifications, Dated July 1, 2014. Said Standard Sewer and Water Main Specifications are hereby revised as follows:

- Refer** to Page III-6, Subsection 30.03.1;  
**Add** the text “, C780 Annex 6” to line (2) after the words “C109”.
- Refer** to Pages IV-12 through IV-18, Section 40.05 – SHEETING AND BRACING;  
**Delete** in its entirety the Section;  
**Substitute** the revised Section in Attachment 1 (7 pages).
- Refer** to Page V-60, Subsection 50.72.5.(A);  
**Delete** in its entirety the Subsection;  
**Substitute** the revised Subsection:



# Department of Design and Construction

## SPECIFICATION BULLETIN

# SB

16-002

Title: **REVISIONS TO THE NYC DEP STANDARD SEWER AND WATER MAIN SPECIFICATIONS**

“(A) Cement shall be either Type V cement meeting the requirements of ASTM C150 or blended cement containing 8% microsilica that meets the requirements of NYS Department of Transportation Standard Specification 701-03, Type IP (8)”.

d) **Refer** to Page V-65, Subsection 50.72.7.(N);  
**Delete** the second sentence “The test cubes shall be 4”x4”x4”.”

e) **Refer** to Page V-66, Subsection 50.72.7.(N);  
**Delete** the text:

Test cubes will be made and stored in accordance with ASTM C31 and tested in accordance with ASTM C39, except as otherwise modified by the Engineer. Each test will consist of three (3) cubes; one (1) to be tested at seven (7) days, the other two (2) at twenty-eight (28) days.

**Substitute** the revised text:

“Test cores will be made, cured, and tested in accordance with ASTM C42, except as otherwise modified by the Engineer. Test cores will be made from a shotcrete test board, where the shotcrete thickness matches the placed thickness. Each test will consist of three (3) cores; one (1) to be tested at seven (7) days, the other two (2) at twenty-eight (28) days.”

f) **Refer** to Pages V-65, V-66, and V-67, Subsections 50.72.7.(N), 50.72.9, and 50.72.10;  
**Delete** the text “Test Cube” wherever it appears;  
**Substitute** the text “Test Core”.

g) **Refer** to Page VII-25, Subsection 70.12.5.(B).(2);  
**Delete** the text “and C492”;  
**Substitute** the replacement text “or C780 Annex 6”

h) **Refer** to Page VII-29, Subsection 70.13.4;  
**Add** the text “ or C780 Annex 6” after the words “C109”.

i) **Refer** to Pages VII-48 through VII-51, Section 70.91 – SHEETING;  
**Delete** in its entirety the Section;  
**Substitute** the revised Section in Attachment 2 (3 pages).

## SECTION 40.05 SHEETING AND BRACING

### 40.05.1 SHEETING AND BRACING

- (A) The sides of the trenches and excavations shall be supported by adequate sheeting and properly braced. All sheeting and bracing systems the Contractor elects to use or are ordered by the Engineer or the Department shall comply with these specifications and must receive the approvals stated herein. Timber sheeting and bracing shall be vertical sheeting with rangers and braces or horizontal sheeting supported by vertical steel soldier beams and the necessary bracing.
- (B) Where the material to be excavated is of such character as to render it necessary, the sheeting shall be tongued and grooved and driven to such depths below the subgrade as may be directed.
- (C) Where the nature of the material encountered or the safety of the adjacent structure render it necessary, the Contractor may resort to the use of steel sheet piling with prestressed bracing or the Contractor may underpin the structure or buildings.
- (D) Other sheeting systems may be permitted upon approval of the Department of Design and Construction. (Trench Boxes will not be permitted for use in trenches and excavations that exceed twelve (12) feet in depth. (See **Subsection 40.05.4(E).**))
- (E) In general, sheeting and bracing in trenches and excavations shall be designed and installed so that the sheeting shall not be braced or blocked against any part of the new structure, or manholes, or chambers. When conditions warrant, bracing against such structures may be permitted following the approval of drawings prepared and submitted by a Professional Engineer licensed in the State of New York, showing the assumed design loads and stresses, and details of such bracing.
- (F) If, in the opinion of the Engineer, any of the approved temporary or permanent supporting structures are inadequate or unsuitable for the actual conditions in the field, the Engineer may direct the Contractor to strengthen the supporting structures at no additional cost to the City. The Contractor shall be responsible for the sufficiency of all temporary and permanent supporting structures whether or not directed by the Engineer to strengthen them.
- (G) Unless otherwise specified in the plans or these specifications, the Contractor shall remove all sheeting and bracing throughout this project as per **Subsection 40.05.7.**

### 40.05.2 SHEETING LEFT IN PLACE

When sheeting is specifically shown on the plans or specifically described in the specifications or specifically ordered in writing by the Engineer to be left in place, it refers to all sheeting and bracing in trench excavations for water main pipe and sewer conduit including manholes, valves and chambers. Excavations for catch basins, basin connections, house services and other excavations not considered part of the trench excavation for water main pipe and sewer conduit shall have their sheeting and bracing removed entirely.

When sheeting is to be left in place, all elements such as rangers and braces, of the sheeting used, must be left in place, except for such temporary braces that require removal in order to make way for the structure. Where it is necessary to remove such temporary braces, the sheeting shall be rebraced in a manner approved by the Engineer; however, in no case shall the sheeting be braced against the side of the structure unless approved in writing by the Engineer. Where lagging and soldier beams are used, the soldier beams and all the rangers and braces shall also be left in place. Where steel sheeting is used, the rangers and braces shall also be left in place.

When sheeting is to be left in place, the Contractor shall cut sheeting at the elevations ordered in writing by the Engineer; however, in general such cutoffs shall not be less than four (4) feet below the final

grade. Timber sheeting shall be cut off by sawing. Steel sheeting or soldier beams shall be cut off by burning. Breaking off of sheeting will not be permitted. The Contractor shall remove from the trench and away from the site of work, to the Contractor's own place of disposal, all cut sheeting and soldier beams together with all rangers, lagging and braces above the ordered elevation of cut. Where the removal of rangers and braces above the ordered elevation of cut is determined by the Engineer to render the sheeting system unstable, rangers and braces shall be placed prior to cutting at a level below the ordered elevation of cut and left in place.

(A) FOR SHEETING OF WATER MAIN TRENCHES AND EXCAVATIONS

Additional payment will be made for sheeting and bracing that is specifically shown on the plans or specifically described in the specifications or ordered in writing by the Engineer, to be left in place in water main trenches and excavations. Payment will be made in accordance with **Section 70.91**.

(B) FOR SHEETING OF SEWER TRENCHES AND EXCAVATIONS

No separate or additional payment will be made for sheeting and bracing that is specifically shown on the plans or specifically described in the specifications to be left in place in sewer trenches and excavations, regardless of the type used nor for the removal from the trench and excavation and the disposal away from the job site of the cut sheeting, bracing and rangers. The cost thereof shall be included in the prices bid for all sewer contract items of work, except when separate payment for sheeting and bracing is provided, in this case the cost shall be included therein. When sheeting is specifically ordered by the Engineer, to be left in place in sewer trenches and excavations, the cost for all labor, materials, cutting, removal, disposal, insurance and work required to leave sheeting in place shall be determine in accordance with **Articles 25 and 26** of the Contract.

#### 40.05.3 MATERIALS

(A) Timber sheeting and bracing shall be of new or acceptable used timber free from injurious defects.

(B) Steel soldier beams shall comply with the requirements of **Section 23.05 - Structural, Reinforcing And Miscellaneous Steel**, except that approved used material will be permitted. Steel sheet piling shall comply with the requirements of **Section 24.01 - Steel Sheeting**, except that approved used materials will be permitted. Timber and lumber for bracing, shoring, fencing, bridging, and decking shall conform to the requirements of **Section 23.06 - Timber And Lumber**. Steel used for sheeting systems or for any other purposes herein shall conform to the requirements of the ASTM A36 and all other applicable requirements of ASTM.

(C) Steel Plates for use as sheeting will be permitted provided that they are properly installed and supported. The use of steel bracing frames which partially support the steel plates will be permitted up to a depth of twelve (12) feet. The use of steel plates in conjunction with trench boxes will not be permitted (trench boxes can not be considered as steel bracing frames).

(D) Steel Sheeting shall conform to the requirements of **Section 24.01** and shall be installed with continuous interlock.

#### 40.05.4 CONSTRUCTION METHODS

(A) GENERAL - Timber sheeting and bracing and other sheeting systems shall be of sufficient dimensions and strength, and steel sheeting shall be of sufficient type, size and weight, to support adequately the sides of the trenches and excavations and insure the safety of adjacent structures and shall be installed in accordance with the approved sheeting details. The Contractor shall be solely responsible for the adequacy and sufficiency of all sheeting and bracing used.

(B) SHEETING - Unless otherwise specified, timber sheeting and bracing shall be driven or placed ahead of the excavation in such a manner as to prevent the loss or slippage of ground in order to

safeguard adjacent surface and subsurface structures. The sheeting shall be driven to adequate depth below subgrade. As the work progresses, any voids back of the sheeting shall be filled and compacted in accordance with **Section 40.06** and as directed by the Engineer.

(C) Sheeting can be used as forms for concrete work. Whenever sheeting is used as formwork as specified or approved by the Engineer only timber sheeting will be permitted unless otherwise approved or specified in writing by the Engineer. When sheeting is used as formwork, an approved protection shall be placed between the sheeting, bracing or soldier beams and the concrete. In addition, when sheeting is used as formwork for any structure or portion thereof, the thickness of that structure or portion of such structure shall be increased by three (3) inches beyond the original neat line of such structure or portion thereof. In no case shall the sheeting, soldier beams or other bracing encroach upon the original neat line of the structure. In such instances when sheeting, soldier beams or other bracing is found to encroach upon the neat line of the structure, the Engineer shall direct the Contractor to remove such sheeting, soldier beams or other braces and redrive and/or replace the sheeting, soldier beams or other braces outside the neat line of the structure. All sheeting used as formwork shall be removed.

(D) All open cuts shall be excavated with vertical sides and properly supported with close sheeting and bracing in conformity with the requirements of **Section 40.03 - Earth Excavation** and with 23 NYCRR - "Protection of Persons Employed in Construction and Demolition Work" and 16 NYCRR Part 753 - "Protection of Underground Facilities" of the State of New York, Department of Labor, Board of Standards and Appeals.

(E) The Contractor is advised that trench boxes will be permitted for use as a sheeting system provided that the depth of trench does not exceed twelve (12) feet. The use of trench boxes to partially sheet trenches that are greater than twelve (12) feet in depth, will be strictly prohibited.

Should trench boxes meeting the above requirements be utilized, the trench will not have to be sheeted completely to subgrade. The trench box will be permitted to "hang up" to a maximum of two (2) feet above subgrade provided that the existing soil in the area of the subgrade can "stand up" on its own without sheeting. Should running ground be encountered or should the soil in the subgrade area begin to slough off, the Contractor will be required to extend the trench box to subgrade. The Engineer shall always maintain the right to order the Contractor to lower the trench box to subgrade as required.

No deductions will be made from any payment for not sheeting the bottom two (2) feet of trench if approved by the Engineer and no additional payment will be made should the Contractor be directed to sheet completely to subgrade.

All sheeting and bracing drawings submitted for approval which indicate trench boxes must be designed for the full depth of trench (to subgrade) and shall show the trench box extending to subgrade.

(F) **SLOPED SIDES OF TRENCHES OR EXCAVATIONS** - Where the Contractor requests permission not to sheet a trench or excavation, and offers to slope the sides of such trench or excavation in accordance with OSHA Regulations in lieu of such sheeting, the Contractor's request shall be reviewed by the Engineer.

If the Engineer deems such sloping to be acceptable the Engineer shall so notify the Contractor in writing.

Pavement excavation and restoration requirements shall be governed by the width of the trench measured at the bottom of the pavement foundation. Pavement excavation and restoration in excess of those required in connection with standard trench excavation, as specified, shall not be paid for.

In those cases where the Contractor does not request permission to side slope, but the Engineer determines that side sloping is in the best interests of the City, the Engineer shall order the Contractor to proceed using such side sloping. In these cases, the additional pavement excavation and restoration will be paid for at the appropriate bid unit price.

In both of the above cases it shall be presumed that side sloping a trench or excavation is done to obtain a lower cost for the work to be performed. The City shall, therefore, take an appropriate credit to cover the difference in overall costs resulting from the use of side sloping instead of timber sheeting.

#### (G) SHEETING METHODS

The following methods of sheeting trenches are acceptable:

- (a) Vertical Wood Sheeting
- (b) Steel Soldier Beams with Horizontal Wood Lagging
- (c) Interlocking Steel Sheeting
- (d) Trench Boxes for trench depths up to twelve (12) feet
- (e) Steel Soldier Beams with Steel Plates continually supported
- (f) Steel Frames with Steel Plates for trench depths up to twelve (12) feet
- (g) Krings and Icon Type Sheeting Frames and Plates

#### 40.05.5 SHOP DRAWINGS

The Contractor will be required to submit Shop Drawings detailing the sheeting system whenever the depth of cut exceeds five (5) feet.

(A) Before commencing any excavating operation the Contractor shall have approved drawings from the Department of Design and Construction for all types of sheeting and bracing systems, cofferdams, shoring, underpinning, bridging, decking and all other temporary or permanent supporting structures required.

(B) The Contractor shall submit for approval five (5) copies of sheeting and bracing drawings, and other structures (i.e. decking, bridging) drawings that the Contractor proposes to use for the work.

(C) The Contractor shall have these drawings prepared by a Licensed Professional Engineer, currently registered in the State of New York. Such drawings shall be submitted together with design calculations, references, tables and charts. Both drawings and design calculations shall bear the imprint of the Licensed Professional Engineer's seal and signature.

(D) In designing the sheeting stated above, the Contractor's Engineer shall take note of the standard minimum load diagram requirements for Watertight and Non-Watertight sheeting structures. (See Sewer Design Standards.)

(E) The following notes shall be required on all sheeting detail submissions:

- (1) If the actual surcharge is in excess of three hundred thirty (330) pounds per square foot the Contractor shall adequately reinforce the sheeting and bracing as required at no additional cost to the City.
- (2) Maximum pilot cut shall be five (5) feet.

The sheeting and bracing drawings shall also include but not be limited to the following: the density of the soil, the internal angle of friction of the soil, the stress grade and type of lumber, the allowable steel stresses and the sequence of construction operation where required.

(F) Shop drawings of sheeting, bracing and other structures used by the Contractor shall be signed by and carry the seal of a Professional Engineer licensed in the State of New York. These drawings shall be submitted together with proper design computations bearing the same seal and signature. Shop drawings shall be on sheets twenty-seven (27) inches by forty (40) inches with a one-half (1/2) inch marginal space on three (3) sides and a two (2) inch marginal space for binding on the left side.

Shop drawings shall be numbered consecutively and shall accurately and distinctly present the following:

- (1) All working and erection dimensions.
- (2) Arrangement and sectional views.
- (3) Necessary details, including complete information for making connections between work under this contract and work under other contracts.
- (4) Kinds of materials.

(G) Each shop drawing shall be dated and contain:

- (1) The name of this project and this contract number.
- (2) The description name of classified contract item number or numbers under which it is or they are required.
- (3) The locations or points at which the sheeting is to be installed in the work.

(H) All sheeting submissions shall reflect the means and methods chosen by the Contractor and approved by the Engineer. Whenever steel sheeting systems (including trench boxes, frames and plates, etc.) are submitted which would render the crossing of Utilities (i.e. water mains and sewers) impossible the Contractor shall also submit, for approval, a system which can be utilized to permit such crossings (i.e. wood sheeting).

(I) The submission of multiple sheeting systems shall be kept to a minimum. Whenever the Contractor submits multiple systems they must be accompanied with a Location Plan shop drawing to indicate the exact location where these various systems are to be installed. Since the approval of multiple systems will delay the sheeting approval process the Contractor is requested to submit a schedule indicating the time frame that these systems are required. In addition the Contractor will be required to install these multiple systems at the locations indicated on the submitted Location Plan. Should the Contractor request to change the sheeting system at any particular location the Contractor will be required to resubmit the sheeting drawing, for approval, even though the revised sheeting system may have been approved at another location within the project area. The Contractor is reminded that the approval time for any given sheeting system may require up to four (4) weeks.

#### **40.05.6 DESIGN CRITERIA**

The following criteria shall be used in calculating the required sheeting, bracing and/or decking systems.

(A) All compression members (struts) shall be designed with a factor of safety of two (2.0). The factor of safety of two (2.0) shall be a value above and beyond the allowable value for compressive stresses for steel as designated in the "AISC Manual of Steel Construction", and for wood as designated in the "National Design Specification for Stress-Grade Lumber and its Fastening". All other allowable stresses (not including compression members) may be increased by thirty-three and one-third (33-1/3) percent where sheeting and bracing is deemed a temporary structure.

(B) A factor of safety shall be used to determine the minimum embedment for sheeting as follows:

- Vertical Timber - 15%
- Soldier Beams - 20%
- Steel Sheeting - 30%

(C) Embedment shall be calculated in accordance with the procedures and standard minimum load diagrams specified herein. The maximum allowable embedment for vertical timber sheeting shall not exceed three feet six inches (3'-6"). The minimum embedment shall be two (2) feet.

(D) The Contractor is advised that the maximum allowable bending stress ( $F_b$ ) for all timber members shall not exceed one thousand seven hundred fifty (1,750) pounds per square inch. If the Contractor

elects to use a bending stress higher than  $F_b = 1,750$ -psi, written certification of bending stress test results shall be submitted to the Engineer prior to use of such material in construction.

(E) Where it is anticipated that heavier crane or equipment loads will fall within the influence line of the trench, design loads shall be increased accordingly.

(F) The Contractor shall compute and include in the Contractor's submission of drawings and calculations the following:

- (1) Maximum bending stress
- (2) Maximum horizontal shear in wale
- (3) Compression perpendicular to grain
- (4) Maximum vertical shear stress

**(G) DECKING**

- (1) Unless otherwise specified in the contract documents or approved in writing by the Engineer, the minimum live load on decking shall be AASHTO HS20-44 or Contractor's equipment or heaviest truck loading (i.e. concrete trucks) whichever is greater plus an impact factor of thirty-three (33) percent.
- (2) Unless otherwise approved, timber mats shall extend a minimum of three (3) feet from sheeting line on either side of trench.
- (3) Unless otherwise approved, a minimum one thousand (1,000) pounds per square foot surcharge load shall be used for sheeting below decking.

(H) Maximum trench widths shown on sheeting details shall not exceed those allowed by the standards or specifications.

(I) The Contractor shall provide an individual cross-sectional sheeting (trench) detail for each size water main pipe and sewer conduit to be constructed unless permission to do otherwise is granted.

(J) Where the water table lies above the subgrade of trench and a well point or deep well dewatering system is not used, the Contractor shall include the effect of hydrostatic loading in calculations for both watertight and non-watertight sheeting.

(K) Sheeting details shall accurately depict actual field operations. The Contractor shall be restricted to a maximum five (5) feet deep pilot cut and all details must reflect this. Additional braces and wales may be required to install sheeting due to the five (5) feet maximum pilot cut restriction. The Contractor shall not assume that additional pilot cut depths will be allowed.

**40.05.7 REMOVAL OF SHEETING**

All sheeting design and requirements shall be in strict conformance with this section and all appropriate Addenda to the specifications.

Unless otherwise specified in the plans or these specifications, the Contractor shall remove all sheeting and bracing throughout this project.

(A) The sheeting shall be removed in lifts during the backfilling operation in order to permit proper placement and compaction of material against the structure and the earth bank. This work shall be accomplished in conjunction with the removal of wales and braces. In no case shall the lifts for sheeting exceed the specified or otherwise approved depth of compaction layer.



(B) The Contractor shall submit to the Engineer, for approval, the Contractor's method for installation and removal of sheeting and the method for backfilling the trench. The submission shall also specify if there are any location(s) where sheeting cannot be removed and detail the reasons why the sheeting cannot be removed. The submission shall be signed by and carry the seal of a New York State Licensed Professional Engineer. These methods must be strictly adhered to.

(C) The Contractor is advised that the Contractor will be responsible for, and shall solely at the Contractor's own expense, repair, replace and/or relocate all City owned utilities that are damaged and/or disturbed due to the Contractor's removal of sheeting operation.

(D) If the Contractor is required to leave the sheeting system in place in order to protect City owned utility crossings and structures, payment will be made in accordance with **Subsection 40.05.2(A)** and **Subsection 40.05.2(B)**.

(E) This section shall not be construed to relieve the Contractor of the Contractor's obligation under the contract to maintain, protect and support (temporarily and permanently) all City owned utilities within the influence lines of the excavated trenches. The Contractor in accordance with the standards of the agencies having jurisdiction thereof shall perform such maintenance, protection and support.

(F) The cost of maintenance, protection and support (temporarily and permanently) of City owned utilities shall be included in the prices bid for all items for which there are bid prices.

(G) If a soldier beam and lagging sheeting system is utilized then all parts of the system (i.e. soldier beams, bracing, wales and lagging) must be removed.

(H) There shall be no additional payment made for repairing, replacing and/or relocating City owned utilities that may be damaged and disturbed due to the Contractor's removal of sheeting operation, or for work performed by the Contractor as directed in **Subsection 40.05.7(E)** above.

#### **40.05.8 COST INCLUDED**

There shall be no separate payment for the sheeting and bracing of trenches and excavation of water mains larger than 20-inches in diameter and appurtenances thereto including valve chambers, regulator chambers, etc.; and for the sheeting and bracing of trenches and excavation of all sewer conduits and appurtenances thereto including manholes, chambers, catch basins, etc. The cost of all labor, material, plant, equipment and insurance necessary or required to furnish and install all timber and steel sheeting together with all necessary rangers, bracing, lagging, soldier beams, etc., excavation for the placing of sheeting, backfill and compaction behind sheeting to prevent loss of ground, cut off of sheeting as specified, together with all work incidental thereto, all in accordance with the plans and specifications and as directed by the Engineer, shall be deemed included in the prices bid for the respective contract items.

#### **40.05.9 SEPARATE PAYMENT**

Separate payment will be made for the sheeting of water mains 20-inches and smaller in diameter. Payment will be made in accordance with **Section 70.91**.

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## SECTION 70.91 SHEETING

### 70.91.1 DESCRIPTION

This section describes the use of Sheeting in water main trenches and excavations only.

### 70.91.2 MATERIALS

All sheeting materials shall comply with **Subsection 40.05.3**.

### 70.91.3 CONSTRUCTION METHODS

To prevent injury to workmen or to avoid damaging existing water pipes, structures, and pavements and their foundations through caving or sliding of the banks of a trench or other excavation, protection shall be provided for all excavation work except where a determination is made by the Contractor, the Engineer or the Engineer's inspector at the work site that the nature of the excavation does not require protection.

Excavation protection, when required, shall be provided in accordance with the requirements of:

- (1) U.S. Occupational Safety and Health Administration (OSHA) Construction Safety and Health Regulations, Part No. 1926, Subpart P;
- (2) 23 NYCRR, Subpart 23-4 – Excavation Operations;
- (3) 16 NYCRR, Part 753 – Protection of Underground Facilities;
- (4) Special requirements detailed below.

NOTE: Whenever an interpretation difference exists as to selecting the applicable requirements, that of the most stringent one shall govern.

#### (A) SPECIAL REQUIREMENTS

Unless specifically ordered otherwise by the Engineer or the Engineer's inspector at the work site, the following Special Requirements shall be adhered to:

##### (a) Trenches For Water Main Pipe 12-Inch In Diameter And Less

In general, such trenches shall not be sheeted since, with the laying depths used, the trench bottoms will be less than five (5) feet below the ground surface. However, removal of existing pipe, or connections to existing pipe may, in some instances result in trench depths of five (5) feet or greater. In such cases, at a minimum, sheeting will be required. If sheeting is required, it shall be of sufficient length so that all ingress and egress is within the sheeted area, and shall extend at least 2 feet beyond all work locations and access points. If workmen are required to transit between sheeted areas, they must exit the trench.

If, in the opinion of the Engineer or the Engineer's inspector at the work site, sheeting is required, for whatever reason, in any trench or other excavation, the Contractor shall install it.

##### (b) Trenches For Water Main Pipe 16-Inch and 20-Inch In Diameter

All such trenches shall be sheeted, regardless of the depth of the trench.

(c) Trenches For Water Main Pipe Larger Than 20-Inch In Diameter; And Excavations For Chambers And Manholes

All such trenches shall be sheeted, regardless of the depth of the trench.

(d) Detailed Requirements As To Type And Size Of Sheeting

Unless specifically noted otherwise on the contract drawings or in these specifications, the sheeting required in paragraphs (a), (b), and (c) above, shall be furnished and installed in full compliance with the requirements of Section 1926.652 of the OSHA Regulations.

The size and spacing of sheeting, stringers, and cross bracing required for various soil conditions shall meet the latest OSHA Regulation requirements.

(B) **SUBSTITUTION FOR TIMBER SHEETING**

Any substitution for timber sheeting and bracing such as a self-supporting movable shield of timber or metal, etc., must be designed by and stamped with the seal of a Professional Engineer, licensed to practice in the State of New York, and must be approved by the Engineer in writing prior to its being used on the job. Submittal of proposed substitutions shall be made by the Contractor at least four (4) weeks prior to their scheduled use to allow for proper review and approval of it by the Engineer.

(C) **SHEETING LEFT IN PLACE**

Where the sheeting is ordered to be left in place, the full amount of the lumber so left in place will be paid for at fifty percent (50%) of the market value thereof, without any allowance for the cost of delivery or placing in the work. Sheeting left in place shall be cut off in accordance with **Subsection 40.05.2**.

When sheeting is ordered to be left in place, the cost of all work required for the cutting, removal and disposal of the cut sheeting shall be deemed included in the fifty percent (50%) compensation paid above.

**70.91.4 MEASUREMENT**

The quantity of sheeting incorporated into the work, complete, as shown, specified or required shall be computed as twice the depth of trench times the length of the sheeted trench. The depth of trench or excavation to be sheeted shall be from the ground surface to the bottom of the pipe. In those cases where a special foundation, such as a broken stone bed or a concrete cradle or mat is required, the depth of trench or excavation to be sheeted shall be from the ground surface to the bottom of such special foundation.

**70.91.5 PRICE TO COVER**

Payment for sheeting of trenches for water main pipe 12-inch in diameter and less shall be made per square foot under bid Item No. 70.91SW12 - FURNISHING AND PLACING SHEETING AND BRACING IN TRENCH FOR WATER MAIN PIPE 12-INCH IN DIAMETER AND LESS contained in the bid schedule.

Payment for sheeting of trenches for water main pipe 16-Inch and 20-inch in diameter shall be made per square foot under bid Item No. 70.91SW20 - FURNISHING AND PLACING SHEETING AND BRACING IN TRENCH FOR WATER MAIN PIPE 20-INCH IN DIAMETER contained in the bid schedule. Where there is no bid item for such sheeting, because the quantities of such pipe to be installed are very small, or the work involves connecting smaller size pipe to 16-Inch and 20-inch mains or larger, payment for such sheeting will be made at the unit price bid for Item No. 70.91SW12 - FURNISHING AND PLACING SHEETING AND BRACING IN TRENCH FOR WATER MAIN PIPE 12-INCH IN DIAMETER AND LESS.

The Contractor's attention is directed to the fact that the Contractor's bid price for sheeting covers the cost of extra earth excavation and other extra costs involved in laying the pipe, such as but not limited to, lesser pipe footage being installed per day, etc.

All of the above provisions are intended to apply to those instances where sheeting is required in a trench in order to lay pipe. In such instances a wider trench is required (to accommodate the sheeting) than when pipe is laid in unsheeted trenches.

When sheeting is provided in portions of a trench (to protect men inserting taps, etc.) that was originally excavated for laying a water main, and when such trench was not sheeted at the time the water main was laid, payment shall be made only for the amount of sheeting actually placed. In all such cases the payment lines for pavement excavation, pavement restoration, and satisfactory backfill shall be those specified for unsheeted trenches.

Where the OSHA Regulations do not require sheeting, but where the Contractor, for the Contractor's own convenience, installs a more limited type of trench support (stay bracing, etc.) such limited type of trench support will not be paid for. The cost of such limited trench support shall be deemed included in the various unit prices bid.

All sheeting that is to be paid for must meet all requirements of the OSHA Regulations.

#### **70.91.6 NO SEPARATE PAYMENT**

No separate payment will be made for the sheeting of water main trenches for water mains larger than 20-inches in diameter, the costs thereof shall be deemed included in the prices bid for laying these mains. No payment shall be made for sheeting at chambers and manholes, but payment thereof will be deemed to be included in the various items bid for constructing the chambers and manholes.

*Payment for Furnishing And Placing Sheetting And Bracing In Trench For Water Main Pipe will be made under the Item Number as calculated below:*

The Item Numbers for Furnishing And Placing Sheetting And Bracing In Trench For Water Main Pipe have nine characters. (The decimal point is considered a character, the third character.)

- (1) The first five characters shall define Furnishing And Placing Sheetting And Bracing In Trench For Water Main Pipe:

70.91

- (2) The sixth and seventh characters shall define Furnishing And Placing Sheetting And Bracing In Trench For Water Main Pipe:

SW - Furnishing And Placing Sheetting And Bracing In Trench  
For Water Main Pipe

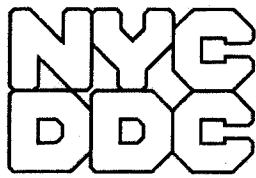
- (3) The eighth and ninth characters shall define the Size of Water Main Pipe That Trench Sheetting will be provided for:

12 - 12-Inch In Diameter And Less  
20 16-Inch and 20-Inch In Diameter

- (4) The Item Numbers together with Description and Pay Unit as provided in the Bid Schedule are provided below:

Item No.	Description	Pay Unit
70.91SW12	FURNISHING AND PLACING SHEETING AND BRACING IN TRENCH FOR WATER MAIN PIPE 12-INCH IN DIAMETER AND LESS	S.F.
70.91SW20	FURNISHING AND PLACING SHEETING AND BRACING IN TRENCH FOR WATER MAIN PIPE 16-INCH AND 20-INCH IN DIAMETER	S.F.

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# Department of Design and Construction

## SPECIFICATION BULLETIN

# SB

17-001

Title: **UV CURED-IN-PLACE-PIPE (CIPP) LINING METHOD**

Prepared:

1/12/2017

Richard Jones, P.E. CWI

Date

Director, Specifications – Infrastructure Design

Approved:

1/12/2017

Mohsen Zargarelahi, P.E.

Date

Assistant Commissioner – Infrastructure Design

### APPLICABILITY:

- This Specification Bulletin (SB) is effective for projects advertised on or after 2/20/17.

### SUPERSEDEENCE:

- This SB supersedes the following SBs: **NONE**

### ATTACHMENTS:

- **ATTACHMENT 1:** Revised Section 50.71 - RECONSTRUCTION OF EXISTING SEWERS USING D.E.P. APPROVED CURED-IN-PLACE-PIPE (CIPP) LINING METHOD

*Pages A1-1 through A1-9*

### REVISIONS TO THE NEW YORK CITY DEPARTMENT OF ENVIRONMENTAL PROTECTION STANDARD SEWER AND WATER MAIN SPECIFICATIONS, DATED 7/1/14:

All references contained below are to the New York City Department of Environmental Protection Standard Sewer and Water Main Specifications, Dated July 1, 2014. Said Standard Sewer and Water Main Specifications are hereby revised as follows:

- a) **Refer** to Pages V-52 through V-59, Section 50.71 – RECONSTRUCTION OF EXISTING SEWERS USING D.E.P. APPROVED CURED-IN-PLACE-PIPE (CIPP) LINING METHOD;  
**Delete** in its entirety the Section;  
**Substitute** the revised Section in Attachment 1 (9 pages).

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## **CURED-IN-PLACE-PIPE (CIPP) LINING METHOD**

### **50.71.1 INTENT**

It is the intent of this section to provide for the reconstruction of existing sewers by the installation of a resin-impregnated flexible tube that is inflated within the existing conduit to form a hard, impermeable, corrosion resistant pipe within a pipe. When cured, the cured-in-place-pipe (CIPP) will be formed to the original conduit.

### **50.71.2 REQUIREMENTS**

#### **(A) DESCRIPTION OF WORK**

Unless otherwise specified in the contract, the Contractor shall use a Department of Environmental Protection (DEP) approved cured-in-place-pipe lining method on all existing sewers shown, specified, or ordered to be reconstructed under this contract by use of an approved lining method. All such work shall comply with the terms of this specification and with the manufacturer's standards set forth for the lining method(s) selected by the Contractor.

Under this method the Contractor shall reconstruct existing sewers by the insertion of either a flexible polyester felt or glass fiber lining tube that has been saturated with either a thermosetting or photosetting resin. The liner shall be inserted into the existing sewer either by direct inversion (ASTM F1216) using a head of water or air, or by pulling the tube into place by winching and then inflating it by inversion of a calibration hose (ASTM F1743). The thermosetting resin shall then be cured by either circulating hot water through the tube or by circulating hot air (a mixture of steam and air), or by circulating steam to cure the resin into a hard impermeable pipe. The photo-initiated resin shall be exposed to an ultraviolet light source to cure the resin into a hard impermeable pipe.

The Contractor shall make all investigations of the existing sewers to be reconstructed and shall determine and select the most effective approved lining method(s) appropriate for installation in the existing sewers to be reconstructed. The Contractor shall be responsible for the successful completion of all work required herein; failure of the Contractor's selected lining method(s) to be satisfactorily installed in the existing sewers shall not relieve the Contractor of the Contractor's responsibility to provide satisfactorily reconstructed sewers.

Any cost associated with the removal of the unsatisfactorily installed liner and the subsequent, satisfactory reinstallation of an approved liner shall be borne solely by the Contractor, and the Contractor shall not make any claim against the City for this additional required work.

Once installed, the liner shall extend from manhole to manhole in a continuous tight fitting watertight pipe-within-a-pipe, and be chemically resistant to sewage gases and materials. During the warranty period any defects that might affect the integrity or strength of the liner shall be immediately repaired or replaced by the Contractor, at the Contractor's expense, pursuant to the manufacturer's recommendations, and to the satisfaction of the Engineer.

#### **(B) REFERENCE SPECIFICATIONS AND STANDARDS**

The American Society for Testing and Materials Standard Specifications ASTM C581, D638, D790, D2990, D5813, F1216, F1743, and F2019, and the manufacturer's standards are hereby made a part of this specification.

#### **(C) LINER SIZE AND LENGTH**

The liner shall be fabricated to a size that when installed will neatly fit the internal circumference of the sewer to be lined. The liner thickness shall be designed to adequately resist all external pressures and conditions (e.g. deflection, ring bending, buckling and minimum stiffness). The length of the liner shall be

that deemed necessary to effectively span the distance and carry out the insertion and seal of the liner at the inlet and outlet manholes. The Contractor shall verify the lengths in the field before cutting the liner to length. Prior to the start of work the Contractor will be required to submit design calculations for wall thickness to the Engineer. When UV-cured liners are used, the Contractor must also submit the manufacturer's product specific data regarding the glass fiber tube, the resin and initiator cocktail system and the necessary manufacturer installation reference material detailing the type of light source and the speed in which it will be advanced to insure proper curing.

Allowance for circumferential and longitudinal stretching of the liner during installation shall be made as per the manufacturer's standards for the approved method of lining chosen. Under no circumstances shall the finished wall thickness of liner be less than six (6) millimeters in thickness.

(D) **DESIGN PARAMETERS** - The following design parameters shall be used in the design of pipe liners in addition to the manufacturer's standards:

(1) Ovality of Existing Pipe	2% Minimum
(2) Existing Pipe Condition	Fully Deteriorated
(3) Modulus of Soil Reaction	700-psi Minimum
(4) Factor of Safety Against Buckling	2 Minimum
(5) Allowable Deflection	5% Maximum
(6) Ratio of Pipe to Soil Strength	10% Minimum
(7) Live Load	AASHTO HS20-44 Loading under Roadways AASHTO E-80 Loading under Railroads
(8) Soil Unit Weight	120-pcf Minimum (If no Boring Data is available in vicinity.)
(9) Creep Reduction Factor	50% Maximum

(E) **LINER MATERIAL** - The Contractor shall furnish, prior to use of the lining materials, satisfactory written guarantee of the Contractor's compliance with the liner manufacturer's standards for all materials (polyester felt tubing, including the polyurethane covered felt and the thermosetting resin or glass fiber tubing soaked in photosetting resin) and techniques being used in the method.

Prior to the start of work the Contractor will be required to submit to the Engineer the types of resins and the resultant cure schedules for each length and size of sewer to be lined. The finished liner shall incorporate thermosetting materials that will withstand the corrosive effects of the normal existing effluents.

(F) **SAFETY** - The Contractor shall carry out the Contractor's operations in strict accordance with all OSHA and manufacturer's safety requirements. Emphasis shall be placed upon safety requirements for entering confined spaces and working with hot water, steam, or resins that may cause fumes. The Contractor shall erect such signs and other devices as are necessary for the safety of the work site and shall secure the site and conform all work to the safety requirements of all pertinent regulatory agencies.

(G) **AIR QUALITY** - The Contractor is advised that all liner installation work shall be carried out in full compliance with all City, State, and Federal laws, rules, and regulations regarding Air Quality and Safety. The contractor shall take all necessary precautions to minimize the release of styrene or other VOC emissions and mitigate odors generated during set and the CIPP lining process. The Contractor shall also take all necessary precautions to prevent such odors from entering structures, businesses or other types of establishments, through service connections or other plumbing fixtures.

(H) **FLOW BYPASSING** - Prior to the start of work the Contractor will be required to submit a fluming/bypass-pumping detail in accordance with **Subsection 10.13 - (3) Existing Flow**. The Contractor shall provide for the diversion of flow of existing sewers at existing upstream manholes (if available) and pump the flow into an existing downstream manhole. The pumps and bypass lines shall

be of adequate capacity and size to handle the flow. The proposed bypassing system shall be submitted to the Engineer for approval and no work shall commence until such approval is granted.

(I) **TELEVISION INSPECTION PRIOR TO INSTALLATION** - All bidders are advised that a digital audio-visual inspection was made of the sewers to be reconstructed and that this recording (the "DEP recording") is available for review prior to bid opening. All prospective bidders are urged to view this recording in order to assess the suitability of the lining methods for use on this project. The City of New York does not guarantee the successful use of any particular method on this project and the Contractor shall utilize the Contractor's judgment as to the effective use of the method(s) the Contractor selects.

The Contractor will also be required to perform another television inspection and digital audio-visual recording of the sewer a maximum of seven (7) days prior to the setting up of the liner insertion equipment at the site. This inspection will be performed, utilizing a radial eye camera, to determine the latest condition of the sewer and to accurately identify the location of active service connections. Should the results of this television inspection show a condition different than that shown on the DEP recording, the Contractor shall immediately notify the Engineer.

For each section to be lined, the Contractor shall certify in writing that the DEP approved method the Contractor intends to use is suitable.

(J) **CLEANING** - The Contractor shall furnish all labor, materials and equipment and shall do all work necessary to remove and dispose of all debris, sediment, silt, refuse, timber, roots, and materials of all kinds which can be removed by conventional non-excavation type pipe cleaning equipment located in the existing sewers and manholes. The Contractor shall immediately notify the Engineer if such debris, etc., cannot be removed by conventional non-excavation type pipe cleaning equipment.

Protruding service connections shall be removed and paid for consistent with **Section 52.51**.

(K) **SERVICE CONNECTIONS** - The Contractor shall be required to determine which service connections are active and shall be responsible for controlling (or maintaining) the flow for each active service connection along the line of the sewer to be rehabilitated. Where necessary, the flow from an active service connection shall be bypassed to a manhole downstream of the proposed work by means of pumping from the trap located in the basement of the affected building. However, should such bypassing be judged unfeasible by the Engineer, the Contractor shall excavate to the service connection outside the building area (sidewalk or roadway as determined by the Engineer) and bypass the connection from this point. The pump and bypass line for each service connection shall be of adequate capacity and size to handle the flow.

Prior to the commencement of any work, the Contractor shall make all necessary investigations and prepare a plan for the controlling (or maintaining) of the flow and, where necessary, for the bypassing of active service connections. This plan shall be submitted to the Engineer for approval and no work shall commence until such approval is granted.

(L) **EQUIPMENT SPECIFICATION** - The Contractor shall provide suitable temperature and pressure gauges in accordance with the manufacturer's standards and specifications. High-pressure steam hoses and fittings have to be rated in accordance with the steam generator used. Thermocouples are to be marked for each fluid to be conveyed: RED-steam; BLUE-water; GREEN-air. The pulling winch shall be equipped with a tension gauge (Type-Martin Decker or Approved Equal) - smooth running and variable speed. The cutting device shall be a Gulectron type or approved equal remote monitored device when used inside the lined pipe.

The Contractor shall prepare and inspect all necessary tools and any spare parts that are required for equipment that suffer frequent breakdowns, and shall ensure that said tools and spare parts are available at the site. Supporting equipment, such as pumps and generators, shall be provided at the site in the event there is a fluid surge and pumping is required on an emergency basis. The Contractor shall also prepare and make operable all necessary communication equipment for the Contractor's field crew.

(M) **INSTALLATION OF LINER** - Prior to the installation of liner, the Contractor shall fully comply with **Subsections 50.71.2(C) through 50.71.2(L)**, inclusively, and with any additional requirements set forth in the specific provisions applicable to the respective lining methods. The Contractor shall not proceed with the installation of liner until the Engineer, in writing, certifies such compliance and directs the Contractor to proceed with the lining installation. The approved liner shall be installed pursuant to the specific provisions set forth for the selected lining method. If any problem occurs during the installation operation the Contractor shall investigate with a television camera from the remote manhole.

(N) **PRELIMINARY TELEVISION INSPECTION OF INSTALLED LINER** - After the liner is sufficiently cool (below one hundred degrees Fahrenheit (100°F)) and before opening the service connections, a preliminary television inspection and digital audio-visual recording of the newly installed liner shall be performed to determine if the liner is properly installed.

(O) **SERVICE CONNECTIONS** - After the liner has been installed, the Contractor shall re-open all existing active service connections and those inactive connections ordered by the Engineer. These service connections shall be re-opened and paid for consistent with **Section 52.61**.

(P) **FINAL TELEVISION INSPECTION AFTER INSTALLATION** - A final television inspection and digital audio-visual recording of the newly lined sewer including the restored service connections shall be performed immediately after work is completed. Should the results of this final inspection reveal any defects, as determined by the Engineer, the Contractor will be required to repair or replace these defects as ordered by the Engineer at the sole expense of the Contractor.

Payment for this final television inspection will be made under Item No. 53.11DR - **TELEVISION INSPECTION AND DIGITAL AUDIO-VISUAL RECORDING OF SEWERS**.

(Q) **WORK SCHEDULE** - The Contractor shall be permitted to occupy the lane immediately above the sewer location and the parking lane immediately adjacent to the site of work unless otherwise specified. No further roadway or traffic restrictions shall be permitted.

### **50.71.3 INSTALLATION**

(1) **PREPARING AND INSERTING THE LINER** - The Contractor shall designate a location where the uncured resin in the original containers and the un-impregnated liner will be impregnated prior to installation. The Contractor shall allow the Engineer and/or the Engineer's representative to inspect the materials and chemical impregnation "wet out" procedure. A resin and catalyst system compatible with the requirement of this method shall be used. The quantities of the liquid thermosetting materials inserted into the lining tube shall be as per manufacturer's standards so as to fully saturate the liner material and provide the lining thickness specified. The contractor shall protect, store and handle materials during transportation and delivery, while stored on-site and during installation following Manufacturer's recommendations. Liners impregnated with thermo-initiated resins shall be stored within the proper temperature range and liners impregnated with photo-initiated resins shall not be exposed to UV-light sources, to insure no premature curing occurs.

Prior to installation of liner, the downstream sewer manhole adjacent to the sewer section to be lined shall be plugged.

The chemical impregnated liner material shall be inserted into the sewer line being reconstructed through the existing manhole by either the direct inversion method or by the pull-in-place method, as recommended by the manufacturer. The head used to extend the liner tube shall be sufficient enough to fully extend the tube both circumferentially and longitudinally. The head used will fall within the manufacturer's guidelines to insure that a proper finished thickness is achieved and that the liner fit snug to the existing pipe wall producing dimples at service connections and flared ends at the entrance and exit manholes.

Winch cable shall be equipped with a tension gauge to measure tension during pull through.

Inflation of liners and heat source method used shall be accomplished in accordance with manufacturer's standards and specifications.

Curing temperatures and pressures shall be monitored so as not to overstress the liner and cause damage or failure of the liner prior to cure.

The use of a lubricant is recommended and such lubricant shall be compatible with liner and resin.

The Contractor will be required to monitor and remove styrene to acceptable levels during the inflation and curing processes. An activated carbon filtration system shall be employed to remove styrene from both the process air flow and condensed steam, prior to release into the air or an adjacent or downstream sanitary or combined sewer manhole.

(2) CURING OF LINER - After inflation or inversion is completed, the Contractor shall supply a suitable heat source. The equipment shall be capable of delivering steam or hot water to the far end of the liner to uniformly raise the temperature in the entire liner above the temperature required to initiate and effect curing of the resin system. The temperature shall be determined by the resin/catalyst system employed. The heat source shall be fitted with suitable monitors to gauge the temperature and pressure of the incoming and outgoing heat exchanger circulating heating medium. Thermocouples shall be placed between the liner and the invert at each manhole so as to determine and record the temperature of the liner and time of exotherm. Initial cure shall be deemed to be completed when inspection of the exposed portions of the liner show it to be hard and sound; and when temperature reading(s) at the interface of the liner with the host pipe indicate sufficient heating has occurred. The cure period shall be of a duration recommended by the resin manufacturer; modified for the site specific conditions at the time curing is affected. During this cure time, the temperature inside the liner will be continuously maintained in the range required.

Once the cure is complete, the Contractor shall cool the hardened liner to a temperature below one hundred degrees Fahrenheit (100°F) before relieving the internal pressure. Cool down shall be accomplished as recommended by the manufacturer. Care shall be taken in the release of the internal pressure so that a vacuum will not develop that could damage the newly installed liner.

For UV-light CIPP systems, the intensity and duration of exposure to the photo-initiator's required UV-light wavelength shall be as per the manufacturer's recommendations for the proposed size and thickness of tube, to insure that the liner has been cured completely. The UV-light source shall be fitted with multiple temperature sensors to insure that reaction temperatures stay within the Manufacturer's acceptable range and do not blister the interior liner. All lamps shall be monitored to insure that they are on and functioning properly. In the event that a lamp fails or the reaction temperatures fall below the Manufacturer's acceptable range during CIPP installation, the Contractor shall reduce the speed of the light source (increasing the exposure duration) by the Manufacturer's specified amount. The Manufacturer's recommended cooling phase shall be observed after the last lamp of the light source has been turned off. The finished lining shall be continuous over the entire length and be free from visual defects such as foreign inclusions, dry spots, pinholes and delamination. The lining shall be impervious and free of any leakage from the pipe to the surrounding ground or from the ground to the inside of the lined pipe.

If due to broken or misaligned pipe at the access manhole, the lining fails to make a tight seal, the Contractor shall apply a seal of a resin mixture compatible with the liner.

After the curing has been completed, any residual water and condensation that adheres to the inner wall of the liner shall be removed. This residual water shall be collected and pumped from the channel of the downstream manhole and circulated through a separate carbon filtration unit before discharge into a downstream sanitary or combined sewer manhole. In the case of lining a storm sewer section, the collected filtered residual water and process water shall not be discharged into the downstream manhole or stream, but discharged into a nearby sanitary manhole.

#### 50.71.4 MEASUREMENT

The quantity to be measured for payment shall be the length of reconstructed sewer, accepted by the Engineer, measured horizontally along the centerline of the sewer from inside face of manhole to inside face of manhole.

#### 50.71.5 PRICE TO COVER

The contract price for "RECONSTRUCTION OF EXISTING SEWERS, USING D.E.P. APPROVED CIPP LINING METHOD" shall be the unit price bid per linear foot for each size sewer reconstructed by a cured-in-place-pipe DEP approved lining method and shall cover the cost of all labor, materials, plant, equipment, samples, tests and insurance required or necessary to reconstruct the sewers of the sizes shown including the cleaning of the existing sewers using conventional non-excavation type pipe cleaning equipment; television inspection prior to installation; diversion of flow of existing sewers; controlling (or maintaining) the flow for all active service connections; necessary bypassing and pumping of the existing active service connections; repair of active service connections; all necessary excavation, backfilling and compaction; complete installation of the liner; preliminary television inspection of installed liner; temporary and permanent restoration of all disturbed sidewalk and pavement areas (unless items for temporary and permanent restoration are otherwise provided in the Bid Schedule); cleaning up; and furnishing and installing all other items necessary to complete this work and do all work incidental thereto, all in accordance with the plans and specifications and as directed by the Engineer.

#### 50.71.6 SEPARATE PAYMENT

Payment for this final television inspection will be made under Item No. 53.11DR - TELEVISION INSPECTION AND DIGITAL AUDIO-VISUAL RECORDING OF SEWERS.

*Payment for Reconstruction Of Existing Sewers Using D.E.P. Approved Cured-In-Place-Pipe (CIPP) Lining Method will be made under the Item Number as calculated below:*

The Item Numbers for Reconstruction Of Existing Sewers Using D.E.P. Approved Cured-In-Place-Pipe (CIPP) Lining Method have eleven characters. (The decimal point is considered a character, the third character.)

(1) The first five characters shall define Reconstruction Of Existing Sewers Using D.E.P. Approved Cured-In-Place-Pipe (CIPP) Lining Method:  
50.71

(2) The sixth character shall define the Type of Sewer Effluent:  
S - Sanitary Sewer  
M - Storm Sewer  
C - Combined Sewer  
I - Interceptor Sewer

(3) The seventh and eighth characters shall define either the Diameter of the Sewer for Existing Circular Sewers or the Width of the Sewer for Existing Horizontal Elliptical Sewers, Vertical Elliptical Sewers and Egg-Shaped Sewers. (The seventh and eighth characters representing the unit of inches for either the Diameter of the Sewer for Existing Circular Sewers or the Width of the Sewer for Existing Horizontal Elliptical Sewers, Vertical Elliptical Sewers and Egg-Shaped Sewers.) See examples below:

10 - 10"  
30 - 30"

(4) The ninth character shall define the Shape of the Existing Sewer:  
D - Circular (Diameter)

H - Horizontal Elliptical  
V - Vertical Elliptical  
E - Egg-Shaped  
R - Rectangular

(5) The tenth and eleventh characters shall define either Circular or the Height of the Sewer for Existing Horizontal Elliptical Sewers, Vertical Elliptical Sewers and Egg-Shaped Sewers. (The tenth and eleventh characters representing either Circular or the unit of inches for the Height of the Sewer for Existing Horizontal Elliptical Sewers, Vertical Elliptical Sewers and Egg-Shaped Sewers.) See examples below:

00 - Circular  
19 - 19"  
32 - 32"

(6) Examples of Item Numbers together with Description and Pay Unit as provided in the Bid Schedule are provided below:

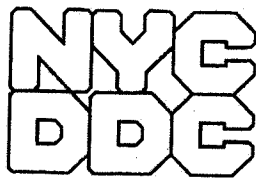
Item No.	Description	Pay Unit
50.71S10D00	RECONSTRUCTION OF EXISTING 10" DIAMETER CIRCULAR SANITARY SEWER, USING D.E.P. APPROVED CIPP LINING METHOD	L.F.
50.71S12D00	RECONSTRUCTION OF EXISTING 12" DIAMETER CIRCULAR SANITARY SEWER, USING D.E.P. APPROVED CIPP LINING METHOD	L.F.
50.71S18D00	RECONSTRUCTION OF EXISTING 18" DIAMETER CIRCULAR SANITARY SEWER, USING D.E.P. APPROVED CIPP LINING METHOD	L.F.
50.71S24D00	RECONSTRUCTION OF EXISTING 24" DIAMETER CIRCULAR SANITARY SEWER, USING D.E.P. APPROVED CIPP LINING METHOD	L.F.
50.71S23H14	RECONSTRUCTION OF EXISTING 23"W X 14"H HORIZONTAL ELLIPTICAL SANITARY SEWER, USING D.E.P. APPROVED CIPP LINING METHOD	L.F.
50.71S30H19	RECONSTRUCTION OF EXISTING 30"W X 19"H HORIZONTAL ELLIPTICAL SANITARY SEWER, USING D.E.P. APPROVED CIPP LINING METHOD	L.F.
50.71S14V23	RECONSTRUCTION OF EXISTING 14"W X 23"H VERTICAL ELLIPTICAL SANITARY SEWER, USING D.E.P. APPROVED CIPP LINING METHOD	L.F.
50.71S19V30	RECONSTRUCTION OF EXISTING 19"W X 30"H VERTICAL ELLIPTICAL SANITARY SEWER, USING D.E.P. APPROVED CIPP LINING METHOD	L.F.
50.71S20E29	RECONSTRUCTION OF EXISTING 20"W X 29"H EGG-SHAPED SANITARY SEWER, USING D.E.P. APPROVED CIPP LINING METHOD	L.F.
50.71S24E42	RECONSTRUCTION OF EXISTING 24"W X 42"H EGG-SHAPED SANITARY SEWER, USING D.E.P. APPROVED CIPP LINING METHOD	L.F.
50.71S25E37	RECONSTRUCTION OF EXISTING 25"W X 37"H EGG-SHAPED SANITARY SEWER, USING D.E.P. APPROVED CIPP LINING METHOD	L.F.
50.71S29E40	RECONSTRUCTION OF EXISTING 29"W X 40"H EGG-SHAPED SANITARY SEWER, USING D.E.P. APPROVED CIPP LINING METHOD	L.F.
50.71M15D00	RECONSTRUCTION OF EXISTING 15" DIAMETER CIRCULAR STORM SEWER, USING D.E.P. APPROVED CIPP LINING METHOD	L.F.
50.71M18D00	RECONSTRUCTION OF EXISTING 18" DIAMETER CIRCULAR STORM SEWER, USING D.E.P. APPROVED CIPP LINING METHOD	L.F.
50.71M30D00	RECONSTRUCTION OF EXISTING 30" DIAMETER CIRCULAR STORM SEWER, USING D.E.P. APPROVED CIPP LINING METHOD	L.F.
50.71M42D00	RECONSTRUCTION OF EXISTING 42" DIAMETER CIRCULAR STORM SEWER, USING D.E.P. APPROVED CIPP LINING METHOD	L.F.
50.71M38H24	RECONSTRUCTION OF EXISTING 38"W X 24"H HORIZONTAL ELLIPTICAL STORM SEWER, USING D.E.P. APPROVED CIPP LINING METHOD	L.F.

50.71M53H34	RECONSTRUCTION OF EXISTING 53"W X 34"H HORIZONTAL ELLIPTICAL STORM SEWER, USING D.E.P. APPROVED CIPP LINING METHOD	L.F.
50.71M24V38	RECONSTRUCTION OF EXISTING 24"W X 38"H VERTICAL ELLIPTICAL STORM SEWER, USING D.E.P. APPROVED CIPP LINING METHOD	L.F.
50.71M32V48	RECONSTRUCTION OF EXISTING 32"W X 48"H VERTICAL ELLIPTICAL STORM SEWER, USING D.E.P. APPROVED CIPP LINING METHOD	L.F.
50.71M34V53	RECONSTRUCTION OF EXISTING 34"W X 53"H VERTICAL ELLIPTICAL STORM SEWER, USING D.E.P. APPROVED CIPP LINING METHOD	L.F.
50.71M30E45	RECONSTRUCTION OF EXISTING 30"W X 45"H EGG-SHAPED STORM SEWER, USING D.E.P. APPROVED CIPP LINING METHOD	L.F.
50.71M33E48	RECONSTRUCTION OF EXISTING 33"W X 48"H EGG-SHAPED STORM SEWER, USING D.E.P. APPROVED CIPP LINING METHOD	L.F.
50.71M35E52	RECONSTRUCTION OF EXISTING 35"W X 52"H EGG-SHAPED STORM SEWER, USING D.E.P. APPROVED CIPP LINING METHOD	L.F.
50.71M40E53	RECONSTRUCTION OF EXISTING 40"W X 53"H EGG-SHAPED STORM SEWER, USING D.E.P. APPROVED CIPP LINING METHOD	L.F.
50.71M24R36	RECONSTRUCTION OF EXISTING 24"W X 36"H RECTANGULAR STORM SEWER, USING D.E.P. APPROVED CIPP LINING METHOD	L.F.
50.71M32R48	RECONSTRUCTION OF EXISTING 32"W X 48"H RECTANGULAR STORM SEWER, USING D.E.P. APPROVED CIPP LINING METHOD	L.F.
50.71C16D00	RECONSTRUCTION OF EXISTING 16" DIAMETER CIRCULAR COMBINED SEWER, USING D.E.P. APPROVED CIPP LINING METHOD	L.F.
50.71C24D00	RECONSTRUCTION OF EXISTING 24" DIAMETER CIRCULAR COMBINED SEWER, USING D.E.P. APPROVED CIPP LINING METHOD	L.F.
50.71C36D00	RECONSTRUCTION OF EXISTING 36" DIAMETER CIRCULAR COMBINED SEWER, USING D.E.P. APPROVED CIPP LINING METHOD	L.F.
50.71C48D00	RECONSTRUCTION OF EXISTING 48" DIAMETER CIRCULAR COMBINED SEWER, USING D.E.P. APPROVED CIPP LINING METHOD	L.F.
50.71C45H29	RECONSTRUCTION OF EXISTING 45"W X 29"H HORIZONTAL ELLIPTICAL COMBINED SEWER, USING D.E.P. APPROVED CIPP LINING METHOD	L.F.
50.71C60H38	RECONSTRUCTION OF EXISTING 60"W X 38"H HORIZONTAL ELLIPTICAL COMBINED SEWER, USING D.E.P. APPROVED CIPP LINING METHOD	L.F.
50.71C29V45	RECONSTRUCTION OF EXISTING 29"W X 45"H VERTICAL ELLIPTICAL COMBINED SEWER, USING D.E.P. APPROVED CIPP LINING METHOD	L.F.
50.71C34V53	RECONSTRUCTION OF EXISTING 34"W X 53"H VERTICAL ELLIPTICAL COMBINED SEWER, USING D.E.P. APPROVED CIPP LINING METHOD	L.F.
50.71C38V60	RECONSTRUCTION OF EXISTING 38"W X 60"H VERTICAL ELLIPTICAL COMBINED SEWER, USING D.E.P. APPROVED CIPP LINING METHOD	L.F.
50.71C32E44	RECONSTRUCTION OF EXISTING 32"W X 44"H EGG-SHAPED COMBINED SEWER, USING D.E.P. APPROVED CIPP LINING METHOD	L.F.
50.71C34E46	RECONSTRUCTION OF EXISTING 34"W X 46"H EGG-SHAPED COMBINED SEWER, USING D.E.P. APPROVED CIPP LINING METHOD	L.F.
50.71C38E50	RECONSTRUCTION OF EXISTING 38"W X 50"H EGG-SHAPED COMBINED SEWER, USING D.E.P. APPROVED CIPP LINING METHOD	L.F.
50.71C41E60	RECONSTRUCTION OF EXISTING 41"W X 60"H EGG-SHAPED COMBINED SEWER, USING D.E.P. APPROVED CIPP LINING METHOD	L.F.
50.71C42E56	RECONSTRUCTION OF EXISTING 42"W X 56"H EGG-SHAPED COMBINED SEWER, USING D.E.P. APPROVED CIPP LINING METHOD	L.F.
50.71C30R42	RECONSTRUCTION OF EXISTING 30"W X 42"H RECTANGULAR COMBINED SEWER, USING D.E.P. APPROVED CIPP LINING METHOD	L.F.
50.71C36R48	RECONSTRUCTION OF EXISTING 36"W X 48"H RECTANGULAR COMBINED SEWER, USING D.E.P. APPROVED CIPP LINING METHOD	L.F.
50.71I36D00	RECONSTRUCTION OF EXISTING 36" DIAMETER CIRCULAR	L.F.



50.71I48D00	INTERCEPTOR SEWER, USING D.E.P. APPROVED CIPP LINING METHOD RECONSTRUCTION OF EXISTING 48" DIAMETER CIRCULAR INTERCEPTOR SEWER, USING D.E.P. APPROVED CIPP LINING METHOD	L.F.
50.71I36R48	RECONSTRUCTION OF EXISTING 36"W X 48"H RECTANGULAR INTERCEPTOR SEWER, USING D.E.P. APPROVED CIPP LINING METHOD	L.F.

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# Department of Design and Construction

## SPECIFICATION BULLETIN

# SB

## 17-002

Title: **RODENT AND WATERBUG PEST CONTROL**

Prepared:

1/12/2017

Richard Jones, P.E. CWI

Date

Director, Specifications – Infrastructure Design

Approved:

1/12/2017

Mohsen Zargarelahi, P.E.

Date

Assistant Commissioner – Infrastructure Design

### APPLICABILITY:

- This Specification Bulletin (SB) is effective for projects advertised on or after 2/20/17.

### SUPERSEDEENCE:

- This SB supersedes the following SBs: **NONE**

### ATTACHMENTS:

- **ATTACHMENT 1:** Revised Section 7.88 – Rodent and Waterbug Pest Control  
Pages A1-1 through A1-6

### REVISIONS TO THE NEW YORK CITY DEPARTMENT OF TRANSPORTATION STANDARD HIGHWAY SPECIFICATIONS VOLUME 1 OF 2, DATED 8/1/15:

*No Changes.*

### REVISIONS TO THE NEW YORK CITY DEPARTMENT OF TRANSPORTATION STANDARD HIGHWAY SPECIFICATIONS VOLUME 2 OF 2, DATED 8/1/15:

All references contained below are to the New York City Department of Transportation Standard Highway Specifications, Dated August 1, 2015. Said Standard Highway Specifications are hereby revised as follows:

- a) **Refer** to Pages 515 through 520, Section 7.88 – Rodent and Waterbug Pest Control;  
**Delete** in its entirety the Section;  
**Substitute** the revised Section in Attachment 1 (6 pages).

**(NO TEXT THIS PAGE)**

## SECTION 7.88 - Rodent and Waterbug Pest Control

**7.88.1. DESCRIPTION.** The Contractor shall provide all labor, materials, plant and equipment, and incidentals required to survey and monitor rodent activity and control any infestation or outbreak of rodents and waterbugs (cockroaches) within the project limit.

New York City ("NYC") Local Law 37 of 2005 requires that the Contractor, or any subcontractor that the Contractor hires, shall comply with Chapter 12 of Title 17 of the NYC Administrative Code with respect to the application of pesticides to any property owned or leased by the City of New York..

**7.88.2. MATERIALS.** All materials shall be Registered by the New York State Department of Environmental Conservation ("NYSDEC") and comply with the NYC Health Code for the intended usage. Materials classified as Toxicity Category I, carcinogenic to humans by the US Environmental Protection Agency ("USEPA"), or classified as a developmental toxin by the State of California's Office of Environmental Health Hazard Assessment shall not be used. The Contractor shall verify that materials are:

- "NOT PROHIBITED" by the NYC Department of Health and Mental Hygiene ("NYC-DOHMH") using the NYC-DOHMH's Pesticide Product Search, available at:  
< <https://a816-healthpsi.nyc.gov/ll37/ProductTestPesticide.aspx> >.
- On the NYSDEC's list of Currently Registered Pesticides, available at:  
< <http://pims.psur.cornell.edu/> >.

Rodenticide weatherproof (wax based) bait blocks shall be multiple dose anticoagulants such as Chlorophacinone, or single feed anticoagulants such as Brodifacoum (Weatherblok XT, Final All-Weather Blox), Bromadiolone (Contrac Blox), or an approved equivalent, registered by NYSDEC and not prohibited by NYC-DOHMH. Loose rodenticide meal or rodenticide pellet bait shall not be used.

Tamper proof bait station boxes shall be designed to exclude other mammals and shall be used with poisoned bait to attract rats. Information on "tamper proof bait station boxes" is available from the NYC-DOHMH Office of Pest Control Services (646-632-6600).

Live traps shall be of proper dimensions for trapping rats and mice, and shall not be used with poisoned bait.

Insecticide bait shall be a residual type registered by NYSDEC and not prohibited by NYC-DOHMH.

### (A) SUBMITTALS

Prior to commencement of construction activities the Contractor shall submit to the Engineer manufacturer's installation instructions for all materials required for rodent and waterbug pest control work and product data which shall include illustrations, catalog data, pesticide labels, product characteristics, typical use, performance and limitation criteria of all rodent and waterbug pest control materials required. All pesticides and rodenticide submittals shall be accompanied by a printout from the NYC-DOHMH Pesticide Product Search showing that the specific brand of pesticide and rodenticide is "NOT PROHIBITED."

**7.88.3. PERSONNEL.** The Contractor shall employ two independent licensed exterminators: one to engage in survey and monitoring work to establish the level of infestation of rodents and insects and provide recommendations for specific Integrated Pest Management ("IPM") actions, and one to execute the rodent and waterbug pest control work to deal with such infestations. All pest control personnel employed by each exterminator company shall be licensed by NYSDEC as a Commercial Pesticide Applicator, Commercial Pesticide Technician or Commercial Pesticide Apprentice and must be supervised by an exterminator licensed by NYSDEC as a Commercial Applicator in categories 7A ("Structural & Rodent Control") & 8 ("Public Health Pest Control"). It is recommended (but not required) that all personnel engaged in survey and monitoring work or rodent control work possess a certificate of

completion from the NYC-DOHMH's half-day or three-day "Rodent Academy." The Contractor shall submit the names and license credentials of the two exterminator companies to the Engineer for approval prior to the commencement of any work under this section.

**7.88.4. METHODS.** Application and dosage of all materials shall be done in strict compliance with the manufacturer's recommendations. All surveying, monitoring, baiting, and/or live trapping work shall be performed in the presence of the Engineer, without which no payment will be made under this Section.

(A) GENERAL

The Contractor's construction activity is expected to disturb any established rodent and/or waterbug population that may exist within the project limits, possibly causing their dispersion. The Contractor shall take all appropriate action to eliminate and/or control these populations within the construction corridor: the construction corridor shall be defined as being the full width of streets under the contract and intersecting streets up to the limits of construction, from property line to property line, excluding buildings and under sidewalk building vaults.

Under the Maintenance of Site requirements for the contract, any unsanitary conditions, such as uncollected garbage or debris, resulting from the Contractor's activities which will provide food and shelter to the resident rodent population shall be corrected by the Contractor immediately after notification of such condition by the Engineer. Non-compliance shall be subject to the application of the "Nonconformance" provisions of the Item for Maintenance of Site, and no payment will be made for any additional application of rodenticide or insecticide needed to control resultant infestations.

(B) SURVEY AND MONITORING WORK

(1) Prior to Construction - The Contractor's designated survey and monitoring exterminator shall execute a survey of the project area and estimate the level of rodent (Norway rat, House mouse) infestation and the waterbug population within the construction corridor. An appropriate sample of utility manholes (sewer, electrical, telephone, etc.) and catch basins should be opened and surveyed to the satisfaction of the Engineer. Contractor shall maintain all survey records in the manner described in 7.88.6., Records and Reports.

(2) During Construction - The Contractor shall monitor the rodent activity through trapping (snap, glue traps or live traps), fecal count methods, and inspection of the conditions of all installed baits every week during construction activity or as otherwise directed by the Engineer. Monitoring during construction shall cover Contractor's plant and temporary facilities. Contractor shall maintain all monitoring records in the manner described in Section 7.88.6. on "Records and Reports" of this specification.

(C) RODENT CONTROL WORK

(1) Wetlands, Woodlands and Areas Within Seventy-five (75') feet of a Stream. In wetlands, woodlands and areas adjacent to a stream, special precautions must be taken to protect water quality and to ensure the safety of other wildlife. To prevent poisoned bait from entering streams, no poisoned bait shall be used in areas within seventy-five (75') feet of either streambank. Live traps must be used in these seventy-five (75') feet buffer zone areas and within wetland and woodland areas.

(2) Outside Wetland Areas, Woodland Areas and Beyond Seventy-five (75') feet of a Stream. In areas outside the seventy-five foot zone of protection adjacent to streams, and areas outside wetlands and woodlands, tamper proof bait stations with poisoned bait shall be established during the period of construction and any consumed or decomposed bait shall be replenished as directed.

Rodent control shall be achieved in two stages as follows:

- Stage I. At least one month prior to initiation of the construction work, and periodically thereafter, live traps and/or rodenticide bait, as directed above, shall be placed at locations [e.g., burrows, utility manholes (sewer, electrical, phone, etc.), and catch basins] that are inaccessible to pets, human beings, children and other non-target species, particularly wildlife (e.g., birds) in the construction corridor. Locations of initial bait placement and quantities of bait shall be determined by the survey and monitoring exterminator's written report of his survey and monitoring results, or as otherwise directed by the Engineer.
- Stage II. During Construction - Infested sites as determined by the survey and monitoring exterminator's monitoring report shall be baited and/or rebaited, and live traps shall be collected and replaced, the rates and quantities of which shall be determined by the written monitoring reports submitted weekly or as otherwise directed by the Engineer in consultation with the City's Office of Pest Control.

Bait may be placed in dry manholes without a tamper-proof bait station box, if the manhole configuration does not permit the use of a bait station box. If a sanitary sewer manhole has a concrete invert platform of sufficient size, a bait box shall be used. Bait placed in a manhole outside of a tamper-proof box shall be strung on a stainless-steel wire, and secured to the manhole structure. No separate payment shall be made for the wire or securing the wire to the manhole, and shall be deemed included in the bid price for Baiting of Rodent Base Stations. Rodent control personnel entering manholes shall comply with the confined space requirements required by the Occupational Safety and Health Administration ("OSHA") 29 CFR 1929 - Subpart AA - Confined Spaces in Construction.

The use of tamper proof bait station boxes shall be used with rodenticide in all other cases.

The baiting exterminator shall be responsible for collecting and disposing of all trapped and poisoned rodents found in live traps and tamper proof bait stations. Non-target species captured in live traps shall be released by the baiting exterminator within twenty-four (24) hours after notification by the Engineer. The baiting exterminator shall also be responsible for posting and maintaining signs announcing the baiting of each particular location. The signs shall be placed at least twenty-four (24) hours prior to the application of any pesticide or rodenticide, and shall meet the requirements of Local Law 37 of 2005. NYC-DOHMH provides a sample template sign for pesticide notification purposes in compliance with the law at:  
< <http://www1.nyc.gov/assets/doh/downloads/pdf/pesticide/notification-sign.pdf> >.

The Contractor, under his maintenance of site operations, shall be responsible for the immediate collection and disposal of any visible rodent remains found on streets or sidewalk within the project limits. Any visible remains shall be placed into double plastic bags. No more than five (5) carcasses shall be placed into each bag. Each bag shall be a minimum of three (3) mils thick, black plastic. The bag shall have a note taped on with the contents (e.g., "dead rat"), and disposed as required by the NYC Department of Sanitation. No additional payment will be made for this work.

It is anticipated that public complaints will be addressed to the Engineer's Field Office. The Contractor, where directed by the Engineer, shall take appropriate Integrated Pest Management ("IPM") actions, such as baiting, trapping, proofing, etc., to remedy the source of a complaint within the next six (6) hours of normal working time, which is defined herein, for the purposes of this section, as 7 A.M. to 6 P.M. on Mondays through Saturdays.

(D) WATERBUG CONTROL

Waterbugs shall include American Cockroaches, Oriental Cockroaches, Smoky Brown Cockroaches, Madeira Cockroaches, and other similar species.

Infested sites (e.g., sewers) shall be baited at least two (2) times per month with insecticides, or as directed by the Engineer in consultation with the exterminator monitoring the work and the NYC-DOHMH Office of Pest Control Services.

**7.88.5. EDUCATION & TRAINING.** The Contractor shall post notices in all Construction Bulletin Boards advising workers, employees, and residents to call the Engineer's Field Office to report rodent and waterbug infestations. The Contractor shall provide and distribute literature pertaining to IPM techniques of rodent control to affected businesses and superintendents of nearby residential buildings to ensure their participation in maintaining their establishments free of unsanitary conditions, harborage removal and rodent proofing.

Prior to application of any chemicals, the Contractor shall furnish copies or sample labels for each pesticide, antidote information and Material Data Safety Sheets ("MSDS") for each chemical used.

**7.88.6. RECORDS AND REPORTS.**

**(A) GENERAL**

The Contractor shall be responsible for assigning within the construction corridor an identifying number to each manhole, catch basin, and other location where bait and/or live trap placement and/or waterbug control work is proposed by the survey and monitoring exterminator. The Contractor shall then provide that list of locations and corresponding reference numbers along with a drawing showing the locations, as a reference for the exterminator(s) performing the work, to indicate locations of bait placement and waterbug control work and rodent and waterbug activity (droppings, bait consumed, dead rodents, etc.)

**(B) SURVEY AND MONITORING WORK**

(1) Prior to Construction – Contractor shall submit to the Engineer, for approval, a written survey report including proposed IPM procedures, including specific materials, quantities, locations, methods and time schedule for the implementation of the exterminating work. The written report shall also include a survey with a drawing (provided by the Contractor) marked with locations indicating all signs of rodent (Norway rat, House mouse) infestation and waterbug activity discovered during the execution of the survey indicating that rodent and waterbug pest control work is necessary. The report will be developed with input from the NYC-DOHMH Rat Information Portal at: [http://maps.nyc.gov/doitt/nycitymap/template/?applicationName=DOH\\_RIP](http://maps.nyc.gov/doitt/nycitymap/template/?applicationName=DOH_RIP) >.

(2) During Construction - Based on monitoring results, Contractor shall submit to the Engineer a weekly written monitoring report identifying all locations and conditions of installed bait and/or other rodent control work. The monitoring report shall also include any other recommended IPM techniques, such as baiting, trapping, proofing, etc., proposed for rodent and waterbug pest control.

The survey and monitoring exterminator shall keep a record of all rodent and waterbug infestation surveys s/he has conducted. The Contractor shall be required to submit a copy of all survey and monitoring reports to the Engineer each week, prior to payment.

**(C) RODENT AND WATERBUG CONTROL WORK**

The baiting exterminator shall maintain records using the NYC Pesticide Use Reporting System ("NYCPURS"). These records will be kept by the Engineer. A weekly report from NYCPURS shall be prepared, signed and certified by the approved licensed exterminator, and such reports shall be submitted to the Engineer each week, prior to payment.



**7.88.7. NONCONFORMANCE.** If the Contractor fails to perform as directed to control the rodent and/or waterbug population at any location within the project limits for a period of more than one week, the Engineer will correct the adverse conditions by any means he deems appropriate, including but not limited to, the use of "outside services" and shall deduct the cost of the corrective work from any monies due to the Contractor. The deducted cost of this work shall be in addition to the non-payment for rodent and waterbug pest control.

**7.88.8. MEASUREMENT.**

**(A) RODENT INFESTATION SURVEY AND MONITORING**

The quantity to be measured for payment under Item No. 7.88 AA, RODENT INFESTATION SURVEY AND MONITORING, shall be a Lump Sum measurement.

**(B) RODENT BAIT STATIONS**

The quantity to be measured for payment under Item No. 7.88 AB, RODENT BAIT STATIONS, shall be the number of tamper-proof rodent bait station boxes and/or live traps satisfactorily installed or reinstalled after inspection within the construction corridor, as approved by the Engineer. However, the initial baiting, and subsequent rebaiting as may be required, of any bait station will be paid for under Item No. 7.88 AC.

**(C) BAITING OF RODENT BAIT STATIONS**

The quantity to be measured for payment under Item No. 7.88 AC, BAITING OF RODENT BAIT STATIONS, shall be the number of tamper-proof rodent bait station boxes, utility manholes, catch basins, or other locations approved by the Engineer, satisfactorily baited or rebaited to replenish consumed or decomposed bait within the construction corridor, as approved by the Engineer.

**(D) WATERBUG BAIT APPLICATION**

The quantity to be measured for payment under Item No. 7.88 AD, WATERBUG BAIT APPLICATIONS, shall be the number of blocks satisfactorily treated with insecticide bait within the construction corridor, as approved by the Engineer. A block shall be defined as the area of street, measured between property lines, from intersection to intersection. Each rebaiting of any block shall be considered as a new block for measurement purposes.

**7.88.9. PRICES TO COVER.**

**(A) RODENT INFESTATION SURVEY AND MONITORING**

Payment will be made at the lump sum price bid for RODENT INFESTATION SURVEY AND MONITORING which shall include the cost of furnishing all the labor, materials, plant, equipment (traps, etc.), insurance, and other incidentals required, including but not limited to providing all required maintenance of traffic equipment, to perform a rodent infestation survey of the project area and then monitor the site each week for rodent activity, all in accordance with the specifications and the directions of the Engineer.

Ten (10%) percent of the lump sum price bid will be paid when the initial survey of the project area has been completed and the written survey report has been submitted to the satisfaction of the Engineer. The remainder will be paid in proportion to the percentage of contract completion.

**(B) RODENT BAIT STATIONS**

The Contract price bid for RODENT BAIT STATIONS shall be a unit price per each tamper proof bait station box and/ or live trap installed or reinstalled after inspection and shall cover the cost of furnishing

all labor, materials, plant, equipment (bait stations, etc.), insurance, and other incidentals, including but not limited to providing all required maintenance of traffic equipment, required to control the rodent population found within the project limits in accordance with the specifications and the directions of the Engineer.

In addition to the payment for Rodent Bait Stations installed or reinstalled under this Item No. 7.88 AB, the Contractor will also be paid for each baiting or rebaiting, when required, of each bait station, under Item No. 7.88 AC.

(C) BAITING OF RODENT BAIT STATIONS

The Contract price bid for BAITING OF RODENT BAIT STATIONS shall be a unit price per each bait station, utility manhole, catch basin or other location approved by the Engineer satisfactorily baited or rebaited, when required, and shall cover the cost of furnishing all labor, materials, plant, equipment (bait), insurance, NYCPURS recordkeeping, and other incidentals, in accordance with the specifications and directions of the Engineer. Installation or resetting of the bait station will be paid for under Item No. 7.88 AB.

(D) WATERBUG BAIT APPLICATION

The Contract price bid for WATERBUG BAIT APPLICATION shall be a unit price per block treated by the exterminator and shall include the cost of furnishing all the labor, materials, plant, equipment (bait, etc.), insurance, NYCPURS recordkeeping, and other incidentals, including but not limited to providing all required maintenance of traffic equipment, necessary to control the waterbug population found within the project limits for the duration of the contract in accordance with the specifications and the directions of the Engineer.

*Payment will be made under:*

Item No.	Item	Pay Unit
7.88 AA	RODENT INFESTATION SURVEY AND MONITORING	L.S.
7.88 AB	RODENT BAIT STATIONS	EACH
7.88 AC	BAITING OF RODENT BAIT STATIONS	EACH
7.88 AD	WATERBUG BAIT APPLICATION	BLOCK



# Department of Design and Construction

## SPECIFICATION BULLETIN

# SB

**17-003****Title: ENGINEER'S FIELD OFFICE****Prepared:****1/12/2017****Richard Jones, P.E. CWI**  
Director, Specifications – Infrastructure Design**Approved:****1/12/2017****Mohsen Zargarelahi, P.E.**  
Assistant Commissioner – Infrastructure Design**APPLICABILITY:**

- This Specification Bulletin (SB) is effective for projects advertised on or after 2/20/17.

**SUPERSEDEENCE:**

- This SB supersedes the following SBs: **NONE**

**ATTACHMENTS:**

- **ATTACHMENT 1:** Revised Section 6.40 – Engineer's Field Office  
*Pages A1-1 through A1-7*

**REVISIONS TO THE NEW YORK CITY DEPARTMENT OF TRANSPORTATION  
STANDARD HIGHWAY SPECIFICATIONS VOLUME 1 OF 2, DATED 8/1/15:***No Changes.***REVISIONS TO THE NEW YORK CITY DEPARTMENT OF TRANSPORTATION  
STANDARD HIGHWAY SPECIFICATIONS VOLUME 2 OF 2, DATED 8/1/15:**

All references contained below are to the New York City Department of Transportation Standard Highway Specifications, Dated August 1, 2015. Said Standard Highway Specifications are hereby revised as follows:

- a) **Refer** to Pages 372 through 379, Section 6.40 – Engineer's Field Office;  
**Delete** in its entirety the Section;  
**Substitute** the revised Section in Attachment 1 (7 pages).

**(NO TEXT THIS PAGE)**

## SECTION 6.40 - Engineer's Field Office

**6.40.1. DESCRIPTION.** The Contractor shall provide, furnish and maintain a fully equipped field office (Type A, B, C, CU, D or DU, as specified) for the exclusive use of and occupancy by the Department's engineering personnel and/or Supervising Consultant (herein after called "City personnel"), and by the engineering personnel of private utilities when specified. The field office shall be at a location approved by the Engineer and shall be a commercial building, store front, or with the approval of both Office of Construction Mitigation and Coordination (OCMC) and the Community Board it may be a mobile trailer(s). If a trailer is used it shall be subject to approval by the Engineer, and all necessary permits shall be obtained by the Contractor. The Contractor may have facilities in an adjoining area separated by a lockable door, provided such facilities are in a location approved by the Engineer. The field office shall be within ½ mile of the job site. Field offices located further than ½ mile from the job site shall require approval by the Director or Assistant Commissioner for Construction. The field office structure and occupancy thereof shall conform to the requirements of all laws, rules, regulations and orders applicable to it.

The field office and all equipment, except as otherwise specified, may be new materials or may be used materials in good condition and satisfactory to the Engineer.

### **6.40.2. MATERIALS.**

(A) **GENERAL CONSTRUCTION.** The Engineer's Field Office shall be in an approved and weatherproof building. It shall have a minimum ceiling height of seven (7') feet and be partitioned to provide the number of rooms required for the type of office specified. Floor space for Field Office Types C, CU, D, and DU shall be subdivided into work areas based on a floor plan provided by the City to the Contractor upon notification of space availability.

(B) **GENERAL FACILITIES.** The field office shall contain or have the following facilities incorporated:

- (a) Lighting - Electric light, non-glare type luminaries to provide a minimum illumination level of 100 ft.- candles at desk height level.
- (b) Heating and Cooling - Adequate equipment to maintain an ambient air temperature of 70° F. ±5°.
- (c) Electrical Energy Outlets
- (d) Toilet - A separate enclosed room, properly ventilated per code and complying with applicable sanitary codes shall contain a lavatory with a sink that provides running hot and cold water, flush-type toilet, mirror, electric hand dryer, and paper towel dispenser.
- (e) Potable Water - Potable water supplied from an existing system or five (5) gallon capacity water cooler of a type to be approved by the Engineer shall be provided for use by City personnel. Replacement bottles of water shall be provided by the Contractor, when required.
- (f) Signs - Store front locations shall have a window graphic sign in black and white lettering with the following inscription. Other locations shall have a wood or metal sign affixed on the outside wall of the building with the following inscription painted in black block lettering on a white background. Paints shall be approved exterior enamels.

<b>CITY OF NEW YORK</b>	<b>2-1/2"</b>
<b>DEPARTMENT OF DESIGN AND CONSTRUCTION</b>	<b>3-1/2"</b>
<b>INFRASTRUCTURE</b>	<b>2-1/2"</b>
<b>RESIDENT ENGINEER'S FIELD OFFICE</b>	<b>2-1/2"</b>

- (g) Electric Refrigerator - Five (5) cubic feet minimum capacity for use by City personnel.
- (h) Microwave, Toaster Oven, and Coffee Maker - Basic reheating kitchen equipment or approved appliances for use by City personnel.
- (i) Windows and Doors - All windows and doors shall be weatherproof and each equipped with adequate locking devices. Each window shall be equipped with vertical blinds. Exterior doors shall be provided with two (2) separate "high security" dead bolt type cylinder locks, keyed alike, and three (3) keys shall be furnished for each lock.

- (j) Partitions - Partitions for work space enclosures shall be either permanent walls or of the modular type similar to Herman Miller's standard fabric covered line.
- (k) Kitchen Sink - Mechanism to provide non-drinking, hot and cold, running water.
- (C) OFFICE EQUIPMENT.
- (a) Pencil Sharpener - One standard pencil sharpener for use by City personnel.
- (b) Telephone Answering Machine - The telephone answering machine to be provided shall be an electronic digital voice machine with emergency call forwarding capability. It shall be operable twenty four (24) hours per day and, when unattended, shall transmit to the caller the following message:  
 "You have reached the Field Office of the New York City Dept. of Design and Construction. No one is here now. We check our incoming messages frequently. We will get back to you as soon as possible. Please leave your name, message and phone number where you may be reached. In case of emergency, call the New York City Hotline at 311. Again, the emergency number is 311."
- (c) Computer Equipment - Computers shall be provided for all contracts regardless of construction duration.  
 Computers furnished by the Contractor for use by City Personnel, for the duration of the contract, shall be in accordance with Table I - ADDITIONAL SPECIFIC REQUIREMENTS, contained herein, and shall meet the following minimum requirements:
- (1) Personal Computer(s) - Workstation Configuration.
- |     |                        |  |
|-----|------------------------|--|
| (a) | Make and Model:        | Dell; HP; Gateway; Acer; or, an approved equivalent. (Note: an approved equivalent requires written approval of the Assistant Commissioner of ITS.)  |
| (b) | Processor:             | i5 ( 4MB Cache, 3.0GHz) or faster computer - Dual Processor.   |
| (c) | System Ram:            | Minimum of 16GB (Gigabytes) Dual Channel DDR3 SDRAM at 1333MHz - 2 DIMMSs  |
| (d) | Hard Disk Drive(s):    | 500 GB (Gigabytes) Serial ATA (7200RPM) w/DataBurst Cache, or larger.  |
| (e) | CD-RW:                 | Internal CD-RW, 48x Speed or faster.   |
| (f) | 16X DVD+/-RW           | DVD Burner (with double layer write capability) 16x Speed or faster  |
| (g) | I/O Ports:             | Must have at least one (1) Serial Port, one (1) Parallel Port and three (3) USB Ports.   |
| (h) | Video Display Card:    | HD Graphics (VGA, HDMI) with a minimum of 64 MB of RAM.  |
| (i) | Monitor:               | 22" W, 23.0 Inch VIS, Widescreen, VGA/DVI LCD Monitor.   |
| (j) | Available Exp. Slots:  | System as configured above shall have at least two (2) full size PCI Slots available.  |
| (k) | Network Interface:     | Integrated 10/100/1000 Ethernet card.  |
| (l) | Other Peripherals:     | Optical scroll Mouse, 101 Key Keyboard, Mouse Pad and all necessary cables.  |
| (m) | Software Requirements: | Microsoft Windows 10 Professional, 32 or 64 bit; Microsoft Office Professional 365 ; Microsoft Project 365 ; Basic Adobe Acrobat Package ; Anti-Virus software package with 2 year updates |

subscription; and, either Auto Cad LT or Microsoft Visio Standard Edition, as directed by the Engineer.

- (2) All field offices requiring computers shall be provided with the following:
- (a) One (1) broad-band internet service account. Wideband Internet connectivity at a minimum throughput of 15 Mbps download and 5 Mbps upload is required at each field office location with 1-5 staffers. For larger field offices see table below for minimum required upload speeds. Telephone service should be bundled together with Internet connectivity. Because of throughput requirements Verizon FIOS is the preferred connectivity provider where available.

Office Personnel #	Upload Speeds (Minimum)
1 - 5	10 Mbps
6 - 10	20 Mbps
11 - 15	25 Mbps
16 - 20	50 Mbps

This account will be active for the life of the project. The e-mail name for the account shall be the DDC Field Office/project Id (- preferably Gmail or Outlook - e.g. HWK666@gmail.com).

- (b) All necessary Cabling.
- (c) Storage Boxes for and Blank CDs/DVDs.
- (d) UPS/Surge Suppressor combo.
- (e) 10 USB Thumb (or Flash) Drive - 16GB each
- (3) All computers required for use in the Engineer's Field Office shall be delivered, installed, and setup in the Field Office by the Contractor.
- (4) All Computer Hardware shall come with a three (3) year warranty for on-site repair or replacement. Additionally, and notwithstanding any terms of the warranty to the contrary, the Contractor is responsible for rectifying all computer problems or equipment failures within one (1) business day.
- (5) An adequate supply of blank CDs/DVDs, and paper and toner cartridges for the printer shall be provided by the Contractor, and shall be replenished by the Contractor as required by the Engineer.
- (6) It is the Contractor's responsibility to ensure that electrical service and phone connections are also available at all times; that is, the Field Office Computer(s) is to be powered and turned on twenty-four (24) hours each day.

Broadband connectivity is preferred at each field office location. Please take into consideration that an extra phone line dedicated to the modem must be ordered as part of the contract unless Internet broadband connectivity, via Cable or FIOS, is available at the planned field office location. Any questions regarding this policy should be directed to the Assistant Commissioner of Information Technology Services at 718-391-1761.

- (d) Data Books - A copy of The AED Green Book, latest edition, published by Machinery Information Division of K-III Directory Corporation, 1735 Technology Drive, Suite 410, San Jose, California 95110-1313, shall be provided for all contracts that have a total Consecutive Calendar Days for General Construction duration as set forth in Schedule A of greater than 365 CCD's. Contracts of lesser duration shall not require any data books.

(D) Field Testing Equipment.

- (a) 2 - Air Entrainment Meters - Pressure Type, with carrying case for use by City personnel. Each meter shall be capable of producing an accurate test result in approximately five (5) minutes and shall comply with ASTM Designation C 231.

- (b) 2 - Slump Test Sets - Slump cone and test sets conforming to the requirements of ASTM Designation C 143, complete with rod and scoop for use by City personnel.
- (c) Thermometers: For use by City personnel.
  - (1) 1 - Minimum-maximum thermometer.
  - (2) 3 - Asphalt thermometers of stainless steel construction with an accuracy of 0.5% of the full scale, able to measure temperatures from 50 to 500 degrees F. in 5 degree increments.
  - (3) 3 - Surface Thermometers able to measure temperatures of flat surfaces similar to Sargent-Welsh Model S81441-D, or an approved equivalent.
- (d) Nonsparking Pinch Bar - For use in opening manholes.
- (e) Gas Meters - For use in detecting the presence of explosive gases and vapors for use by City personnel.
- (f) Straight Edge - One 10 foot long straight edge for use by City personnel in detecting pavement surface tolerance.
- (g) 48" Smart Level - For use in determining pedestrian ramp and sidewalk slopes.
- (h) Chlorine Test Kits - For testing residual chlorine levels following water main flushing.
- (i) Green Florescent Power Trace-Dye - For testing sewer connections.
- (j) One Million Candlepower Rechargeable Flashlight.
- (k) Distance Measuring Wheel - For measuring long distances.

**6.40.3. SPECIFIC REQUIREMENTS FOR ENGINEER'S FIELD OFFICE (TYPE A, B, C, CU, D, OR DU).** In addition to the general requirements, each type of Field Office shall have the minimum floor area indicated in Table 6.40-I calculated based on usable area only, excluding any loss factors. Loss factors are defined as those areas such as lobby, sidewalk window ledge, elevator shafts and stairways. The Contractor shall provide and maintain furnishings for each type of Field Office in the quantity specified in Table 6.40-I. The furnishings shall be new or used equipment satisfactory to the Engineer:

- (a) Each Type shall have a minimum of one outside door and four windows.
- (b) Type C shall be partitioned to provide three (3) rooms.
- (c) Type CU shall be partitioned to provide four (4) rooms, one of which shall be at least 150 s.f. in area (for use by private utilities).
- (d) Type D shall be partitioned to provide four (4) rooms.
- (e) Type DU shall be partitioned to provide five (5) rooms, one of which shall be at least 150 s.f. in area (for use by private utilities).

**TABLE 6.40-I  
ADDITIONAL SPECIFIC REQUIREMENTS**

SPECIFIC REQUIREMENTS	FIELD OFFICE TYPE					
	A	B	C	CU	D	DU
Minimum useable floor space (Square Feet)	400	800	1200	1200	1,800	1,800
Office desks, at least 4'-8" x 2'-8", with drawers, locks, and keys.	2	2	4	8*	8	12*
Swivel chairs, with arms, for the above.	2	2	4	8*	8	12*
Office folding chairs, metal, with padded seats and backs.	2	3	6	14**	8	16**
Steel supply cabinets (approximate size 72" high by 36" wide by 18" deep), with four adjustable shelves, tumbler lock and 3 keys.	1	1	1	1	1	1
Fire resistant cabinet, 4-drawer, legal size with lock and three (3) keys, meeting the requirements for "Filing devices, Insulated (36 E 9)" Class D Label, of the Underwriters' Laboratories, Inc. Specifications.	1	1	1	3***	4	6***
Individual lockers (17" wide x 18" deep x 72" high) with flat key locks and two (2) keys each.	1	1	4	4	4	4
Calculating machines, tape type with digital display registering at least ten (10) digits.	1	1	2	2	3	3



Waste paper baskets (metal, approximately 12" square by 16" high).	1	2	2	6*	4	8*
Fire extinguishers, non-toxic, dry chemical type meeting Underwriters Laboratories, Inc., approval for Class A, Class B and Class C fires with a minimum rating of 2A:10B:10C.	1	1	2	3****	4	5****
First Aid Kit kept properly stocked with appropriate first aid supplies at all times.	1	1	1	1	2	2
Drafting tables (3'-0" x 5'-0") with storage drawers and stool.	1	2	2	3****	4	5****
Photocopying Machine – Stand-alone, heavy duty, electric, dry-process color photocopying type with color scan and send capability via e-mail, a minimum production rate of 70 pages per minute and an adequate supply of copy paper, toner, etc. The machine shall be capable of duplex copying paper sizes of 8-1/2 x 11 inches, 8-1/2 x 14 inches and 11 x 17 inches, and have separate trays for each paper size. It shall have a document feeder, collator, stapler, and the capability to reduce/enlarge copies between each paper size. The supply of each size copy paper, toner, etc. shall be replenished and the machines shall be maintained for the duration of the contract by the Contractor as required by the Engineer. Make and model can be Minolta, Canon, IBM, Epson, or an approved equivalent, and shall be networked to the office computers for printing capability.	1	1	1	1	1	1
Standalone networked color laser printer. (Not required if photocopying machine prints in color)	XX	XX	XX	XX	XX	XX
Vertical filing plan racks for six sets of 22"x36" plans each rack.	1	1	2	3****	4	5****
Telephone lines for calls, where one shall be dedicated for the Fax Machine, one for each computer fax/modem and the others for telephone instruments.	4	6	6	7‡	8	9‡
Telephone instruments.	2	2	3	5‡	4	6‡
Telephone answering machine.	1	1	1	1	1	1
Fax Machine - With an adequate supply of copy paper, toner, etc. The supply of copy paper, toner, etc. shall be replenished and the machines shall be maintained for the duration of the contract by the Contractor as required by the Engineer.	1	1	1	1	1	1
Personal Computer - Workstation Configuration	1	3	3	3	4	4
Bottled water with refrigerator unit-hot/cold water. (For private utilities room.)				1		1
Heavy duty commercial grade diamond cut shredder with automatic start. The shredder shall be able to receive 8-1/2 inch wide paper and shred a minimum of 15 sheets simultaneously along with CDs and staples.	1	1	1	1	1	1
Projector – 1080p LCD with a min. of 2200 ANSI Lumens, 1920 x 1080, 16:9, 40,000:1 contrast ratio, HDMI, VGA, USB, and a 10 feet diagonal, 16:9 Projection Screen.	-	-	1	1	1	1

- ‡ Provide one (1) telephone line and two (2) telephone instruments for the exclusive use by private utilities personnel. The line shall interconnect the two telephone instruments by push button control.
- \* Provide four (4) each of Office Desks, Swivel Chairs and Waste Paper Baskets in private utilities room.
- \*\* Provide eight (8) Folding Chairs in private utilities room.
- \*\*\* Provide two (2) Fire Resistant 4- Drawer Legal Size Cabinets in private utilities room.
- \*\*\*\* Provide one (1) each of Fire Extinguisher, Drafting Table and Vertical File Rack in private utilities room.

**6.40.4. CONSTRUCTION METHODS.** The building shall be fully equipped and made available for use and occupancy by the Department's personnel and/or Supervision Consultant not less than thirty (30) days prior to the start of any contract work.

The building interior (including access foyers, stairwells, etc.) shall be maintained in good, clean, and sanitary working condition by the Contractor for the duration of the contract. The Contractor shall provide and pay all costs for electrical service, telephone service for calls within New York City limits, hot and cold water, heat and fuel, and daily janitor service. Staples, such as paper towels, hand soap, toilet paper, and similar supplies, shall always be available.

Where necessary, the site for a mobile trailer(s) shall be graded and shoulder stone placed and maintained as directed by the Engineer to provide a parking area for City personnel and, if necessary, an approach road shall be provided. Plumbing work shall include all water supply, drainage and piping required for the operation of a complete installation. Temporary water service shall be provided from an existing main and extended into the trailer and all fixtures requiring water supply shall be properly connected up. All necessary soil, waste, vent and drainage piping shall be provided and connected to the existing sewer or as otherwise directed.

The office, incorporated facilities, equipment, and personal property of the Department's employees shall be protected by the Contractor against loss or damage from fire, theft, or other causes, at all hours of the day and night. The Contractor shall provide fire insurance, extended coverage and vandalism, malicious mischief and burglary, and theft insurance coverage in the amount of forty thousand dollars (\$40,000.00) for office equipment of the City of New York in the Engineer's field office and for property of City personnel that is used in the contract work and stored in the office. All insurance coverage shall be written by a company approved by the Commissioner and payable in case of loss to the City of New York. The office shall be maintained by the Contractor in first class condition until final acceptance of the work.

At the direction of the Engineer, any equipment on the above lists may be deleted. He may direct that other equipment of equivalent value be supplied by the Contractor or an appropriate credit be taken for the value of equipment not provided.

When directed by the Engineer, the Contractor shall disconnect all services and remove and dispose of all temporary installations from the site, including fencing, surfacing and utilities, the area shall then be cleaned, loamed and seeded if required and left in a neat and acceptable condition. On and after the date of the Engineer's Final Acceptance, the temporary structure and all installed equipment shall become the property of the Contractor, and shall be disposed of, by him, away from the site of the work. Engineer's Final Acceptance shall be when the Contractor has completed all punch list work and Official Completion Date has been set.

**6.40.5. NONCONFORMANCE.** No payment will be made under Engineer's Field Office for each calendar day during which there are deficiencies in compliance with the requirements of any subsection of this specification. The first calendar day shall commence twenty-four (24) hours after notice to the Contractor of such a deficiency. This non-payment shall be deducted from the Contractor's next estimate as a charge to the Contractor on the item. The amount of such calendar day non-payment will be determined by dividing the unit price bid per month by 30.

In addition, the Contractor may be subject to liquidated damages in accordance with Schedule A.

**6.40.6. MEASUREMENT.** The quantity to be measured for payment under this item shall be the number of months that the Field Office is available for occupancy by the Field Engineers during the period of the contract. Payment will begin the first month that the office is fully equipped, serviced as specified, and made available for occupancy. The Field Office is to be continuously made available and Monthly payments will continue for the duration of the contract through a period not to exceed 6 months past the substantial completion date. When directed in writing by the Commissioner, the Field Office will be provided and paid for a period of time beyond 6 months past the substantial completion date. Payment for each month's occupancy after the date of substantial completion acceptance will be made as part of the final estimate. Monthly payments may be terminated on a specified date prior to acceptance of the contract by written notification by the Engineer that such office will no longer be required on the contract.

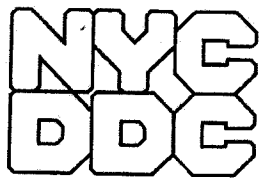
**6.40.7. PRICE TO COVER.** The unit price bid per month for the item Engineer's Field Office shall include the cost of furnishing all labor, materials, equipment, ground rental, fire and theft insurance, and utility charges necessary to complete the work of providing or constructing the field office; making all necessary electrical, water, sewer, and other connections required to make the above facilities operative; payment of all rental costs; furnishing and paying for heating fuel, as required; all electrical energy;

private telephone services; staples, as specified; and all necessary incidentals to complete the work - all in accordance with the specifications and the directions of the Engineer.

*Payment will be made under:*

Item No.	Item	Pay Unit
6.40 A	ENGINEER'S FIELD OFFICE (Type A)	MONTH
6.40 B	ENGINEER'S FIELD OFFICE (Type B)	MONTH
6.40 C	ENGINEER'S FIELD OFFICE (Type C)	MONTH
6.40 CU	ENGINEER'S FIELD OFFICE (Joint Use) (Type CU)	MONTH
6.40 D	ENGINEER'S FIELD OFFICE (Type D)	MONTH
6.40 DU	ENGINEER'S FIELD OFFICE (Joint Use) (Type DU)	MONTH

**(NO TEXT THIS PAGE)**




# Department of Design and Construction

## SPECIFICATION BULLETIN

# SB

17-004

Title: **FIRE DEPARTMENT FACILITIES**

Prepared:  1/12/2017

Richard Jones, P.E. CWI  
Director, Specifications – Infrastructure Design

Approved:  1/12/2017

Mohsen Zargarelahi, P.E.  
Assistant Commissioner – Infrastructure Design

### APPLICABILITY:

- This Specification Bulletin (SB) is effective for projects advertised on or after 2/20/17.

### SUPERSEDEENCE:

- This SB supersedes the following SBs: **NONE**

### ATTACHMENTS:

**NONE**


### REVISIONS TO THE NEW YORK CITY DEPARTMENT OF TRANSPORTATION STANDARD HIGHWAY SPECIFICATIONS VOLUME 1 OF 2, DATED 8/1/15:

*No Changes.*

### REVISIONS TO THE NEW YORK CITY DEPARTMENT OF TRANSPORTATION STANDARD HIGHWAY SPECIFICATIONS VOLUME 2 OF 2, DATED 8/1/15:

All references contained below are to the New York City Department of Transportation Standard Highway Specifications, Dated August 1, 2015. Said Standard Highway Specifications are hereby revised as follows:

- a) **Refer** to Page 332, Section 6.23 – Fire Department Facilities, Subsection 6.23.4.(A), 3<sup>rd</sup> paragraph;  
**Delete** the words “Bureau of Fire Communications”;  
**Substitute** the words “Bureau of Facilities Management”.
- b) **Refer** to Page 332, Section 6.23 – Fire Department Facilities, Subsection 6.23.4.(A), 9<sup>th</sup> paragraph;  
**Delete** the words “Bureau of Fire Communications”;  
**Substitute** the words “Bureau of Facilities Management”.

	<b>Department of Design and Construction</b>	<b>SPECIFICATION BULLETIN</b>	<b>SB</b>  <b>17-004</b>
<b>Title: FIRE DEPARTMENT FACILITIES</b>			

- c) **Refer** to Page 332, Section 6.23 – Fire Department Facilities, Subsection 6.23.4.(A), 9<sup>th</sup> paragraph;  
**Delete** the words “(718) 624-4194”;  
**Substitute** the words “(718) 281-3846”.
- d) **Refer** to Page 333, Section 6.23 – Fire Department Facilities, Subsection 6.23.4.(E), 1<sup>st</sup> paragraph;  
**Delete** the words “Bureau of Fire Communications”;  
**Substitute** the words “Bureau of Facilities Management”.
- e) **Refer** to Page 339, Section 6.23 – Fire Department Facilities, Subsection 6.23.6, 1<sup>st</sup> paragraph;  
**Delete** the words “Bureau of Communications”;  
**Substitute** the words “Bureau of Facilities Management”.
- f) **Refer** to Page 343, Section 6.23 – Fire Department Facilities, Subsection 6.23.6.(I);  
**Delete** the words “steel bar reinforcement and”.
- g) **Refer** to Page 440, Section 6.70 – Maintenance and Protection of Traffic, Subsection 6.70.9.(D);  
**Delete** the words “Bureau of Fire Communications”;  
**Substitute** the words “Bureau of Facilities Management”.

**(NO FURTHER TEXT)**



# Department of Design and Construction

## SPECIFICATION BULLETIN

# SB

17-005

Title: **DIGITAL PHOTOGRAPHS**

Prepared:

1/12/2017

Richard Jones, P.E. CWI

Date

Director, Specifications – Infrastructure Design

Approved:

1/12/2017

Mohsen Zargarelahi, P.E.

Date

Assistant Commissioner – Infrastructure Design

### APPLICABILITY:

- This Specification Bulletin (SB) is effective for projects advertised on or after 2/20/17.

### SUPERSEDEENCE:

- This SB supersedes the following SBs: **NONE**

### ATTACHMENTS:

- **ATTACHMENT 1:** Revised Section 6.43 – PHOTOGRAPHS  
*Pages A1-1 through A1-4*

### REVISIONS TO THE NEW YORK CITY DEPARTMENT OF TRANSPORTATION STANDARD HIGHWAY SPECIFICATIONS VOLUME 1 OF 2, DATED 8/1/15:


All references contained below are to the New York City Department of Transportation Standard Highway Specifications, Dated August 1, 2015. Said Standard Highway Specifications are hereby revised as follows:

- a) **Refer** to Page 37, Section 1.06.45 – Progress Photographs;  
**Delete** in its entirety the Section;  
**Substitute** the following: "NO TEXT."

### REVISIONS TO THE NEW YORK CITY DEPARTMENT OF TRANSPORTATION STANDARD HIGHWAY SPECIFICATIONS VOLUME 2 OF 2, DATED 8/1/15:

All references contained below are to the New York City Department of Transportation Standard Highway Specifications, Dated August 1, 2015. Said Standard Highway Specifications are hereby revised as follows:

- b) **Refer** to Page 385, Section 6.43 - Photographs;  
**Delete** in its entirety the Section;  
**Substitute** the revised Section in Attachment 1 (4 pages).

	<b>Department of Design and Construction</b>	<b>SPECIFICATION BULLETIN</b>	<b>SB</b>  <b>17-005</b>
<b>Title: DIGITAL PHOTOGRAPHS</b>			

**REVISIONS TO THE NEW YORK CITY DEPARTMENT OF ENVIRONMENTAL PROTECTION STANDARD SEWER AND WATER MAIN SPECIFICATIONS, DATED 7/1/14:**

All references contained below are to the New York City Department of Environmental Protection Standard Sewer and Water Main Specifications, Dated July 1, 2014. Said Standard Sewer and Water Main Specifications are hereby revised as follows:

- a) **Refer** to Page I-16, Section 10.32 – PHOTOGRAPHS;  
**Delete** in its entirety the Section;  
**Substitute** the revised Section:

**"The Contractor shall be required to provide "PHOTOGRAPHS" in accordance with New York City Department of Transportation (NYCDOT) Standard Highway Specifications Section 6.43 – Photographs."**



## SECTION 6.43 – Photographs

**6.43.1. INTENT.** This section describes the work of providing a photographic record of contract work.

**6.43.2. DESCRIPTION.** The work shall consist of the furnishing of all required photographic equipment and materials; the taking of digital photographs; making prints from digital files; and submitting prints and digital files to the Engineer.

**6.43.3. MATERIALS.**

### (A) PRINTS

Prints shall be 7-1/2" x 9-1/2" image area on 8" x 10" single-weight, gloss paper, and shall be in color. Prints shall be inserted in standard weight Archival Quality clear poly sheet protectors and submitted in a hard cover three (3) ring binder. The following information shall be imprinted, or indelibly printed, on a white border measuring no more than one and one half (1-1/2") inch at the bottom of the front of each photograph:

- (a) Contract Number and Job Location
- (b) Photograph Number
- (c) View and Description - (Indicating a general description of what the photograph represents)
- (d) Photograph Type: Preconstruction Photograph or Construction Progress Photograph
- (e) Date - (The date the photograph was taken.)
- (f) Address – street address where photograph was taken
- (g) Borough
- (h) Street Segment ID
- (i) Name of Photographer
- (j) Department Witness

The Contractor shall furnish to the Commissioner one (1) set for each view taken, each set consisting of two (2) 8" x 10" prints and one (1) digital file.

All prints and digital files shall become the property of the Commissioner. All completed prints and digital files shall be delivered to the Engineer within two (2) weeks after the photographs have been taken. Approved binders for the clear poly sheet protectors containing all materials shall be furnished by the Contractor and delivered to the designated construction office at the time of the initial submission of prints and DVDs at such other times as may be required thereafter.

### (B) DIGITAL FILES

Digital files shall be captured as 7.2 megapixel files or greater, with a minimum pixel array of 2,400 pixels by 3,000 pixels. The camera used to capture the digital files shall be a Digital SLR (Single Lens Reflex) camera or approved equal; "point and shoot" cameras or cameraphones are not acceptable. Digital cameras shall produce images using true optical resolution; "digital zoom" is not acceptable. Images shall not be resized or interpolated. The file format for digital files shall be Joint Photographic Experts Group format ("JPG"). The digital files shall not be modified or processed in any way to alter the JPG file's metadata, including the photograph's original capture date.

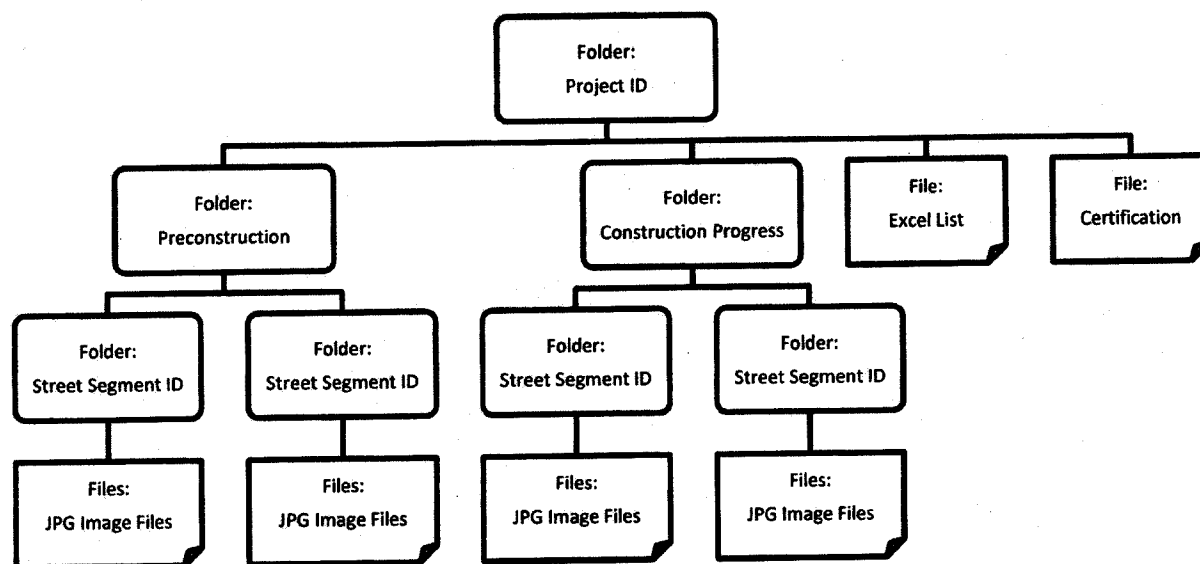
Digital files shall be submitted on Digital Versatile Disk ("DVD"). DVDs shall be inserted in standard weight Archival Quality clear poly sheet protectors, and submitted in a hard cover three (3) ring binder. The information imprinted on each print shall be provided on an Excel file included on the DVD. The DVD shall be labeled with the Project ID and the geographical area and streets depicted in the photographs. Labeling using adhesive labels is not acceptable.

Digital files shall have file names in the following format: a^b^c^d^e^f.JPG, where "a" through "f" are as follows:

- (a) Contract Number
- (b) Photograph Number
- (c) Date, in YYYY-MM-DD format (The date the photograph was taken.)
- (d) Address – street address where photograph was taken
- (e) Borough
- (f) Street Segment ID

A sample file name would be "HBX123^0021^2016-04-19^123 Main St^Queens^55555.JPG"

The files on the DVD shall be organized in folders by Photograph Type and Street Segment ID as follows:



#### (C) CERTIFICATION

The Photographer shall provide a signed certification that the files on the DVD are unaltered and are an accurate representation of the subject photographed. The original certification, in a clear poly sheet protector, shall be submitted with the prints and digital files, and a scanned copy shall be included on the DVD.

**6.43.4. METHODS.** The Contractor shall employ and pay for the services of a competent Professional Photographer who, at the direction of the Commissioner or his authorized representative, shall take Preconstruction Photographs and Construction Progress Photographs and such other photographs which may be required during the period of the contract.

The Photographer shall be available for taking the required photographs within forty-eight (48) hours after receiving notification from the Commissioner or his authorized representative.

Photographs shall be taken under the supervision and direction of the Engineer. The Engineer reserves the right to reject any and all views that are not reasonably clear and definitive. No separate or additional payment will be made for any additional photographs that are required as a result of the rejection of views.

**6.43.5. PRECONSTRUCTION PHOTOGRAPHS.** Preconstruction Photographs shall show the conditions existing on the work site prior to the commencement of the contract work. The Preconstruction Photographs will generally represent views of:

- The original surface conditions of streets, curbs and walks, and buildings;
- Evidence of damage, disrepair, or emergency situations;
- All encumbrances and/or encroachments which may be affected by the construction of the proposed work.

When there is no pay item listed in the Bid Schedule, the number of Preconstruction Photographs shall be as follows:

- (A) Highway Street Reconstruction projects: 150 sets per million dollars of street reconstruction work;
- (B) Highway Resurfacing projects: 4 sets per 250 linear feet of roadway for resurfacing work;
- (C) Sewer and Water Main projects: 2 sets (1 set each side of street) per 25 linear foot of sewer and water main.

When there is an item listed in the Bid Schedule, the quantity to be measured for payment shall be the number of sets, each set consisting of a digital file and the two (2) prints made from the digital file, of Preconstruction Photographs including photographs showing the original condition of all encumbrances and/or encroachments which may be affected by construction of the proposed work, and which are delivered as directed by the Engineer.

**6.43.6. CONSTRUCTION PROGRESS PHOTOGRAPHS.** Construction Progress Photographs shall show the conditions existing during the progress of, and at the completion of the contract work. The photographs will generally represent views of the work under construction and completed work. Construction Progress Photographs shall be taken monthly and upon completion of the work.

The approximate number of Construction Progress Photographs is as follows:

- (A) Highway reconstruction and resurfacing projects: Minimum 2 sets per 250 linear feet of roadway under construction or completed in the last month.
- (B) Pedestrian ramps on all projects: Minimum of 1 set for every pedestrian ramp under construction or completed in the last month, in addition to other progress photographs.
- (C) Sewer and Water Main projects: Minimum of 4 sets for every 100 feet of sewer or water main under construction.

No separate payment will be made for Construction Progress Photographs. The cost of taking and providing sets of Construction Progress Photographs shall be included in the prices bid for all other items of work.

**6.43.8. PRICE TO COVER (PRECONSTRUCTION PHOTOGRAPHS ONLY).** When there is an item listed in the Bid Schedule, the contract price bid per set shall cover the cost of furnishing all labor, materials, plant, equipment, insurance, and necessary incidentals required, including the cost of the photographer, and the cost of furnishing the required prints, digital files, DVDs, and ring binders, and completing the work in accordance with the specifications and the directions of the Engineer.

When there is no item listed in the Bid Schedule, no separate payment will be made. The cost of furnishing all labor, materials, plant, equipment, insurance, and necessary incidentals required, including the cost of the photographer, and the cost of furnishing the required prints, digital files, DVDs, and ring

binders, and completing the work in accordance with the specifications and the directions of the Engineer shall be included in the prices bid for all other items of work.

*Payment will be made under:*

Item No.	Item	Pay Unit
6.43 D	DIGITAL PHOTOGRAPHS	SETS



# Department of Design and Construction

## SPECIFICATION BULLETIN

# SB

17-006

Title: **RECORDS OF SUBSURFACE STRUCTURES**

Prepared:

Richard Jones, P.E. CWI

Director, Specifications – Infrastructure Design

1/12/2017

Date

Approved:

Mohsen Zargarelahi, P.E.

Assistant Commissioner – Infrastructure Design

1/12/2017

Date

### APPLICABILITY:

- This Specification Bulletin (SB) is effective for projects advertised on or after 2/20/17.

### SUPERSEDEENCE:

- This SB supersedes the following SBs: **NONE**

### ATTACHMENTS:

**NONE**

### REVISIONS TO THE NEW YORK CITY DEPARTMENT OF TRANSPORTATION STANDARD HIGHWAY SPECIFICATIONS VOLUME 1 OF 2, DATED 8/1/15:

All references contained below are to the New York City Department of Transportation Standard Highway Specifications, Dated August 1, 2015. Said Standard Highway Specifications are hereby revised as follows:


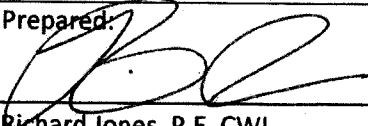
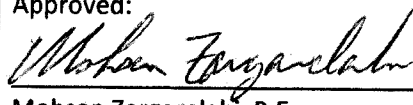
- a) **Refer** to Page 9, Section 1.06.18 – Records of Subsurface Structures, Etc.;

**Delete** the first two paragraphs;

**Add** the following paragraph to the beginning of the Section:

“The Contractor stipulates that it has the obligation to examine and review any and all available documents and other sources of information concerning the condition of the sub-soil materials, subsurface conditions and existing subsurface structures of bridges, pipes, tunnels, conduits, sewers, foundations, bulkhead walls and other subsurface structures and stipulates that it has made such investigation and research as it deems necessary. To the extent the Contractor incurs delays or damages based on sub-soil materials, subsurface conditions and existing subsurface structures that were known or reasonably could have been known to the Contractor through such available documents or other sources of information, the Contractor will make no claim for such delays or damages.”

**(NO TEXT THIS PAGE)**

	<b>Department of Design and Construction</b>	<b>SPECIFICATION BULLETIN</b>	<b>SB</b>  17-007
<b>Title: MOBILIZATION</b>			
Prepared:  3/24/2017		Approved:  3/24/2017	
Richard Jones, P.E. CWI Director, Specifications – Infrastructure Design		Mohsen Zargarelahi, P.E. Assistant Commissioner – Infrastructure Design	

#### APPLICABILITY:

- This Specification Bulletin (SB) is effective for projects advertised on or after 4/17/2017.

#### SUPERSEDEENCE:

- This SB supersedes the following SBs: NONE

#### ATTACHMENTS:

NONE

#### REVISIONS TO THE NEW YORK CITY DEPARTMENT OF TRANSPORTATION STANDARD HIGHWAY SPECIFICATIONS VOLUME 1 OF 2, DATED 8/1/15:

No Changes.


#### REVISIONS TO THE NEW YORK CITY DEPARTMENT OF TRANSPORTATION STANDARD HIGHWAY SPECIFICATIONS VOLUME 2 OF 2, DATED 8/1/15:

All references contained below are to the New York City Department of Transportation Standard Highway Specifications, Dated August 1, 2015. Said Standard Highway Specifications are hereby revised as follows:

- Refer** to Pages 371 through 372, Section 6.39 – Mobilization, Subsection 6.39.4. PRICE TO COVER;

**Delete** in its entirety the Subsection;

**Substitute** the revised Subsection:

	<b>Department of Design and Construction</b>	<b>SPECIFICATION BULLETIN</b>	<b>SB</b>  <b>17-007</b>
<b>Title: MOBILIZATION</b>			

**6.39.4. PRICE TO COVER.** Payment will be made by lump sum. The amount bid shall 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 his operations, consistent with the requirements of this section and the contract. The amount bid for this lump sum item shall be payable to the Contractor whenever he shall have completed 5% of the work, provided the final contract price, which includes this item, is at least 50% of the original price bid for the contract. For the purposes of this item, 5% percentage of the work shall be considered completed when the total of payments earned, not including the amount bid for this item, shall exceed 5% of the total amount of the Contractor's bid for the contract.

However, should the contract be terminated or it's term expire prior to completion of at least 50% percent of the original price bid for the contract then the Contractor will be paid a proportionate amount of this item based on the ratio of actual payments verified and approved by the Engineer and paid to the Contractor to the original price bid for the contract, plus any approved and registered change orders. Where the Contractor has already received the original total payment for this item after completion of 5% of the work and the contract has been terminated or expired prior to completion of at least 50% of the original price bid for the contract, then any monies owed the City due to the above specified reduction in payment will be withheld from monies owed the Contractor.

The amount bid for Mobilization shall not exceed four percent (4%) 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 A	MOBILIZATION	L.S.

**(NO FURTHER TEXT THIS PAGE)**





# Department of Design and Construction

## SPECIFICATION BULLETIN

# SB

## 17-008

Title: **QUALIFICATION CARDS**

Prepared:

3/24/2017

Richard Jones, P.E. CWI  
Director, Specifications – Infrastructure Design

Approved:

3/24/2017

Mohsen Zargarelahi, P.E.  
Assistant Commissioner – Infrastructure Design

### APPLICABILITY:

- This Specification Bulletin (SB) is effective for projects advertised on or after 4/17/2017.

### SUPERSEDEENCE:

- This SB supersedes the following SBs: **NONE**

### ATTACHMENTS:


**NONE**

### REVISIONS TO THE NEW YORK CITY DEPARTMENT OF TRANSPORTATION STANDARD HIGHWAY SPECIFICATIONS VOLUME 1 OF 2, DATED 8/1/15:

- a) **Refer** to Page 150, Section 4.02 – Asphaltic Concrete Wearing Course, Subsection 4.02.4.(B) CERTIFICATION OF LABORATORY AND TECHNICIANS;  
**Delete** in its entirety the Subsection;  
**Substitute** the revised Subsection:

The testing laboratory used by the Contractor for testing core samples must be independent of those used at the plant and job site during placement of asphalt. Only laboratories approved by the Director of DDC QACS shall be used. Technicians used for plant and field work shall possess current QACS Qualification Cards. Technicians must have in their possession the current QACS issued Qualification Card (no copies), and present their current QACS Qualification Cards if so requested by authorized DDC staff. Expired QACS Qualification Cards will be kept by the DDC staff for return to the QACS Bureau. Technicians shall have one of the qualifications listed below in order to apply for a QACS Qualification Card:

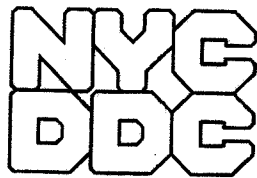
Field Technician	Plant Technician
NICET Asphalt Level II	NICET Asphalt Level II
Alfred State HMA Density Testing Inspector	Alfred State QC/QA Technician
NETTCP HMA Paving Inspector	NETTCP HMA Plant Technician

	<b>Department of Design and Construction</b>	<b>SPECIFICATION BULLETIN</b>	<b>SB</b>  <b>17-008</b>
<b>Title: QUALIFICATION CARDS</b>			

Exceptions granted to any of the above requirements must be in writing by the Director of QACS.

- b) **Refer** to Page 154, Section 4.02 – Asphaltic Concrete Wearing Course, Subsection 4.02.4.(G) TEST STRIP OPERATIONS;  
**Delete** in its entirety the second paragraph;  
**Substitute** the revised paragraph:

Size of each test strip shall be no greater than: a length of one city block, 250 feet, an area of 1,000 square yards, and 125 tons of each course of asphaltic concrete. Test strip areas shall become part of the completed pavement if, in fact, they meet the requirements of these specifications. The Contractor shall be required to furnish and use a properly calibrated nuclear asphalt testing device in the field to monitor the effectiveness of compaction by rolling during construction for each lift of asphaltic concrete placed. The technician operating the nuclear asphalt testing device shall possess a current QACS Asphalt Field Qualification Card. The amount of compaction shall be determined as a percentage of the theoretical maximum density of bituminous pavement mixture at the plant obtained in accordance with the requirements of ASTM Designation D 2041. Acceptable in place compaction shall range between 92% and 97% of the theoretical maximum density of bituminous pavement mixture. Field testing for compacted asphaltic concrete with the nuclear asphalt testing device shall be done by the Contractor in accordance with ASTM Designation D 2950, throughout his rolling operations. Number and locations of nuclear asphalt tests to be performed within each test strip area shall be of a sufficient number to obtain acceptable results, with a minimum of 12 randomly selected locations using statistically random number charts, except that none are to be within 18 inches of a longitudinal joints or edge of street hardware or within ten (10') feet of transverse joints; however, it is the Contractor's responsibility to take as many density readings as required to insure that the in place density after compaction falls within the specified range of 92% to 97% of the theoretical maximum density, obtained in accordance with ASTM Designation D 2041, of the asphaltic concrete placed. A copy of all density monitoring results, including date, time, station, offset, and theoretical maximum density of pavement mixture obtained in the plant in accordance with ASTM Designation D 2041, shall be given to the Engineer at the end of that day's operations.



# Department of Design and Construction

SPECIFICATION  
BULLETIN

**SB**


17-008

Title: **QUALIFICATION CARDS**

- d) **Refer** to Page 154, Section 4.02 – Asphaltic Concrete Wearing Course, Subsection 4.02.4.(Q) MONITORING FIELD DENSITY;  
**Delete** in its entirety the first paragraph under Item 1);  
**Substitute** the revised paragraph:

The Contractor shall be required to furnish and use a properly calibrated nuclear asphalt testing device in the field to monitor the effectiveness of compaction by rolling during construction for each lift of asphaltic concrete placed. The nuclear density gauge should consist of a radioactive source, scaler and other basic components housed in a single backscatter unit. The technician operating the nuclear asphalt testing device shall possess a current QACS Asphalt Field Qualification Card. Only gauge(s) calibrated during the construction of the test strip will be used during normal paving operation. If another nuclear gauge is to be used, a new test strip must be constructed to calibrate that gauge.

**(NO FURTHER TEXT THIS PAGE)**

	<b>Department of Design and Construction</b>	<b>SPECIFICATION BULLETIN</b>	<b>SB</b>  <b>17-008</b>
<b>Title: QUALIFICATION CARDS</b>			

**REVISIONS TO THE NEW YORK CITY DEPARTMENT OF TRANSPORTATION  
STANDARD HIGHWAY SPECIFICATIONS VOLUME 2 OF 2, DATED 8/1/15:**

All references contained below are to the New York City Department of Transportation Standard Highway Specifications, Dated August 1, 2015. Said Standard Highway Specifications are hereby revised as follows:

- a) **Refer** to Page 487, Section 7.12 – Soil Density Testing, Subsection 7.12.2. APPROVAL OF TESTING LABORATORY AND QUALIFICATION OF THE TECHNICIANS;  
**Delete** in its entirety the first paragraph;  
**Substitute** the revised paragraph:

The testing laboratory used by the Contractor must be independent of the Contractor and any subsidiary. Only laboratories approved by the Director of DDC Quality Assurance and Construction Safety (QACS) Bureau shall be used for all work performed and technicians qualified by the DDC QACS Bureau shall be used for field work. Technicians used for field work shall possess QACS Qualification Cards. Technicians must carry the original QACS Qualifications on their person, and present their current QACS Qualification Cards if so requested by authorized DDC staff. Field technicians must present their current QACS Qualification Cards if so requested by authorized DDC staff. Expired QACS Qualification Cards will be kept by the DDC staff for return to the QACS Bureau. Technicians shall have one of the qualifications listed below in order to apply for a QACS Qualification Card:

- NICET Soils Level II;
- NETTCP Soils & Aggregate Inspector;

Exceptions granted to any of the above requirements must be in writing by the Director of QACS.

**(NO FURTHER TEXT THIS PAGE)**



# Department of Design and Construction

## SPECIFICATION BULLETIN

# SB

17-009

Title: **SALVAGEABLE MATERIALS**

Prepared:

3/24/2017

Richard Jones, P.E. CWI

Date

Director, Specifications – Infrastructure Design

Approved:

3/24/2017

Mohsen Zargarelahi, P.E.

Date

Assistant Commissioner – Infrastructure Design

### APPLICABILITY:

- This Specification Bulletin (SB) is effective for projects advertised on or after 4/17/2017.

### SUPERSEDEENCE:

- This SB supersedes the following SBs: **NONE**

### ATTACHMENTS:

**NONE**

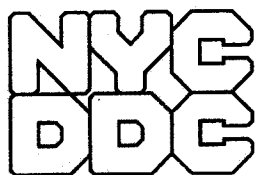
### REVISIONS TO THE NEW YORK CITY DEPARTMENT OF ENVIRONMENTAL PROTECTION STANDARD SEWER AND WATER MAIN SPECIFICATIONS, DATED 7/1/14:

All references contained below are to the New York City Department of Environmental Protection Standard Sewer and Water Main Specifications, Dated July 1, 2014. Said Standard Sewer and Water Main Specifications are hereby revised as follows:

- a) **Refer** to Pages I-15, Section 10.28 – SALVAGEABLE MATERIALS;  
**Delete** in its entirety the Section;  
**Substitute** the revised Section:

Except as specified below, no salvageable material shall be returned to the New York City Department of Environmental Protection regardless of condition. It shall become the property of the Contractor for removal and disposal, by the Contractor, away from the site. No salvage of materials shall be required on contracts with federal funding.

The Contractor shall salvage and deliver all Metropolitan Gate Valves (6" thru 20") removed during construction of the contract to the NYCDEP 3<sup>rd</sup> Ward Yard, 49-14 Fresh Meadow Lane, Flushing, NY 11365, Monday thru Friday, between the hours of 9:00AM and 2:00PM. The valves shall be free of all debris and have no attached piping.



# Department of Design and Construction

## SPECIFICATION BULLETIN

# SB

17-009

Title: **SALVAGEABLE MATERIALS**

The Contractor shall salvage and deliver all twenty-four (24) and twenty-seven (27) inch sewer manhole covers to the nearest NYCDEP Repair Yard as listed below between the hours of 9:00AM and 2:00PM. The delivered materials shall be free of all debris, including any attached piping.

### NYC DEP REPAIR YARDS

FACILITY	TYPE	LOCATION
Pike Street	Manhattan Repairs	30 Pike Street New York, NY 10002
Joline Avenue	Staten Island Repairs	182 Joline Avenue Staten Island, NY 10307
Zerega Avenue	Bronx Repairs / Bronx Water Maintenance (E-BX)	930 Zerega Avenue Bronx, NY 10473
Queens Repairs	Queens Repairs	106-36 180 Street Jamaica, NY 11433
Brooklyn Repairs	Brooklyn Repairs	9023 Avenue D Brooklyn, NY 11236

The Contractor shall obtain from the yard a "Return Requisition Slip" as proof of delivery and shall submit it to the Engineer. Failure to provide a "Return Requisition Slip" to the Engineer shall incur to the Contractor for each failure a deduction in an amount as determined by the Engineer. The cost of all labor, material and equipment required and necessary for the removal, cleaning, dismantling, loading, transporting, unloading, etc. of the salvaged materials to the NYCDEP yard shall be deemed included in the unit prices bid for all items of the contract. No separate or additional payment will be made for this work.

**NOTICE**

UNLESS OTHERWISE NOTED, ALL SECTIONS, SUBSECTIONS, ARTICLES, OR SUBARTICLES AS REFERRED TO HEREIN WITHIN THESE NEW SECTION SPECIFICATIONS SHALL BE THOSE OF THE NEW YORK CITY DEPARTMENT OF TRANSPORTATION'S (NYCDOT'S) CURRENT STANDARD HIGHWAY SPECIFICATIONS WITH CURRENT ADDITIONS, MODIFICATIONS AND REVISIONS TO THE STANDARD HIGHWAY SPECIFICATIONS (R-PAGES).

THE STANDARD HIGHWAY SPECIFICATIONS ARE NOT INCLUDED IN THESE I-PAGES. SEE THE NYCDOT STANDARD HIGHWAY SPECIFICATIONS BOOKS FOR STANDARD SPECIFICATIONS TEXTS.

(NO TEXT ON THIS PAGE)



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**SECTION ROWB  
RIGHT OF WAY (R.O.W.) BIOSWALE**

**ROWB.1.     INTENT**

This section describes the construction of a Right of Way (R.O.W.) Bioswale.

**ROWB.2.     DESCRIPTION**

The work to be done under this section shall consist of constructing a Right of Way (R.O.W.) Bioswale, as shown on the Contract Drawings, and in accordance the requirements of this **Section**, the **New York City Department of Transportation (NYCDOT) Standard Highway Specifications**, the **NYC Department of Environmental Protection Office of Green Infrastructure Standard Design and Guidelines for Green Infrastructure Practices (SFGI)** drawings, additional **I-Pages** contained herein, and the directions of the Engineer.

Depth of the bioswale shall not be greater than five (5') feet, with the exception of depth of stone columns for bioswale Types 1A, 2A and 3A, where depth of stone columns, in order to penetrate into the permeable soil layer, shall be as per site condition and as directed by the Engineer. Length and width of the bioswale shall be as shown on Contract Drawings.

**ROWB.3.     METHODS**

- a. **Clear and grub** the area for the bioswale, as needed, in accordance with the applicable requirements of Section 6.01 of the NYCDOT Standard Highway Specifications, Item No. 6.01 AC, as applicable.
- b. **Remove trees and tree stumps**, in accordance with the applicable requirements of Section 4.16 of NYCDOT Standard Highway Specifications, Item Nos. 4.16 AA, 4.16 AB, 4.16 AC, 4.16 AD, 4.16 STUMP, and I-Pages Section GI-5.06, as applicable.
- c. **Engage services of a tree consultant** in accordance with applicable requirements of the Section 4.21 of NYCDOT Standard Highway Specifications, Item No. 4.21, as applicable.
- d. **Transplant trees** as per the requirements of I-Pages Sections GI-5.06 and PM-01 through PM-24, contained herein, as applicable.
- e. **Saw-cut existing roadway pavement and sidewalk** in accordance with the requirements of NYCDOT Standard Highway Specifications Section 6.55, Item No. 6.55, and I-Pages Section GI-5.21, as applicable.
- f. **Remove existing asphalt, curb and sidewalk** in accordance with the requirements of NYCDOT Standard Highway Specifications Section 6.02, Item No. 6.02 AAN, as applicable.
- g. **Strip existing pavement surface** in accordance with the requirements of NYCDOT Standard Highway Specifications Section 6.03, Item No. 6.03 AA, as applicable.

- h. **Excavate** the bioswale location in accordance with the requirements of the NYCDOT Standard Highway Specifications Section 6.02, Item No. 6.02 AAN, and I-Pages Sections GI-4.02 for Earth Excavation, GI-4.03 for Excavation of Boulders in Open Cut, and GI-5.06A for Hand Removal of Pavements, as applicable.
- i. **Furnish and install High Density Polyethylene (HDPE)** barrier, in accordance with the requirements of I-Pages Section GI-2.08, as applicable.
- j. **Furnish and install HDPE pipe** for hydraulically connected R.O.W. Bioswales, in accordance with the requirements of I-Pages Section GI-2.16, as applicable.
- k. **Furnish and install geotextile fabric** in accordance with the requirements of I-Pages, Section GI-2.09, as applicable.
- l. **Furnish and install sleeving** of any existing house utilities, as applicable. Sleeving details are provided in the contract drawings and the work shall be done in accordance with the requirements of I-Pages Section GI-5.35.
- m. **Furnish and install open-graded stone base** in accordance with the requirements of I-Pages Section GI-2.07, as applicable.
- n. **Furnish and install Engineered Soil and Sand** in accordance with the requirements of I-Pages Section GI-2.13A, as applicable.
- o. **Furnish and install trapezoid concrete header** in accordance with the requirements of I-Pages Section 6.09 GI, as applicable.
- p. **Furnish and install precast or poured reinforced concrete aprons** in accordance with the requirements of I-Pages, Section GI-2.03, as applicable.
- q. **Furnish and install precast porous concrete in roadway** in accordance with the requirements of I-Pages Section GI-2.04, as applicable.
- r. **Furnish and install precast porous concrete** in walkways for hydraulically connected R.O.W. Bioswales in accordance with the requirements of I-Pages Section GI-2.04, as applicable.
- s. **Furnish and install new curb** in accordance with the requirements of NYCDOT Standard Highway Specifications Section 4.07 for Curb, Bluestone and Granite, Item Nos. 4.07 BA and 4.07 CB, Section 4.08 for Curb, Concrete, Item No. 4.08 AA and Section 4.09 for Curb, Concrete, Steel Faced, Item Nos. 4.09 AD and 4.09 BD, as applicable. The Contractor is advised that new curb is required to nearest expansion joint on either side of the bioswale.
- t. **Furnish and install new sidewalk** in accordance with the requirements of NYCDOT Standard Highway Specifications Sections 6.07 for Bluestone Flags, Item No. 6.07 AA, and I-Pages Section 4.13 GI-A for 4" Concrete Sidewalk, and I-Pages Section 4.13 GI-B for 7" Concrete Sidewalk, as applicable. The Contractor is advised that full new sidewalk flags around the perimeter of the bioswale are required.

- u. **Modify work methods** for removing and installing new curbs and sidewalks in order to maintain, protect and accommodate the integrity of N.Y.C. Transit Authority (T.A.) facilities, trees, under-sidewalk building vaults, and existing sidewalk encroachments to remain (such as brick and/or masonry walls and fences) located within a zone of protection immediately beneath or adjacent to the existing sidewalk and curb designated to be replaced under contract items, in accordance with the requirements of NYCDOT Standard Highway Specifications Section 8.02, Item Nos. 8.02 A and 8.02 B, as applicable. Refer to Section 8.02 for definition of "zone of protection".
- v. **Restore in kind all removed pavement** along the new curb and adjacent to the precast porous concrete slab and concrete apron, as applicable. This work shall be done in accordance with the requirements of NYCDOT Standard Highway Specifications Section 4.02 for Asphaltic Concrete Wearing Course, Item Nos. 4.02 AF-R, 4.02 CB, Section 4.04 for Concrete Base of Pavement, Item No. 4.04 H, Section 6.44 for White and Yellow Thermoplastic Reflectorized Pavement Markings, Item No. 6.44, and I-Pages Section 6.51 GI-BD for Pavement Key Along Curb (3' to 6' Wide), as applicable.
- w. **Furnish and install stone filled gabion** in accordance with the requirements of I-Pages Section GI-2.17, as applicable.
- x. **Furnish and install L-shaped edging and Epoxy Bonded Stone Strip Bed** with and without epoxy bonding agent in accordance with the requirements of I-Pages Sections GI-2.06, and I-Pages Section GM-30, as applicable.
- y. **Furnish and install steel tree pit guards** in accordance with the requirements of I-Pages Section GI-2.10, as applicable.
- z. **Perform all final grading and landscaping activities** in accordance with the requirements of NYCDOT Standard Highway Specifications Section 4.11 for Excavation and Filling, Item No. 4.11 CA, Section 4.19 for Sodding, Item No. 4.19, Section 4.20 for Seeding, Item No. 4.20, and I-Pages Section GI-2.14 furnishing and placing Mulch, and I-Pages Section PM-01 through PM-24, as applicable.
- aa. **Perform all watering and weeding** during the Period of Maintenance as required in accordance with the requirements of I-Pages Section GI-5.09. The Period of Maintenance for each individual planting shall begin upon planting or transplanting and shall end twenty-four (24) months thereafter.
- bb. **For bioswale Types 1A, 2A and 3A** as shown in the DEP Standard Design and Guidelines for Green Infrastructure Practices drawings, furnish and install PVC stone column with perforated caps in accordance with the requirements of I-Pages Section GI-5.10, as applicable.
- cc. **For bioswale Types 1B and 2B** as shown in the DEP Standard Design and Guidelines for Green Infrastructure Practices drawings, furnish and install NYCDEP Type 2 Stormwater Inlet and required High Density Polyethylene (HDPE) piping to the bioswale in accordance with the requirements I-Pages Sections GI-5.13A, and GI-2.16, as applicable.

- dd. **For bioswale Types 1C and 2C** as shown in the DEP Standard Design and Guidelines for Green Infrastructure Practices drawings, furnish and install HDPE stormwater Chamber with bedding and cover, and in accordance with the requirements of I-Pages Section GI-2.19, as applicable.
- ee. **Provide Maintenance and Protection of Traffic** in accordance with the requirements of I-Pages Section 6.70-GI, as applicable.
- ff. **Provide Maintenance of Site** in accordance with the requirements of I-Pages Section 7.13-GI, as applicable.

#### **ROWB.4. METHOD OF MEASUREMENT.**

The quantities of:

ITEM NO. ROWB-01	CONSTRUCT 20' x 5' R.O.W. BIOSWALE TYPE 1
ITEM NO. ROWB-02	CONSTRUCT 20' x 5' R.O.W. BIOSWALE TYPE 1A
ITEM NO. ROWB-03	CONSTRUCT 20' x 5' R.O.W. BIOSWALE TYPE 1B
ITEM NO. ROWB-04	CONSTRUCT 20' x 5' R.O.W. BIOSWALE TYPE 1C
ITEM NO. ROWB-05	CONSTRUCT 15' x 5' R.O.W. BIOSWALE TYPE 2
ITEM NO. ROWB-06	CONSTRUCT 15' x 5' R.O.W. BIOSWALE TYPE 2A
ITEM NO. ROWB-07	CONSTRUCT 15' x 5' R.O.W. BIOSWALE TYPE 2B
ITEM NO. ROWB-08	CONSTRUCT 15' x 5' R.O.W. BIOSWALE TYPE 2C
ITEM NO. ROWB-09	CONSTRUCT 10' x 5' R.O.W. BIOSWALE TYPE 3
ITEM NO. ROWB-10	CONSTRUCT 10' x 5' R.O.W. BIOSWALE TYPE 3A

to be measured for payment shall be the number of bioswales actually constructed at the site to the satisfaction of the Engineer.

Measurement of bioswales with length that varies from 10 feet to 20 feet and widths that varies from 4 feet to 6 feet shall be the number of bioswales actually constructed of Type 1, 2 or 3 as shown on the Dimension Schedule for Variable Size R.O.W. Bioswales in the DEP Standard Design and Guidelines for Green Infrastructure Practices drawings.

#### **ROWB.5. PRICE TO COVER.**

The following contract items shall cover the cost of furnishing all labor, materials, equipment, insurance, and incidentals required and necessary to construct the bioswale; at the locations shown or required all in accordance with the Contract Drawings, Specifications and Standards, and as directed by the Engineer.

No separate or additional payment will be made for any items of work specified in Subsection ROWB.3, above, with the exception of tree planting, if required, as specified in I-Pages Section PM-01 through PM-24, which shall be paid separately under their respective bid PM-01 through PM-03 items.

*Payment will be made under:*

Item No.	Item	Pay Unit
ROWB-01	CONSTRUCT 20' x 5' R.O.W. BIOSWALE TYPE 1	EACH
ROWB-02	CONSTRUCT 20' x 5' R.O.W. BIOSWALE TYPE 1A	EACH
ROWB-03	CONSTRUCT 20' x 5' R.O.W. BIOSWALE TYPE 1B	EACH
ROWB-04	CONSTRUCT 20' x 5' R.O.W. BIOSWALE TYPE 1C	EACH
ROWB-05	CONSTRUCT 15' x 5' R.O.W. BIOSWALE TYPE 2	EACH
ROWB-06	CONSTRUCT 15' x 5' R.O.W. BIOSWALE TYPE 2A	EACH
ROWB-07	CONSTRUCT 15' x 5' R.O.W. BIOSWALE TYPE 2B	EACH
ROWB-08	CONSTRUCT 15' x 5' R.O.W. BIOSWALE TYPE 2C	EACH
ROWB-09	CONSTRUCT 10' x 5' R.O.W. BIOSWALE TYPE 3	EACH
ROWB-10	CONSTRUCT 10' x 5' R.O.W. BIOSWALE TYPE 3A	EACH

Payment for bioswales where the length varies from 10 feet to 20 feet, and the width varies from 4 feet to 6 feet, as shown on the Dimension Schedule for Variable Size R.O.W. bioswales in the DEP Standard Design and Guidelines for Green Infrastructure Practices drawings, will be paid for as a proportional cost of the unit price bid for the above listed, normalized by square footage.

**SECTION ROWGS  
RIGHT OF WAY (R.O.W.) GREENSTRIP**

**ROWGS.1. INTENT**

This section describes the construction of a Right of Way (R.O.W.) Greenstrip.

**ROWGS.2. DESCRIPTION**

The work to be done under this section shall consist of constructing a Right of Way (R.O.W.) Greenstrip, as shown on the Contract drawings and as per NYC Department of Environment Protection Office of Green Infrastructure Standard Design and Guidelines for Green Infrastructure Practices (SFGI) drawings, and in accordance with the requirements of this Section, the **New York City Department of Transportation (NYCDOT) Standard Highway Specifications, Office of Standard Design and Guidelines for Green Infrastructure Practices**, additional I-Pages contained herein, and the directions of the Engineer.

Depth of the greenstrip shall not be greater than five (5') feet. Length and width of the greenstrip shall be as shown on Contract Drawings.

**ROWGS.3. METHODS**

- a. Clear and grub the area for greenstrip, as needed, in accordance with the requirements of Section 6.01 of the NYCDOT Standard Highway Specifications, Item No. 6.01 AC, as applicable.
- b. Remove trees and tree stumps, in accordance with the requirements of Section 4.16 of NYCDOT Standard Highway Specifications, Item Nos. 4.16 AA, 4.16 AB, 4.16 AC, 4.16 AD, 4.16 STUMP, and I-Pages Section GI-5.06, as applicable.
- c. Engage services of a tree consultant in accordance with applicable requirements of the Section 4.21 of NYCDOT Standard Highway Specifications, Item No. 4.21, as applicable.
- d. Saw-cut existing roadway pavement and sidewalk pavement in accordance with the requirements of NYCDOT Standard Highway Specifications Section 6.55, Item No. 6.55, and I-Pages Section GI-5.21, as applicable.
- e. Remove existing asphalt, curb and sidewalk in accordance with the requirements of NYCDOT Standard Highway Specifications Section 6.02, Item No. 6.02 AAN, as applicable.
- f. Strip existing pavement surface in accordance with the requirements of NYCDOT Standard Highway Specifications Section 6.03, Item No. 6.03 AA, as applicable.
- g. Excavate the R.O.W. greenstrip location in accordance with the requirements of the NYCDOT Standard Highway Specifications Section 6.02, Item No. 6.02 AAN, and I-Pages Sections GI-4.02 for Earth Excavation, and GI-4.03 for Excavation of Boulders in Open Cut, as applicable.



- h. Furnish and install geotextile fabric in accordance with the requirements of Section GI-2.09 of I-Pages as applicable.
- i. Furnish and install sleeving of any existing house utilities, as applicable. Sleeving details are provided in the contract drawings and the work shall be done in accordance with the requirements of I-Pages Section GI-5.35.
- j. Furnish and install open-graded stone base in accordance with the requirements of I-Pages Section GI-2.07, as applicable.
- k. Furnish and install Engineered Soil and Sand in accordance with the requirements of I-Pages Section GI-2.13A, as applicable.
- l. Furnish and install concrete headers in accordance with the requirements of I-Pages Section 6.09 GI, as applicable.
- m. Furnish and install precast or poured reinforced concrete aprons in accordance with the requirements of I-Pages Section GI-2.03, as applicable.
- n. Furnish and install precast porous concrete in roadway in accordance with the requirements of I-Pages Section GI-2.04, as applicable.
- o. Furnish and install new curb, or reset granite curb in accordance with the requirements of NYCDOT Standard Highway Specifications Section 4.07 for Curb, Bluestone and Granite, Item Nos. 4.07 BA and 4.07 CB, Section 4.08 for Curb, Concrete, Item No. 4.08 AA and Section 4.09 for Curb, Concrete, Steel Faced, Item Nos. 4.09 AD and 4.09 BD, as applicable. The Contractor is advised that new curb is required to nearest expansion joint on either side of the greenstrip.
- p. Furnish and install new sidewalk in accordance with the requirements of NYCDOT Standard Highway Specifications Sections 6.07 for Bluestone Flags, Item No. 6.07 AA, and I-Pages Section 4.13 GI-A for 4" Concrete Sidewalk, and I-Pages Section 4.13 GI-B for 7" Concrete Sidewalk, as applicable. The Contractor is advised that full new sidewalk flags around the perimeter of the greenstrip are required.
- q. Modify work methods for removing and installing new curbs and sidewalks in order to maintain, protect and accommodate the integrity of N.Y.C. Transit Authority (T.A.) facilities, trees, under-sidewalk building vaults, and existing sidewalk encroachments to remain (such as brick and/or masonry walls and fences) located within a zone of protection immediately beneath or adjacent to the existing sidewalk and curb designated to be replaced under contract items, in accordance with the requirements of NYCDOT Standard Highway Specifications Section 8.02, Item Nos. 8.02 A and 8.02 B, as applicable. Refer to Section 8.02 for definition of "zone of protection".

- r. Furnish and install L-shaped edging and stone strip bed with and without epoxy bonding agent in accordance with the requirements of I-Pages Sections GI-2.06, and I-Pages Section GM-30, as applicable.
- s. Restore in kind all removed pavement along the new curb and adjacent to the precast porous concrete slab and concrete apron, as applicable. This work shall be done in accordance with the requirements of NYCDOT Standard Highway Specifications Section 4.02 for Asphaltic Concrete Wearing Course, Item Nos. 4.02 AF-R, 4.02 CB, Section 4.04 for Concrete Base of Pavement, Item No. 4.04 H, Section 6.44 for White and Yellow Thermoplastic ReflectORIZED Pavement Markings, Item No. 6.44, and I-Pages Section 6.51 GI-BD for Pavement Key Along Curb (3' to 6' Wide), as applicable.
- t. Furnish and install stone filled gabion in accordance with the requirements of I-Pages Section GI-2.17, as applicable.
- u. Perform all final grading and landscaping activities in accordance with the requirements of NYCDOT Standard Highway Specifications Section 4.11 for Excavation and Filling, Item No. 4.11 CA, Section 4.19 for Sodding, Item No. 4.19, Section 4.20 for Seeding, Item No. 4.20, and I-Pages Section GI-2.14 furnishing and placing Mulch, and I-Pages Section PM-01 through PM-24, as applicable.
- v. Perform all watering and weeding during the Period of Maintenance in accordance with the requirements of I-Pages Section GI-5.09, as applicable. The Period of Maintenance for each individual planting shall begin upon planting and shall end twenty-four (24) months thereafter.
- w. Provide Maintenance and Protection of Traffic in accordance with the requirements of I-Pages Section 6.70-GI.
- x. Provide Maintenance of Site in accordance with the requirements of I-Pages Section 7.13-GI, as applicable.

#### **ROWGS.4. METHOD OF MEASUREMENT.**

The quantities of:

ITEM NO. ROWGS-01	CONSTRUCT 20' x 3' R.O.W. GREENSTRIP TYPE 1
ITEM NO. ROWGS-02	CONSTRUCT 15' x 3' R.O.W. GREENSTRIP TYPE 2
ITEM NO. ROWGS-03	CONSTRUCT 20' x 3' R.O.W. GREENSTRIP TYPE 3

To be measured for payment shall be the number of greenstrips actually constructed at the site to the satisfaction of the Engineer.

Measurement of greenstrips with length that varies from 10 feet to 20 feet and width that varies from 4 feet to 6 feet shall be the number of greenstrips actually constructed of Type 1, 2 or 3 as shown on the Dimension Schedule for R.O.W. greenstrips in the DEP Standard Design and Guidelines for Green Infrastructure Practices drawings.

**ROWGS.5. PRICE TO COVER.**

The following contract items shall cover the cost of furnishing all labor, materials, equipment, insurance, and incidentals required and necessary to construct the greenstrip; at the locations shown or required all in accordance with the Contract Drawings, Specifications and Standards, and as directed by the Engineer.

Payment for greenstrips where the length varies from 10 feet to 20 feet, and the width varies from 4 feet to 6 feet, as shown on the Dimension Schedule for R.O.W. greenstrips in the DEP Standard Design and Guidelines for Green Infrastructure Practices drawings, will be paid for as a proportional cost of the unit price bid for the above listed, normalized by square footage.

No separate or additional payment will be made for any items of work specified in Subsection ROWGS.3. above.

*Payment will be made under:*

Item No.	Item	Pay Unit
ROWGS-01	CONSTRUCT 20' x 3' R.O.W. GREENSTRIP TYPE 1	EACH
ROWGS-02	CONSTRUCT 15' x 3' R.O.W. GREENSTRIP TYPE 2	EACH
ROWGS-03	CONSTRUCT 10' x 3' R.O.W. GREENSTRIP TYPE 3	EACH

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**SECTION ROWRG  
RIGHT OF WAY (R.O.W.) RAIN GARDEN**

**ROWRG.1.     INTENT**

This section describes the construction of a Right of Way (R.O.W.) Rain Garden.

**ROWRG.2.     DESCRIPTION**

The work to be done under this section shall consist of constructing a Right of Way (R.O.W.) rain garden, as shown on the Contract drawings and as per NYC Department of Environment Protection Office of Green Infrastructure Standard Design and Guidelines for Green Infrastructure Practices (SFGI) drawings and in accordance with the requirements of this Section, the **New York City Department of Transportation (NYCDOT) Standard Highway Specifications, Office of Standard Design and Guidelines for Green Infrastructure Practices**, additional **I-Pages** contained herein, and the directions of the Engineer.

Depth of the rain garden shall not be greater than three (3') feet. Length and width of the rain garden shall be as shown on Contract Drawings.

**ROWRG.3.     METHODS**

- a. Clear and grub the area for rain garden, as needed, in accordance with the requirements of Section 6.01 of the NYCDOT Standard Highway Specifications, Item No. 6.01 AC, as applicable.
- b. Remove trees and tree stumps, in accordance with the requirements of Section 4.16 of NYCDOT Standard Highway Specifications, Item Nos. 4.16 AA, 4.16 AB, 4.16 AC, 4.16 AD, 4.16 STUMP, and I-Pages Section GI-5.06, as applicable.
- c. Engage services of a tree consultant in accordance with the requirements of the Section 4.21 of NYCDOT Standard Highway Specifications, Item No. 4.21, as applicable.
- d. Saw-cut existing roadway pavement and sidewalk pavement in accordance with the requirements of NYCDOT Standard Highway Specifications Section 6.55, Item No. 6.55, and I-Pages Section GI-5.21, Item No. GI-5.21, as applicable.
- e. Remove existing asphalt, curb and sidewalk in accordance with the requirements of NYCDOT Standard Highway Specifications Section 6.02, Item No. 6.02 AAN, as applicable.
- f. Strip existing pavement surface in accordance with the requirements of NYCDOT Standard Highway Specifications Section 6.03, Item No. 6.03 AA, as applicable.
- g. Excavate the R.O.W. rain garden location in accordance with the requirements of the NYCDOT Standard Highway Specifications Section 6.02, Item No. 6.02 AAN, and I-Pages Sections GI-4.02 for Earth Excavation, Item No. GI-4.02, and GI-4.03 for Excavation of Boulders in Open Cut, Item No. GI-4.03, as applicable.

- h. Furnish and install High Density Polyethylene (HDPE) barrier, in accordance with the requirements of I-Pages Section GI-2.08, Item No. GI-2.08, as applicable.
- i. Furnish and install HDPE pipe for hydraulically connected R.O.W. rain gardens, in accordance with the requirements of I-Pages Section GI-2.16, Item Nos. GI-2.16S and GI-2.16P, as applicable.
- j. Furnish and install geotextile fabric in accordance with the requirements of Item No. GI-2.09 of I-Pages, Item No. GI-2.09, as applicable.
- k. Furnish and install sleeving of any existing house utilities, as applicable. Sleeving details are provided in the contract drawings and the work shall be done in accordance with the requirements of I-Pages Section GI-5.35, Item No. GI-5.35.
- l. Furnish and install open-graded stone base in accordance with the requirements of I-Pages Section GI-2.07, Item No. GI-2.07, as applicable.
- m. Furnish and install Engineered Soil and Sand in accordance with the requirements of I-Pages Section GI-2.13A, Item No. GI-2.13A, as applicable.
- n. Furnish and install concrete headers in accordance with the requirements of I-Pages Section 6.09 GI-T, Item No. 6.09 GI-T1, as applicable.
- o. Furnish and install precast or poured reinforced concrete aprons in accordance with the requirements of I-Pages Section GI-2.03, Item No. GI-2.03, as applicable.
- p. Furnish and install precast porous concrete in roadway in accordance with the requirements of I-Pages Section GI-2.04, Item No.: GI-2.04G, as applicable.
- q. Furnish and install new curb, or reset granite curb in accordance with the requirements of NYCDOT Standard Highway Specifications Section 4.07 for Curb, Bluestone and Granite, Item Nos. 4.07 BA and 4.07 CB, Section 4.08 for Curb, Concrete, Item No. 4.08 AA and Section 4.09 for Curb, Concrete, Steel Faced, Item Nos. 4.09 AD and 4.09 BD, as applicable. The Contractor is advised that new curb is required to nearest expansion joint on either side of the rain garden.
- r. Furnish and install new sidewalk in accordance with the requirements of NYCDOT Standard Highway Specifications Sections 6.07 for Bluestone Flags, Item No. 6.07 AA, and I-Pages Section 4.13 GI-A for 4" Concrete Sidewalk, Item Nos. 4.13 GI-AA and 4.13 GI-AB, and I-Pages Section 4.13 GI-B for 7" Concrete Sidewalk, Item Nos. 4.13 GI-BA, 4.13 GI-BB, as applicable. The Contractor is advised that full new sidewalk flags around the perimeter of the rain garden are required.

- s. Modify work methods for removing and installing new curbs and sidewalks in order to maintain, protect and accommodate the integrity of N.Y.C. Transit Authority (T.A.) facilities, trees, under-sidewalk building vaults, and existing sidewalk encroachments to remain (such as brick and/or masonry walls and fences) located within a zone of protection immediately beneath or adjacent to the existing sidewalk and curb designated to be replaced under contract items, in accordance with the requirements of NYCDOT Standard Highway Specifications Section 8.02, Item Nos. 8.02 A and 8.02 B, as applicable. Refer to Section 8.02 for definition of "zone of protection".
- t. Furnish and install L-shaped edging and stone strip bed with and without epoxy bonding agent in accordance with the requirements of I-Pages Sections GI-2.06, Item No. GI-2.06, and I-Pages Section GM-30, Item No. GM-30, as applicable.
- u. Restore in kind all removed pavement along the new curb and adjacent to the precast porous concrete slab and concrete apron, as applicable. This work shall be done in accordance with the requirements of NYCDOT Standard Highway Specifications Section 4.02 for Asphaltic Concrete Wearing Course, Item Nos. 4.02 AF-R, 4.02 CB, Section 4.04 for Concrete Base of Pavement, Item No. 4.04 H, Section 6.44 for White and Yellow Thermoplastic ReflectORIZED Pavement Markings, Item No. 6.44, and I-Pages Section 6.51 GI-BD for Pavement Key Along Curb (3' to 6' Wide), Item No. 6.51 GI-BD.
- v. Furnish and install stone filled gabion in accordance with the requirements of I-Pages Section GI-2.17, Item No. GI-2.17, as applicable.
- w. Perform all final grading and landscaping activities in accordance with the requirements of NYCDOT Standard Highway Specifications Section 4.11 for Excavation and Filling, Item No. 4.11 CA, Section 4.19 for Sodding, Item No. 4.19, Section 4.20 for Seeding, Item No. 4.20, and I-Pages Section GI-2.14 furnishing and placing Mulch, Item no. GI-2.14, and I-Pages Section PM, Item Nos. PM-05, PM-09, PM-12, PM-15, PM-15A, PM-16, PM-17, PM-18, PM-19, PM-20, PM-21, PM-22, PM-24, as applicable.
- x. Perform all watering and weeding during the Period of Maintenance in accordance with the requirements of I-Pages Section GI-5.09, as applicable. The Period of Maintenance for each individual planting shall begin upon planting or transplanting and shall end twenty-four (24) months thereafter.
- r. Provide Maintenance and Protection of Traffic in accordance with the requirements of I-Pages Section 6.70-GI, Item No. 6.70-GI, as applicable.
- s. Provide Maintenance of Site in accordance with the requirements of I-Pages Section 7.13-GI, Item No. 7.13-GI, as applicable.

**ROWRG.4. METHOD OF MEASUREMENT.**

The quantities of:

ITEM NO. ROWRG-01	CONSTRUCT 20' x 5' R.O.W. RAIN GARDEN TYPE 1
ITEM NO. ROWRG-02	CONSTRUCT 15' x 5' R.O.W. RAIN GARDEN TYPE 2
ITEM NO. ROWRG-03	CONSTRUCT 10' x 5' R.O.W. RAIN GARDEN TYPE 3

To be measured for payment shall be the number of rain gardens actually constructed at the site to the satisfaction of the Engineer.

Measurement of rain gardens with length that varies from 10 feet to 20 feet and width that varies from 4 feet to 6 feet shall be the number of rain gardens actually constructed of Type 1, 2 or 3 as shown on the Dimension Schedule for Variable Size R.O.W. Bioswales and R.O.W. Rain Gardens in the DEP Standard Design and Guidelines for Green Infrastructure Practices drawings.

**ROWRG.5. PRICE TO COVER.**

The following contract items shall cover the cost of furnishing all labor, materials, equipment, insurance, and incidentals required and necessary to construct the rain garden; at the locations shown or required all in accordance with the Contract Drawings, Specifications and Standards, and as directed by the Engineer.

Payment for rain gardens where the length varies from 10 feet to 20 feet, and the width varies from 4 feet to 6 feet, as shown on the Dimension Schedule for Variable Size R.O.W. Bioswales and R.O.W. Rain Garden in the DEP Standard Design and Guidelines for Green Infrastructure Practices drawings, will be paid for as a proportional cost of the unit price bid for the above listed, normalized by square footage.

No separate or additional payment will be made for any items of work specified in Section ROWRG.3. above.

*Payment will be made under:*

Item No.	Item	Pay Unit
ROWRG-01	CONSTRUCT 20' x 5' R.O.W. RAIN GARDEN TYPE 1	EACH
ROWRG-02	CONSTRUCT 15' x 5' R.O.W. RAIN GARDEN TYPE 2	EACH
ROWRG-03	CONSTRUCT 10' x 5' R.O.W. RAIN GARDEN TYPE 3	EACH

**SECTION 4.13 GI-A  
(NOT A PAY ITEM)  
4" Concrete Sidewalk**

4.13GI-A.1. INTENT. This section describes construction of 4" Concrete Sidewalk (Pigmented and Unpigmented).

4.13GI-A.2. DESCRIPTION. Concrete Sidewalk shall be of the width specified and shall be laid on a foundation six (6") inches thick. Sidewalk shall consist of a single course of concrete four (4") inches thick.

4.13GI-A.3. MATERIALS AND METHODS. All materials and methods shall comply with the requirements of Section 4.13 of the NYC Department of Transportation Standard Highway Specifications. No measurement for payment will be made under this item for work done under Item Nos. ROWB-01, ROWB-04, ROWB-08, ROWB-09, ROWB-10, ROWGS-01, and ROWGS-02.

In determining the area of Concrete Sidewalk to be paid for under each type, the areas occupied by the tree wells, bases of columns, manhole heads, gate boxes and similar structures will be deducted from the measured area of concrete sidewalk when they measure more than one (1) square foot and will not be deducted when they measure one (1) square foot or less.

The Contractor is not to proceed with any sidewalk construction unless ordered to do so by the Commissioner or his authorized representative.

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**SECTION 4.13 GI-B  
(NOT A PAY ITEM)  
7" Concrete Sidewalk**

4.13GI-B.1. INTENT. This section describes construction of 7" Concrete Sidewalk (Pigmented and Unpigmented).

4.13GI-B.2. DESCRIPTION. Concrete Sidewalk shall be of the width specified and shall be laid on a foundation six (6") inches thick.

Sidewalk shall consist of a single course of concrete seven (7") inches thick.

4.13GI-B.3. MATERIALS AND METHODS. All materials and methods shall comply with the requirements of Item No. 4.13 BAS and 4.13 BBS, as appropriate, in Section 4.13 of the NYC Department of Transportation Standard Highway Specifications, with the following modifications and additions:

Where new 7" concrete sidewalk on the new base cannot be installed due to clearance problems, the Engineer may recommend an alternate thinner concrete sidewalk slab be installed. Where the new alternate sidewalk slab is less than 7" thick but greater than 4", welded steel wire fabric reinforcement shall comply with the requirements in Sections 2.25 and 4.14 of the NYC Department of Transportation Standard Highway Specifications. Where the new alternate sidewalk slab is greater than 3" thick but not greater than 4", a welded steel wire fabric reinforcement shall be installed in accordance with Sections 2.25 and 4.14. Payment for alternate thicknesses of sidewalk slabs will be made at the unit price bid for 7" concrete sidewalk and no additional payment will be made for any welded steel wire fabric reinforcement or increase in strength of concrete used.

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**SECTION 6.09 GI  
(NOT A PAY ITEM)  
Concrete Header**

6.09GI.1. INTENT. This section describes construction of Concrete Headers.

6.09GI.2. DESCRIPTION.

- A. L-SHAPED - L-shaped Concrete Headers shall be six (6") inches wide at the top, fifteen (15") or nineteen (19") inches deep, and twelve (12") wide at the base and shall be laid on a foundation three (3") inches thick, and shall be constructed to the lines and grades as shown on the NYC Department of Environmental Protection Standard Design and Guidelines for Green Infrastructure Practices drawings.
- B. T (Trapezoid) - shaped Concrete Headers shall be six (6") inches wide at the top, fifteen (15") or nineteen (19") inches deep, and twelve (9") wide at the base and shall be laid on a foundation three (3") inches thick, and shall be constructed to the lines and grades as shown on the NYC Department of Environmental Protection Standard Design and Guidelines for Green Infrastructure Practices drawings.

6.09GI.3. MATERIALS AND METHODS. All materials and methods shall comply with the requirements of **Sections 6.09.3.** and **6.09.4.**, as appropriate, in the NYC Department of Transportation Standard Highway Specifications.

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**SECTION 6.51 GI-BD  
(NOT A PAY ITEM)  
Pavement Key along Curb (3' to 6' Wide)**

6.51GI-BD.1. Intent. This section describes the work of installing pavement keys to grind (mill) and remove a portion of the existing asphaltic wearing course and granular base to remove depressed or damaged roadway, to facilitate storm water run off (without ponding), to facilitate installation of new pavement and shall dispose of all asphaltic millings and other material; all in accordance with the specifications, the Contract Drawings, and the directions of the Engineer.

6.51GI-BD.2. Description. The construction of pavement keys shall consist of sawcutting, grinding (milling), and removing a portion of the existing wearing course and granular base to the required depth and width, generally next to curb or areas of poor pavement; all in accordance with the Contract Drawings, the specifications and the directions of the Engineer.

6.51GI-BD.3. Methods. All methods shall comply with the requirements of Section 6.75 of the NYC Department of Transportation Standard Highway Specifications.

No debris will be allowed to accumulate at the site.

All grinding (milling) shall be done in conjunction with the installation of new or reset curb, precast porous concrete gutter, and aprons.

6.51GI-BD.4. Uses. Pavement Key along the curb line (various widths) shall be used in the following locations:

- 1) At all locations requiring gutter adjustments (3' to 6' wide) both inside and outside green infrastructure curb limits as directed. To lower roadway or reshape roadway to eliminate ponding.
- 2) To remove asphaltic bumps or depression or badly crazed areas in the roadway to provide positive surface flow into the green infrastructure inlet area.
- 3) Grinding (milling) shall be to the required depth to facilitate an average of 2" resurfacing after the work is completed.
- 4) At locations to be excavated under other contract items.

**SECTION 6.70 -GI  
(NOT A PAY ITEM)  
Maintenance and Protection of Traffic**

6.70GI.1. DESCRIPTION. Under this section, the Contractor shall be required to complete the work of maintaining and protecting all pedestrian and vehicular traffic within the limits of each Green Infrastructure, as defined herein the I – Pages, to be constructed under the contract. This shall include, but not be limited to, furnishing, placing, relocating and removing, when directed, all necessary temporary warning and regulatory signs and temporary traffic control devices to re-route and protect traffic - all in accordance with an approved Maintenance and Protection of Traffic (MPT) Plan, the Contract Drawings, the specifications and directions of the Engineer.

Prior to performing any work in the Contract, if there are no MPT plans provided in the contract documents or the Contractor is proposing a change to the contract MPT plan, the Contractor shall prepare and submit an MPT Plan for the work required under the contract. The MPT Plan shall be prepared by a New York State Licensed Professional Engineer who is a qualified and experienced in Traffic Engineering and Work Site Safety. The MPT Plan shall include all necessary and required legal precautions for the protection of traffic and for the safety of the public, and shall be subject to approval by the New York City Department of Transportation Office of Construction Mitigation and Coordination (OCMC) and the Engineer.

The provisions of this section are supplementary to and do not abrogate the General Conditions (Section 1.06) of the NYC Department of Transportation Standard Highway Specifications, the General Notes on the Contract Drawings relating to maintenance and protection of traffic following this Section or the OCMC Traffic Stipulations. Furthermore, any conditions pertaining to the maintenance and protection of traffic during the life of the contract which are addressed in the General Conditions and in the General Notes on the Contract Drawings, whether or not addressed under this Section, shall be deemed as having been addressed under this Section.

6.70GI.2. MATERIALS AND METHODS. All materials and methods shall comply with the requirements of Section 6.70 of the NYC Department of Transportation Standard Highway Specifications, as applicable, with the exception that chain link fence shall comply with the temporary fencing requirements under Section GI-5.14 TF, contained herein.

6.70GI.3. NONCONFORMANCE. If the Contractor fails to maintain and protect traffic adequately and safely for a period of three (3) hours at a Green Infrastructure under construction, the Engineer may correct the adverse conditions by any means he deems appropriate, and shall deduct the cost of the corrective work from any monies due the Contractor.

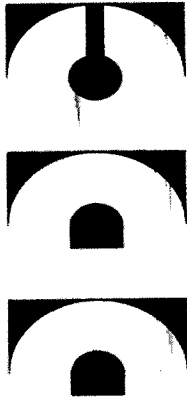
However, where major nonconformance with the requirements of this specification is noted by the Engineer, and prompt Contractor compliance is deemed not to be obtainable, all contract work may be stopped by direct order of the Engineer, regardless of whether corrections are made by the Engineer as stated in the paragraph above.

Furthermore, in addition to the remedies specified above, in the event the Contractor fails to comply, within three (3) consecutive hours after written notice from the Engineer, with the

requirements of the contract and the specifications in the matter of providing facilities and services for the maintenance and protection of traffic, the Contractor shall pay to the City of New York, until such notice has been complied with or rescinded, the sum specified in Schedule A per calendar day, for each instance of such failure, as liquidated damages and not as a penalty, for such default.

Any money due the City of New York under this provision shall be deducted from the amounts due or to become due to the Contractor for work performed under the contract.

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**NEW YORK CITY DEPARTMENT OF  
DESIGN + CONSTRUCTION**

**STANDARDS**

# **MAINTENANCE & PROTECTION OF TRAFFIC**

**FOR CONSTRUCTION OF GREEN INFRASTRUCTURE IN THE RIGHT-OF-WAY**

PREPARED BY

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

JULY 2015

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MPT-GI.1

# CITY OF NEW YORK DEPARTMENT OF DESIGN AND CONSTRUCTION

## MAINTENANCE AND PROTECTION OF TRAFFIC FOR CONSTRUCTION OF GREEN INFRASTRUCTURE IN THE R.O.W. MPT NOTES - APPLICABLE TO ALL STAGES

MPT-GI.1

### GENERAL NOTES

1. THE WORK AREA IS NOT LIMITED TO ONE LOCATION. THE CONTRACTOR IS EXPECTED TO WORK AT MULTIPLE LOCATIONS USING MULTIPLE CREWS, AT ANY TIME, AS APPROVED BY THE ENGINEER.

2. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF TRANSPORTATIONS OFFICE OF CONSTRUCTION MITIGATION AND CONTROL (TELEPHONE NO. 1-212-439-9821) AND THE DIVISION OF TRAFFIC & PLANNING (TELEPHONE NO. 1-718-433-3370) AT LEAST 20 DAYS BEFORE THE START OF CONSTRUCTION TO SCHEDULE A PRE-CONSTRUCTION MEETING.

3. PRIOR TO ANY WORK PERMITS BEING ISSUED, A PRE-CONSTRUCTION MEETING WILL BE HELD. TWENTY (20) DAYS IN ADVANCE BY CONSTRUCTION DIVISION. AT THAT TIME, THE CONTRACTOR SHALL PROVIDE A CONSTRUCTION SCHEDULE TO THE ENGINEER. ARRANGEMENTS FOR THE MEETING WILL BE COORDINATED BY THE OCMC-STREETS.

4. CONSTRUCTION SEQUENCE: UNLESS OTHERWISE DIRECTED OR APPROVED BY THE ENGINEER, THE CONSTRUCTION SHALL BE COMPLETED IN THE FOLLOWING SEQUENCE:

CONSTRUCTION OF GREEN INFRASTRUCTURE PRACTICES  
(BIOSWALE, RAIN GARDEN, STORMWATER GREEN STREET)

CONSTRUCTION OF NEW CURBS

CONSTRUCTION OF NEW SIDEWALKS

CONSTRUCTION OF ROADWAY PAVEMENT

THE CONTRACTOR WILL BE PERMITTED TO MODIFY, ADJUST AND/OR COMBINE STAGES SUBJECT TO THE APPROVAL OF THE ENGINEER.

5. SUBSEQUENT STAGES MUST COMMENCE WITHIN SEVEN (7) CALENDAR DAYS OF THE COMPLETION OF THE PREVIOUS STAGE WITHIN EACH BLOCK, UNLESS OTHERWISE APPROVED BY THE CITY.

6. AFTER A SATISFACTORY START OF THE WORK AT ONE LOCATION, AS APPROVED BY THE ENGINEER, THE CONTRACTOR MAY BE PERMITTED TO ESTABLISH MULTIPLE WORK AREAS AS AND WHERE APPROVED BY THE ENGINEER.

7. PEDESTRIANS SHALL BE PROTECTED FROM ALL EXCAVATION AREAS, THROUGH THE USE OF AN APPROVED BARRIER, FENCING OR OTHER TEMPORARY DEVICE, AND IN A MANNER APPROVED BY THE ENGINEER.

8. TO PERMIT ADEQUATE VISIBILITY AT INTERSECTION AREAS ALL BARRICADES SHALL BE PLACED SO AS NOT TO HINDER PEDESTRIAN OR VEHICULAR SIGHT LINES. SIMILARLY, NO SHEETING SHALL EXTEND HIGHER THAN 24" ABOVE PAVEMENT LEVEL WITHIN 50 FEET OF AN INTERSECTION.

9. EXCAVATIONS SHALL BE COMPLETELY ENCLOSED WITH TIMBER CURBS, LIGHTED BARRICADES AND TEMPORARY FENCE UNLESS OTHERWISE SHOWN HEREIN OR DIRECTED BY THE ENGINEER. ALL BOUNDARIES BETWEEN CONSTRUCTION WORK AREAS AND PEDESTRIAN ROUTES ALONG SIDEWALKS SHALL BE CLEARLY AND CONTINUOUSLY DELINEATED WITH PEDESTRIAN STEEL BARRICADES AS SHOWN ON THE MAINTENANCE AND PROTECTION PLANS AND AS APPROVED OR DIRECTED BY THE ENGINEER.

10. PEDESTRIAN CROSSINGS OVER EXCAVATIONS, WHEN REQUIRED, SHALL BE CONSTRUCTED WITH STEEL PLATES LINED WITH TEMPORARY FENCE ATTACHED ON BOTH SIDES, (NO DIRECT PAYMENT).

11. MAINTENANCE OF PEDESTRIAN ACCESS TO ALL ADJUTING PROPERTIES, ENTRANCES, AND EXITS FROM DWELLINGS, EMERGENCY EXITS AND PEDESTRIAN USAGE OF CROSSWALK AND SIDEWALK AREAS BOTH NEW AND EXISTING SHALL BE CONTINUOUS AT ALL TIMES.

12. CONTRACTOR SHALL PROVIDE ACCESS FOR EMERGENCY TRAFFIC AT ALL TIMES UPON DEMAND. THE CONTRACTOR SHALL BE REQUIRED TO MOVE AND RESTORE BARRICADES AS ORDERED BY THE ENGINEER FOR EMERGENCY ACCESS AT NO DIRECT PAYMENT.

13. THE CONTRACTOR SHALL SUPPLY, INSTALL, RELOCATE AND MAINTAIN SIGNS AND OTHER APPROVED DEVICES FOR WARNING, CONTROLLING, ROUTING, DIRECTING AND DETOURING TRAFFIC AS INDICATED AND AS DIRECTED BY THE ENGINEER AND IN ACCORDANCE WITH "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES". THE EXACT LOCATION, SIZE, WORKING AND DETAILS OF TO APPROVAL BY THE ENGINEER.

14. ALL SIGNS AND BARRICADES SHALL CONFORM TO STANDARDS SPECIFIED IN THE NATIONAL "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES" (EXCEPT WHERE OTHERWISE REQUIRED HEREIN) WHERE APPLICABLE AND APPROVED BY THE ENGINEER.

15. ALL ADVANCE WARNING SIGNS SHALL BE INSTALLED BETWEEN 150 AND 200 FEET BEFORE THE CONSTRUCTION. ALL "END ROAD WORK" SIGNS SHALL BE INSTALLED 200 FEET AFTER THE CONSTRUCTION. TWO (2) 24"x24" ORANGE FLEXIBLE PLASTIC FLAGS SHALL BE ATTACHED TO THE TWO SIDE CORNERS OF EACH DIAMOND SHAPED ADVANCE WARNING SIGN.

16. ALL IDENTIFICATION MARKINGS ON BARRELS MUST NOT FACE TRAFFIC AND MUST BE BELOW THE BOTTOM REFLECTORIZED BAND.

17. THE CONTRACTOR IS REQUIRED TO INSTALL TEMPORARY PAVEMENT MARKINGS AFTER THE EXISTING MARKINGS ARE REMOVED. THIS OPERATION SHALL BE DONE ON THE SAME DAY. WHEN THE TEMPORARY MARKINGS ARE NO LONGER NECESSARY, THEY MUST BE OBLITERATED BY SCARIFICATION, UNTIL THEY ARE NO LONGER VISIBLE.

18. NOTWITHSTANDING PROVISIONS HEREIN CONTAINED, IT REMAINS THE CONTRACTOR'S RESPONSIBILITY TO IMPLEMENT MINOR ADDITIONAL MEASURES THAT ARE NECESSARY TO PROVIDE FOR AND MAINTAIN THE SAFETY OF VEHICULAR TRAFFIC AND PEDESTRIANS DURING CONSTRUCTION. THE PROVISION AND USE OF SUPPLIES SUCH AS TRAFFIC CONES, HIGH VISIBILITY RIBBONS, AND FLAGS WHERE NECESSARY OR DIRECTED BY THE ENGINEER, SHALL BE CONSIDERED AS MINOR AND INCIDENTAL ITEMS. PAYMENT TO BE INCLUDED IN THE PRICE BID FOR ALL SCHEDULED ITEMS.

19. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COOPERATE WITH OTHER CONTRACTORS WHO HAVE AN ON-GOING STREET IMPROVEMENT CONSTRUCTION IN THE AREA AND/OR WITHIN THE PROJECT LIMITS AND SHALL SO ACCORDINGLY ARRANGE HIS OWN SCHEDULE OF CONSTRUCTION IN SUCH A TIME FRAME AS NOT TO DISRUPT OR INTERFERE WITH THE WORKABILITY OF EITHER MAINTENANCE OF TRAFFIC PLAN.

20. 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 CONSTRUCTION MITIGATION AND COORDINATION-STREETS N.Y.C.D.O.T. A MINIMUM OF TWENTY (20) DAYS IN ADVANCE FOR CONSIDERATION.

21. THE CONTRACTOR SHALL PROVIDE STORAGE AREAS OFF THE JOB SITE AS REQUIRED. (NO SEPARATE PAYMENT). SEE MAINTENANCE OF TRAFFIC CONSTRUCTION SIGNS, LEGEND, ETC. FOR MAINTENANCE OF TRAFFIC DEVICES REQUIRED AT THESE STORAGE AREAS.

22. AS THE WORK PROGRESSES, TEMPORARY TRAFFIC CONTROL DEVICES SHALL BE RELOCATED AND THE CONTRACTOR SHALL REMOVE OR COVER ALL UNUSED SIGNS OR SIGNS NOT APPLICABLE FOR CURRENT OPERATIONS.

23. FOR ADDITIONAL INFORMATION SEE: "SPECIAL PROVISIONS" OF THE SPECIFICATIONS; GENERAL NOTES, HIGHWAY NOTES, AND UTILITY NOTES, CONTAINED IN THE CONTRACT DRAWINGS.

24. THE CONTRACTOR IS REQUIRED TO MAINTAIN EXISTING BICYCLE FACILITIES WITH A SMOOTH RIDING SURFACE AND FREE OF DEBRIS OR OTHER IMPEDIMENTS, AT ALL TIMES. IF THIS IS NOT POSSIBLE A TEMPORARY BICYCLE DETOUR PLAN SHALL BE PREPARED BY THE CONTRACTOR AND SUBMITTED TO D.O.T./O.C.M.C. FOR APPROVAL.

25. FOR ANY CHANGES IN PARKING REGULATIONS DURING THE CONSTRUCTION, IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSTALL, MAINTAIN AND RELOCATE THE EXISTING SIGNS, IN ACCORDANCE WITH N.Y.C. - D.O.T. STIPULATIONS OF ADVANCED NOTICE.

26. THE CONTRACTOR SHALL NOTIFY NYCDOT 48 HOURS PRIOR TO THE START OF WORK TO HAVE A PARKING METERS AND OR MUNI-METERS REMOVED. CONTRACTOR SHALL CONTACT MR. JOHN PREMUS, ADMINISTRATIVE TRANSPORTATION COORDINATOR, NYC DEPARTMENT OF TRANSPORTATION, DIVISION OF TRAFFIC OPERATIONS, 55-50 57TH ROAD, 2ND FLOOR, MASPETH, NY 11378, PH#718.894.1835, FAX# 718.894.8397, EMAIL: JPREMUS@DOT.NYC.GOV. THE FOLLOWING INFORMATION MUST BE GIVEN TO NYCDOT: (1) PARKING/MUNI-METER NUMBERS; (2) LOCATION OF METERS AND (3) DATE WHEN METERS CAN BE RE-INSTALLED.

MPT-GI.2

CITY OF NEW YORK

DEPARTMENT OF DESIGN AND CONSTRUCTION

# MAINTENANCE AND PROTECTION OF TRAFFIC

FOR CONSTRUCTION OF GREEN INFRASTRUCTURE IN THE R.O.W.

## MPT NOTES

MPT-GI.2

### CONSTRUCTION OF RIGHT-OF-WAY BIOSWALES, RAIN GARDENS AND STORMWATER GREENSTREETS

1. THE CONTRACTOR WILL BE PERMITTED TO OCCUPY ONE LANE OF THE ROADWAY IMMEDIATELY ADJACENT TO THE CURB TO EXCAVATE AND CONSTRUCT NEW GREEN INFRASTRUCTURE PRACTICES AS APPROVED AND DIRECTED BY THE ENGINEER. THE CONTRACTOR WILL BE PERMITTED TO OCCUPY UP TO 5' INTO THE DRIVING LANE OF THE ROADWAY IMMEDIATELY ADJACENT TO THE STORMWATER GREENSTREET TO EXCAVATE AND CONSTRUCT THE STORMWATER GREENSTREETS AS APPROVED AND DIRECTED BY THE ENGINEER.
2. THE CONTRACTOR SHALL INITIALIZE THE CONSTRUCTION OF NEW GREEN INFRASTRUCTURE PRACTICES IN A WORK AREA OF 60 FEET MAX. UNLESS DIRECTED AND APPROVED BY AN ENGINEER, AFTER A SATISFACTORY START OF THE WORK, AND AS APPROVED AND DIRECTED BY THE ENGINEER, THE CONTRACTOR WILL BE PERMITTED TO EXTEND THE WORK AREA TO THE MAXIMUM LENGTH OF 120 FEET FOR STREET SEGMENTS CONTAINING MULTIPLE GREEN INFRASTRUCTURE PRACTICES.
3. PLACE PLASTIC BARRELS TO DELINEATE THE WORK AREA WIDTH AND PEDESTRIAN STEEL BARRICADES FOR THE PROTECTION OF PEDESTRIANS AS SHOWN IN TYPICAL PLANS AND AS DIRECTED BY THE ENGINEER.
4. THE CONTRACTOR SHALL CLOSE THE SIDEWALK AND DIVERT PEDESTRIANS AROUND THE WORK AREA AS INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
5. MAINTENANCE OF PEDESTRIAN ACCESS TO ALL ABUTTING PROPERTIES, ENTRANCES AND EXITS FROM DWELLINGS, EMERGENCY EXIT AREAS SHALL BE CONTINUOUS AT ALL TIMES.
6. UPON COMPLETION OF EACH DAY'S WORK THE CONTRACTOR SHALL RELOCATE THE BARRELS AND BARRICADES ADJACENT TO THE CURB. THERE SHALL BE NO DIRECT PAYMENT FOR THE DAILY RELOCATION OF BARREL AND BARRICADES HEREUNDER.
7. CONTRACTOR SHALL PROVIDE LOCAL PEDESTRIAN ACCESS AT ALL TIMES FOR NORMAL BUILDING ACTIVITY.
8. WORKING SIMULTANEOUSLY ON BOTH SIDES OF THE STREET WILL NOT BE PERMITTED.
9. CONTRACTOR SHALL MAINTAIN MPT AROUND BACKFILLED ROWS UNTIL INSTALL OF STEEL TREE PIT GUARD.
10. INLET AND OUTLETS SHALL BE SAND BAGGED UNTIL COMPLETION OF ALL BACKFILLING AND JUTE MESH INSTALLATION AT GREEN INFRASTRUCTURE PRACTICES HAVE BEEN COMPLETED.

### CONSTRUCTION OF NEW CURBS

1. THE CONTRACTOR WILL BE PERMITTED TO OCCUPY ONE LANE OF THE ROADWAY IMMEDIATELY ADJACENT TO THE CURB LINE TO REMOVE EXISTING CURB AND CONSTRUCT NEW CURB AS APPROVED AND DIRECTED BY THE ENGINEER.
2. THE CONTRACTOR SHALL INITIALIZE THE CONSTRUCTION OF NEW CURBS IN A WORK AREA OF 200 FEET ONLY. AFTER A SATISFACTORY START OF THE WORK, AS APPROVED AND DIRECTED BY THE ENGINEER, THE CONTRACTOR WILL BE PERMITTED TO EXTEND THE WORK AREA TO THE MAXIMUM LENGTH OF 600 FEET.
3. PLACE PLASTIC BARRELS TO DELINEATE THE WORK AREA WIDTH AND PEDESTRIAN STEEL BARRICADES FOR THE PROTECTION OF PEDESTRIANS AS SHOWN IN TYPICAL PLANS AND AS DIRECTED BY THE ENGINEER.
4. PLACE CONSTRUCTION SIGNS AS SHOWN IN TYPICAL PLANS AND AS REQUIRED BY THE ENGINEER.
5. MAINTENANCE OF PEDESTRIAN ACCESS TO ALL ABUTTING PROPERTIES, ENTRANCES AND EXITS FROM DWELLINGS, EMERGENCY EXIT AREAS SHALL BE CONTINUOUS AT ALL TIMES.
6. UPON COMPLETION OF CURB WORK AT EACH LOCATION THE CONTRACTOR SHALL BACKFILL AROUND CURB AND PLACE 4" ASPHALTIC CONCRETE MIXTURE TO RESTORE STREET. RESTORE SIDEWALK WITH 2" ASPHALTIC CONCRETE MIXTURE AT CORNERS ONLY WHERE DIRECTED BY THE ENGINEER. MAINTAIN PEDESTRIAN TRAFFIC AT CROSSWALK AREAS.
7. UPON COMPLETION OF EACH DAY'S WORK THE CONTRACTOR SHALL RELOCATE THE BARRELS AND BARRICADES ADJACENT TO THE CURB. THERE SHALL BE NO DIRECT PAYMENT FOR THE DAILY RELOCATION OF BARREL AND BARRICADES HEREUNDER.
8. WORKING SIMULTANEOUSLY ON BOTH SIDES OF THE STREET WILL NOT BE PERMITTED.

### CONSTRUCTION OF ROADWAY PAVEMENT

1. MAINTAIN AT LEAST ONE PEDESTRIAN CROSSWALK AT EACH CORNER. PEDESTRIAN TRAFFIC SHALL BE DETOURED AROUND WORK ZONE.
2. MAINTENANCE OF PEDESTRIAN ACCESS TO ALL ABUTTING PROPERTIES, ENTRANCES AND EXITS FROM DWELLINGS, AND PEDESTRIAN USAGE OF THE SIDEWALK AREAS, SHALL BE CONTINUOUS AT ALL TIMES.
3. AFTER THE COMPLETION OF NEW PAVEMENT BASE AND CURING, RAMP AROUND MANHOLE HEADS WITH TEMPORARY ASPHALTIC MIXTURE, REMOVE BARRICADES, BARRELS AND OTHER TEMPORARY DEVICES AND OPEN THE ROADWAY FOR TRAFFIC, AS DIRECTED BY THE ENGINEER.
4. AFTER COMPLETION OF PAVEMENT IN THE WORK AREA, THE CONTRACTOR SHALL REMOVE BARRICADES, BARRELS, FENCING AND CONSTRUCTION SIGNS. OPEN FULL ROADWAY TO TRAFFIC AS DIRECTED BY THE ENGINEER.

### CONSTRUCTION OF NEW SIDEWALKS

1. SIDEWALK CONSTRUCTION SHALL PROCEED IMMEDIATELY UPON COMPLETION OF CURB AS DIRECTED BY THE ENGINEER.
2. THE CONTRACTOR SHALL PROVIDE AND INSTALL BARRICADES, LIGHTS AND WARNING SIGNS TO DELINEATE THE WORK AREAS AS SHOWN ON PLAN.
3. THE CONTRACTOR WILL BE PERMITTED TO OCCUPY ONE LANE OF THE ROADWAY IMMEDIATELY ADJACENT TO THE CURB TO REMOVE EXISTING SIDEWALK AND CONSTRUCT NEW SIDEWALK AS APPROVED AND DIRECTED BY THE ENGINEER.
4. THE CONTRACTOR SHALL CLOSE THE SIDEWALK AND DIVERT PEDESTRIANS AROUND THE WORK AREA AS INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
5. THE CONTRACTOR SHALL FURNISH, INSTALL AND REMOVE TEMPORARY PEDESTRIAN PASSAGEWAYS, AND PROVIDE TEMPORARY PEDESTRIAN BRIDGES IN ACCORDANCE WITH TYPICAL PLAN TO FACILITATE THE FLOW OF PEDESTRIAN TRAFFIC AND ACCESS TO PRIVATE PROPERTY AS AND WHERE DIRECTED BY THE ENGINEER.
6. THE CONTRACTOR SHALL LIMIT THE EXTENT OF EXISTING SIDEWALK REMOVED EACH DAY TO THE SAME AREA OF CONCRETE SIDEWALK THAT WILL BE REPLACED THE FOLLOWING DAY. NO UNPROTECTED EXCAVATION SHALL REMAIN AT THE END OF EACH DAY'S WORK.
7. PROVIDE SMOOTH TRANSITION WITH ASPHALTIC CONCRETE MIXTURE BETWEEN SIDEWALK COMPLETED AND WORK YET TO BE STARTED.
8. CONTRACTOR SHALL PROVIDE LOCAL PEDESTRIAN ACCESS AT ALL TIMES FOR NORMAL BUILDING ACTIVITY.
9. AFTER COMPLETING THE WORK IN THE SIDEWALK AREA THE CONTRACTOR SHALL REMOVE ALL BARRICADES, LIGHTS, TEMPORARY SIGNS AND OTHER WARNING DEVICES AND ALL SURPLUS CONSTRUCTION MATERIAL, AND SHALL REOPEN THE SIDEWALK TO PEDESTRIAN TRAFFIC AS DIRECTED BY ENGINEER.



MPT-GI.3

CITY OF NEW YORK  
DEPARTMENT OF DESIGN AND CONSTRUCTION

MPT-GI.3

# MAINTENANCE AND PROTECTION OF TRAFFIC

## FOR CONSTRUCTION OF GREEN INFRASTRUCTURE IN THE R.O.W.

### LEGEND AND NOTES

TEMPORARY TRAFFIC SIGNS TABLE			
NAME	SIGN	MUTCD CODE	DESCRIPTION
(A)		W20-1	ROAD WORK AHEAD
(B)		W20-2	DETOUR AHEAD
(C1)		M4-9	DETOUR (WITH ARROW)
(C2)		M4-9L	DETOUR (WITH LEFT ARROW)
(C3)		M4-9R	DETOUR (WITH RIGHT ARROW)
(D1)		W1-4L	LARGE ARROW KEEP LEFT
(D2)		W1-4R	LARGE ARROW KEEP RIGHT
(E)		R11-2	ROAD CLOSED
(F)		R11-3a	ROAD CLOSED (EXCEPT LOCAL & EMERGENCY TRAFFIC)
(G1)		W1-6L	ONE WAY (ARROW POINTING LEFT)
(G2)		W1-6R	ONE WAY (ARROW POINTING RIGHT)
(K)		R9-11	SIDEWALK CLOSED, CROSS HERE (WITH ARROW)
(L)		R9-10	SIDEWALK CLOSED, USE OTHER SIDE (WITH ARROW)
(M)		R3-2	NO LEFT TURN
(N)		R3-1	NO RIGHT TURN
(O)			END ROAD WORK
(P)		W8-3	TWO WAY TRAFFIC

TEMPORARY TRAFFIC SIGNS TABLE			
NAME	SIGN	MUTCD CODE	DESCRIPTION
(Q)		W4-2L W4-2R	LANE REDUCTION TRANSITION SIGN
(R)		R3-3	NO TURNS
(S)		W20-3	ROAD CLOSED AHEAD
(T)		M6-4	DOUBLE ARROW
(V)		M6-1	ARROW (LEFT OR RIGHT)
(W)		R3-5	RIGHT (LEFT) TURN ONLY
(X)		R9-9	SIDEWALK CLOSED, USE WALKWAY
(Y)		W20-5	LANE CLOSED AHEAD
(Z)		W20-7a	FLAGGER

## NOTES:

- ALL SIGNS AS PER LATEST EDITION OF THE NATIONAL MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
- DIMENSIONS ARE SHOWN IN INCHES AND ARE SHOWN AS WIDTH, HEIGHT. THESE TABLES ARE FOR REFERENCE PURPOSES ONLY. FOR ADDITIONAL SIGNAGE NOT SHOWN ON THESE TABLES (REFER TO THE MUTCD).
- ALL SIGNS TO BE REFLECTORIZED.
- LETTERS ON SIGNS TO BE 5" HIGH.
- SIGN LOCATION TO BE DETERMINED BY THE ENGINEER.
- MOUNTING OF SIGNS TO BE AS DIRECTED AND APPROVED BY THE ENGINEER.

COLOR CODE LEGEND	
CODE	DESCRIPTION
A	BLACK LEGEND AND BORDER ON AN ORANGE BACKGROUND
B	BLACK LEGEND AND BORDER ON A WHITE BACKGROUND
C	WHITE LEGEND AND BORDER ON A GREEN BACKGROUND
D	WHITE LEGEND AND BORDER ON A RED BACKGROUND
E	RED LEGEND AND BORDER ON A WHITE BACKGROUND
F	BLACK LEGEND AND BORDER ON A FLUORESCENT YELLOW GREEN BACKGROUND

## LEGEND

	CONSTRUCTION WORK AREA
	ONE WAY TRAFFIC (EXISTING)
	TWO-WAY TRAFFIC (EXISTING)
	TIMBER CURB (W/ ORANGE FENCING)
	PEDESTRIAN STEEL BARRICADE
	PLASTIC BARRELS
	TEMPORARY SIGN WITH TEXT
	RIGHT OF WAY
	RIGHT-OF-WAY BIOSWALES

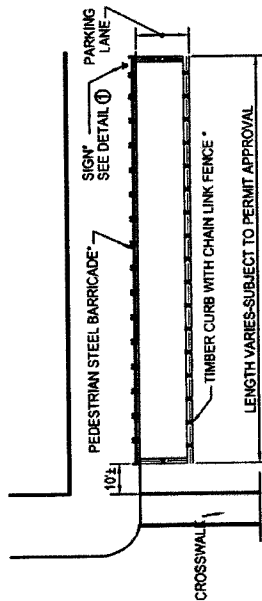
MPT-GI.4

CITY OF NEW YORK

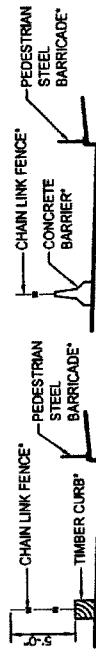
DEPARTMENT OF DESIGN AND CONSTRUCTION

# **MAINTENANCE AND PROTECTION OF TRAFFIC** **FOR CONSTRUCTION OF GREEN INFRASTRUCTURE IN THE R.O.W.** **DETAILS**

MPT-GI.4



PLAN  
N.T.S.



ALTERNATE (A) SECTION  
N.T.S.

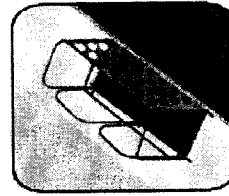
ALTERNATE (B) SECTION  
N.T.S.

TEMPORARY STORAGE AREA
PROJECT NAME
CONTRACTOR'S NAME
FIELD OFFICE ADDRESS
TELEPHONE NO.

DETAIL ①  
INFORMATION SIGN

**NOTES**

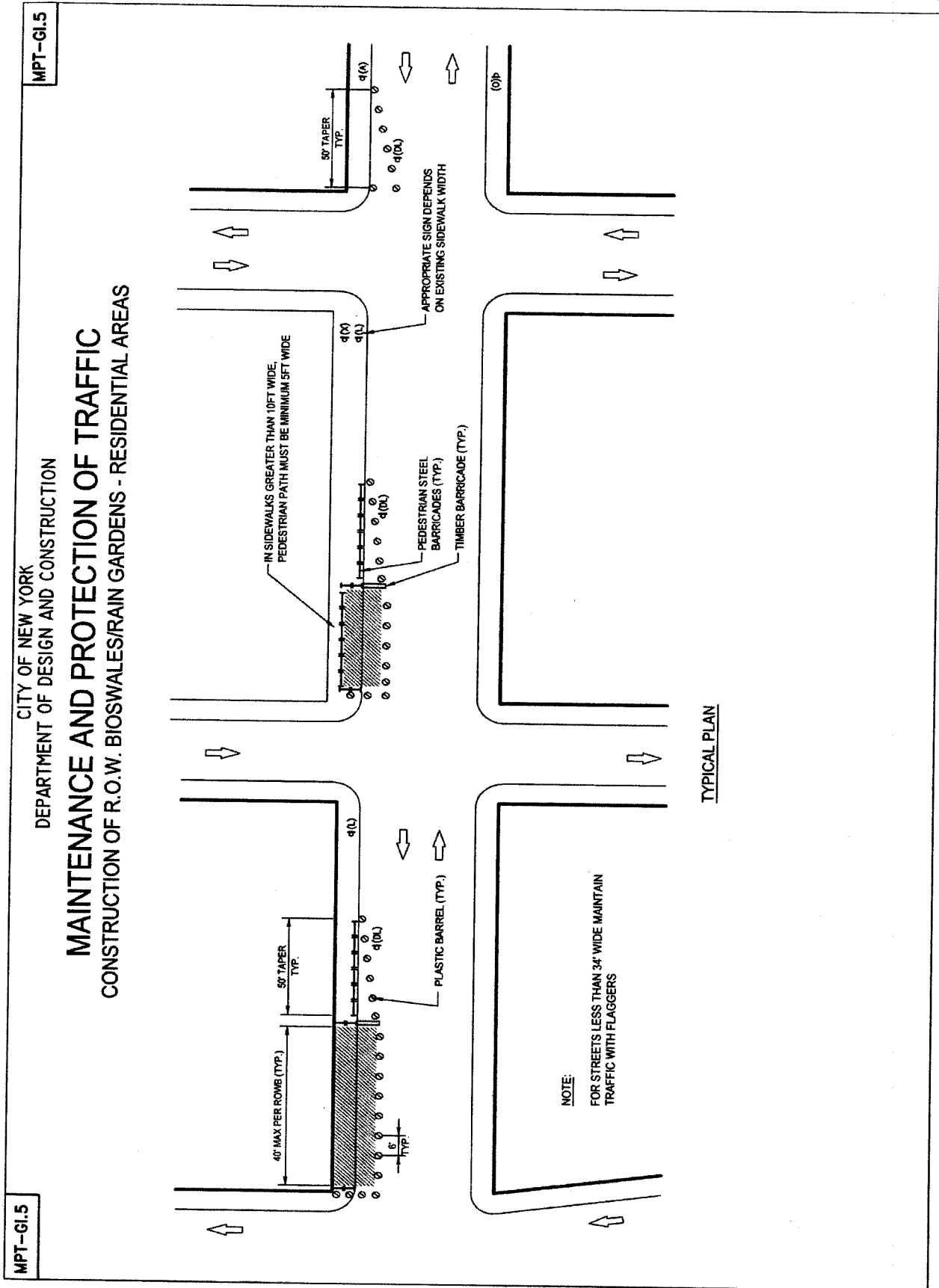
- NO DIRECT PAYMENTS FOR MAINTENANCE OF TRAFFIC CONTROL DEVICES.
- PROVIDE TAPER AT APPROACH END TO CHANNELIZE TRAFFIC PER NYSDOT MUTCD.
- TIMBER CURB WITH CHAIN LINK FENCE TO BE USED FOR LONG TERM STORAGE.
- FOR SHORT TERM STORAGE USE PLASTIC BARRELS WITH ORANGE FENCING.



AFTER SOIL INSTALLATION, MULCH SHOULD BE PLACED ON THE ENGINEERED SOIL. PEDESTRIAN BARRICADES AND PROTECTIVE FENCING SHOULD BE INSTALLED UNTIL THE SITE IS FULLY PLANTED AND TREE GUARDS ARE INSTALLED.

**TEMPORARY STORAGE AREA**

**TEMPORARY PROTECTION OF ROWB**

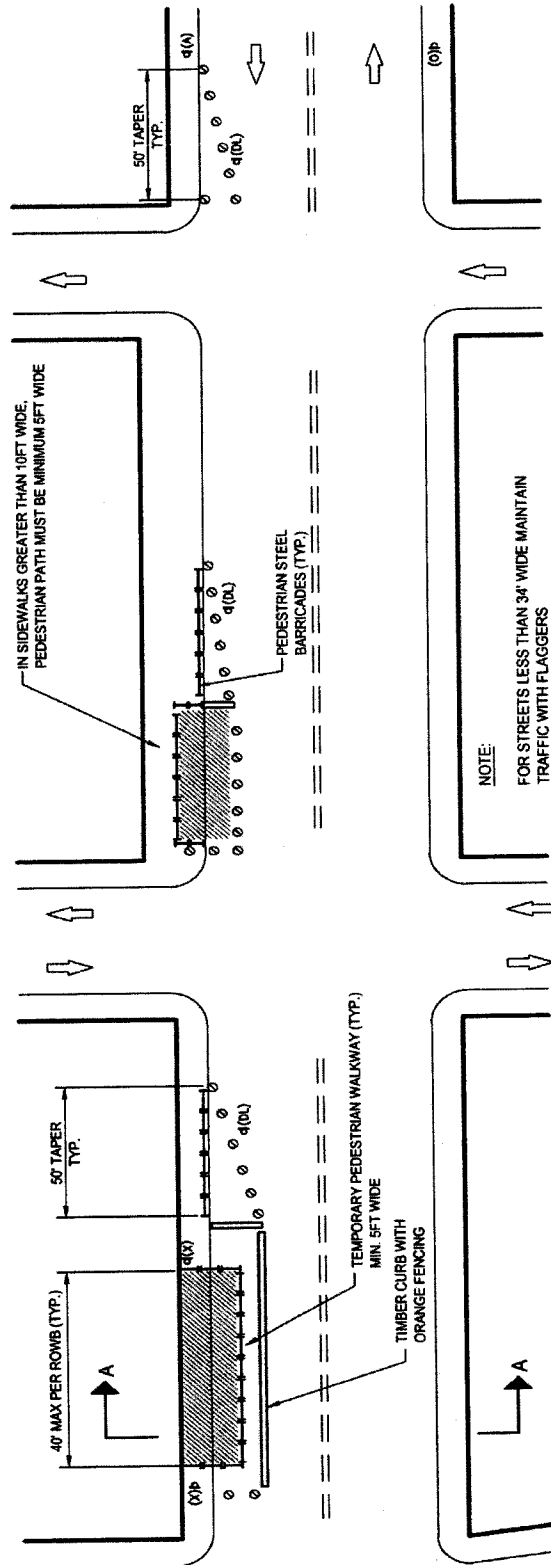


MPT-GI.6

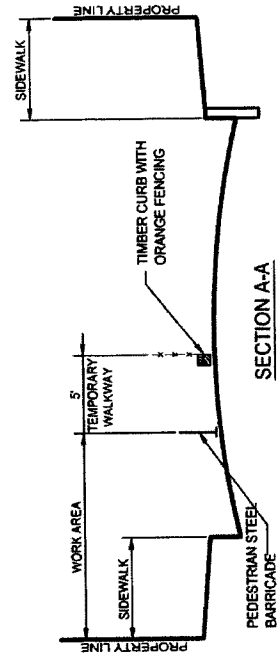
CITY OF NEW YORK  
DEPARTMENT OF DESIGN AND CONSTRUCTION

# **MAINTENANCE AND PROTECTION OF TRAFFIC** **CONSTRUCTION OF R.O.W. BIOSWALES/RAIN GARDENS - HIGH DENSITY PEDESTRIAN TRAFFIC AREAS**

MPT-GI.6



**TYPICAL PLAN**



**SECTION A-A**

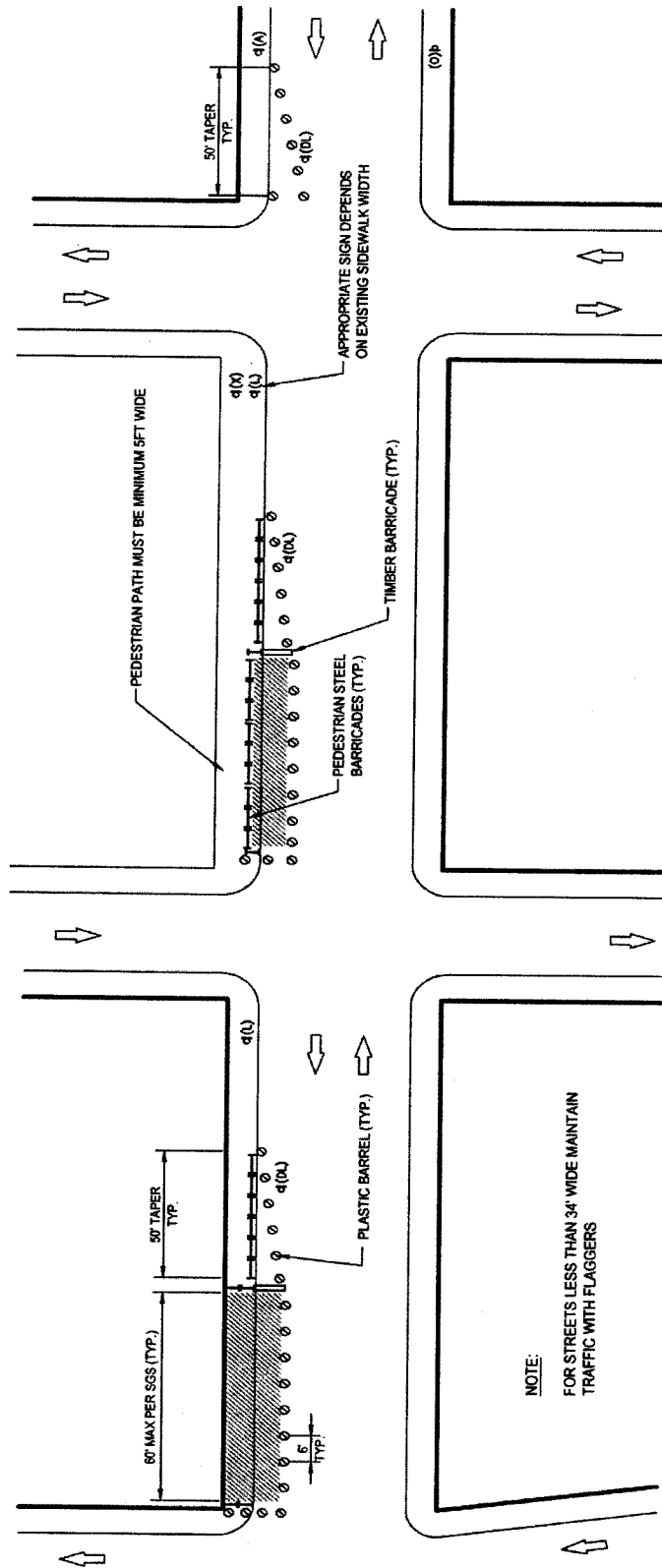
MPT-GI.7

CITY OF NEW YORK

DEPARTMENT OF DESIGN AND CONSTRUCTION

# **MAINTENANCE AND PROTECTION OF TRAFFIC** **CONSTRUCTION OF S.G.S. - RESIDENTIAL AREAS**

MPT-GI.7



TYPICAL PLAN

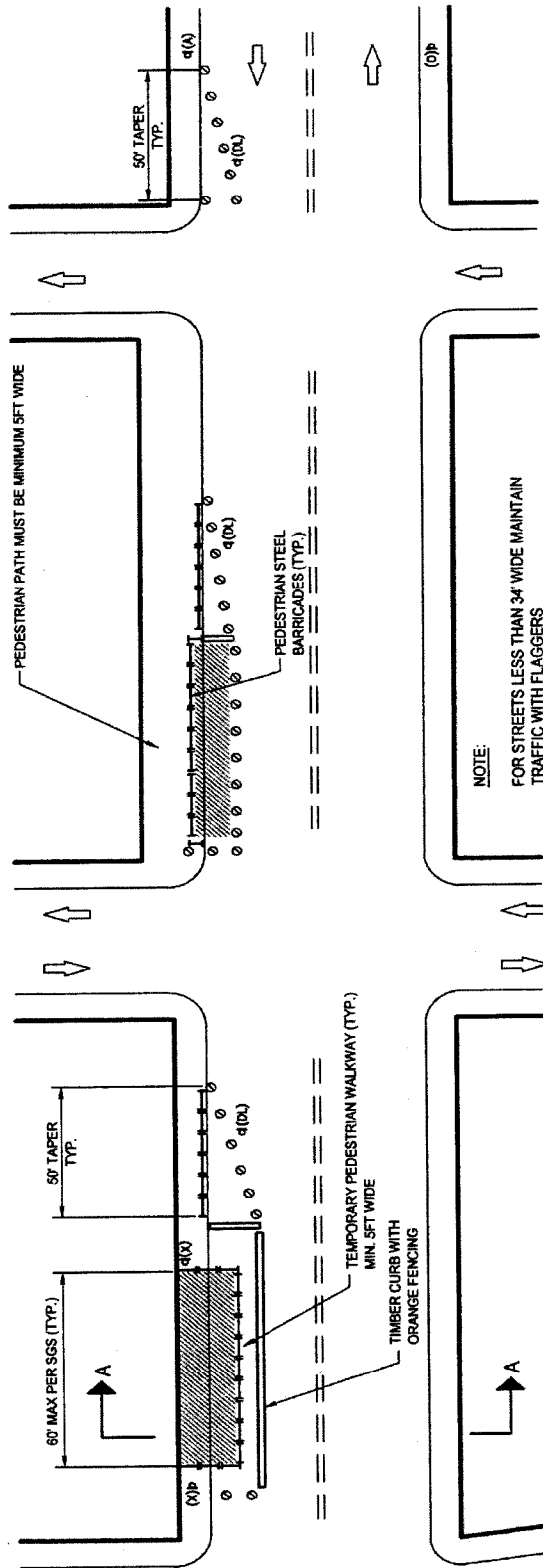
NOTE:  
 FOR STREETS LESS THAN 34' WIDE MAINTAIN  
 TRAFFIC WITH FLAGGERS

MPT-GI.8

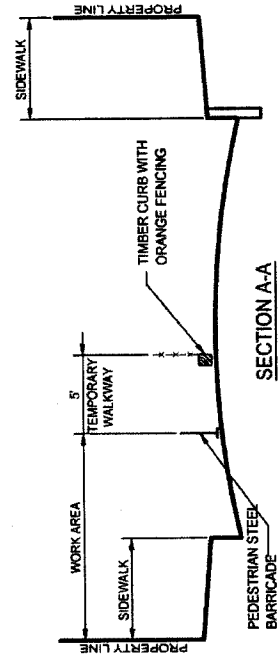
CITY OF NEW YORK  
DEPARTMENT OF DESIGN AND CONSTRUCTION

# **MAINTENANCE AND PROTECTION OF TRAFFIC** **CONSTRUCTION OF S.G.S. - HIGH DENSITY PEDESTRIAN TRAFFIC AREAS**

MPT-GI.8



TYPICAL PLAN



**SECTION 7.13 -GI  
(NOT A PAY ITEM)  
MAINTENANCE OF SITE [GREEN INFRASTRUCTURE]**

**7.13GI.1. DESCRIPTION.** This section describes the maintenance, protection and cleanup of the construction site at each Green Infrastructure facility. The Contractor is placed on notice that he shall be required to provide a safe and clean site throughout all phases of the work and during all of his operations at each Green Infrastructure facility, and further that the monitoring by the City of the Contractor's site maintenance, site protection and site clean up is considered for the purposes of the contract to be a project objective necessary to eliminate and/or mitigate public disruption and inconvenience, and to insure public health and safety. The Contractor shall therefore, at all times, conduct this operation in a manner which promotes a clean site and insures the convenience, safety and health of general users consisting of, but not limited to, the motorist, the pedestrian and the abutting property owners/tenants, as well as those of his own employees.

The provisions of this section are supplementary to and do not abrogate the General Conditions (Section 1.06) of the NYC Department of Transportation Standard Highway Specifications or the General Notes on the Contract Drawings relating to the protection and cleanup of the site, and the delivery and storage of materials at the site of each Green Infrastructure facility. Furthermore, any conditions pertaining to the maintenance, protection and cleanup of the construction site during the life of the contract which are addressed in the General Conditions and in the General Notes on the Contract Drawings, whether or not addressed under this Section, shall be deemed as having been addressed under this Section.

**7.13GI.2. METHODS.** All methods shall comply with the requirements of Subsection 7.13.2 of the NYC Department of Transportation Standard Highway Specifications.

**7.13GI.3. STORAGE OF MATERIALS AND EQUIPMENT.** All storage of materials and equipment shall comply with the requirements of Subsection 7.13.3 of the NYC Department of Transportation Standard Highway Specifications.

**7.13GI.4. NONCONFORMANCE.** If the Contractor fails to maintain and protect the site of a Green Infrastructure under construction adequately and safely for a period of three (3) or more consecutive hours, the Engineer may correct the adverse conditions by any means he deems appropriate, including, but not limited to, "outside services," and shall deduct the cost of the corrective work from any monies due the Contractor.

However, where major nonconformance with the requirements of this specification is noted by the Engineer, and prompt Contractor compliance is deemed not to be obtainable, all contract work may be stopped by direct order of the Engineer, regardless of whether corrections are made by the Engineer as stated in the paragraph above.

Furthermore, in addition to the remedies specified above, in the event the Contractor fails to comply, within three (3) consecutive hours after written notice from the Engineer, with the requirements of the contract and the specifications in the matter of providing facilities and services for the maintenance, protection and cleanup of the construction site, the Contractor shall pay to the City of New York, until such notice has been complied with or rescinded, the sum shown per calendar day in Schedule A, for each instance of such failure, as liquidated damages and not as a penalty, for such default.

Any money due the City of New York under this provision shall be deducted from the amounts due or to become due to the Contractor for work performed under the contract.

**SECTION GI-2.03  
(NOT A PAY ITEM)  
CONCRETE APRON**

**GI-2.03.1 INTENT**

This section describes the reinforced concrete aprons. The Contractor shall install concrete aprons of the types shown on the NYC Department of Environmental Protection Standard Design and Guidelines for Green Infrastructure Practices drawings.

**GI-2.03.2 KIND**

(A) Reinforced concrete aprons shall comply with the requirements of NYC Department of Transportation Standard Highway Specifications, Subsections 4.05.3, 4.05.4. and 4.05.5, and Section 4.14.

(B) Unless otherwise specified grout shall be Cement Grout composed of neat cement and water and shall comply with the requirements of Section 3.06 of the NYC Department of Transportation Standard Highway Specifications.

**GI-2.03.3 PHYSICAL REQUIREMENTS**

(A) The minimum acceptable average compressive strength of five-apron samples is 5000 psi, with no individual apron less than 4500 psi. The maximum acceptable average freeze/thaw loss of five- block samples, subjected to 42 freeze/thaw cycles in a 3% NaCl solution, shall not exceed 1.0%, with no individual sample exceeding 1.5%.

**GI-2.03.4 METHODS**

(A) All equipment and methods of construction shall comply with the requirements of the NYC Department of Standard Highway Specifications, Subsections 4.05.4. and 4.05.5, and Section 4.14 with the following modifications and additions:

(1) At each bioswale there shall be a pair of reinforced concrete aprons consisting of one inlet type and one outlet type reinforced concrete apron. For installations in existing pavement, the Contractor shall be required to first full-depth saw cut and remove the pavement to the dimensions of the aprons as shown on the Contract Drawings and directed by the Engineer. The Contractor shall then backfill the excavated area to insure that the reinforced concrete apron will be placed to its proper elevation with foundation material which shall comply with the requirements of Subsection 4.05.2.(A) of the NYC Department of Transportation Standard Highway Specifications.

The earth subgrade, immediately before foundation material is placed on it, shall be compacted to a minimum of 95 percent of Standard Proctor Maximum Density, smooth, parallel to and at the required depth below the finished concrete apron surface and be dampened with water sufficient only to be absorbed by the subgrade. The subgrade shall not be in a muddy or frozen condition and unsuitable material shall be removed and replaced with acceptable material thoroughly compacted.

The foundation material shall be placed on the prepared subgrade, in a manner to minimize segregation, using equipment and procedures approved by the Engineer. Uncontrolled spreading from piles dumped on the grade resulting in segregation will not be permitted. Foundation material shall then be wetted to the optimum moisture content, based on a



laboratory 5 point Proctor density test, and thoroughly compacted using an approved plate compactor. Compaction of foundation material shall range between 90% and 95% of the Standard Proctor Maximum Density, as directed by the Engineer, depending upon material used. Unsatisfactory subgrade material shall be removed and replaced with acceptable material thoroughly compacted to a minimum of 95% of Standard Proctor Maximum Density. The top surface of the foundation material shall be parallel to the finished grade and at a distance below the grade equal to the specified thickness of concrete.

(2) Following the placing and spreading of concrete, it shall be struck-off and finished to conform to the cross-sections shown on the Contract Drawings. The final finish shall be made by brooming after the water sheen has disappeared as per the requirements for Bus Stop Pavements, Section 4.05.5.(K)(2) of the NYC Department of Transportation's Transportation Standard Highway Specifications.

(3) Contractor shall furnish and install a welded wire fabric as per the NYC Department of Environmental Protection's Standard Design and Guidelines for Green Infrastructure Practices. The welded steel wire fabric shall be laid in sheets which are straight and true to form and shall be securely held in position by approved methods so that they will be in their prescribed position after the concrete has been placed.

(4) Where the Contractor chooses to precast the reinforced concrete apron, it shall be constructed in accordance with the following requirements:

#### Fabrication

a. Precast reinforced concrete aprons shall be fabricated to conform to the shapes and sizes shown on the Contract Drawings.

b. The Contractor shall provide the Engineer with shop drawings and detailed construction procedures for the aprons. Shop drawings shall show the form dimensions and location and type of reinforcement in the precast reinforced concrete aprons. The drawings shall be delivered to the Engineer for approval ten (10) working days before fabrication is to begin. No work shall begin until the drawings are approved.

c. The tolerance on placement of welded steel wire fabric in the apron shall be  $\pm 1$  inch. The chairs, spacers or other devices used to maintain the welded steel wire fabric in position shall have rust resistant tips. The cost of any welded steel wire fabric required to transport the precast reinforced concrete aprons shall be deemed included in the cost of these items.

d. Concrete shall be consolidated in the forms by internal vibrators. Exposed surfaces shall be free from objectionable imperfections, such as honeycomb and air voids as determined by the Engineer. If air voids collect at the interface of the concrete and forms, the forms shall be tapped on the outside with rubber mallets or similar devices to displace the entrapped air.

#### Curing

a. The precast reinforced concrete aprons may be cured as per the requirements for cast in place concrete aprons.

b. If the precast reinforced concrete aprons are steam cured, the aprons shall be cured in an enclosure free from outside drafts, and cured in a moist atmosphere. The temperature shall be maintained at a temperature between 125 degrees and 160 degrees F. by the injection of steam for a period of not less than 12 hours. Steam curing shall not begin in less than 2 hours from the time that the last concrete was placed. Care shall be taken by the Contractor to prevent localized "hot spots" caused by the steam lines. A continuous temperature time recorder is required for each enclosure. The temperature of the curing atmosphere for any method shall not be increased or decreased at a greater rate than 40 degrees F. per hour.

#### Repair

a. Where approved by the Engineer, occasional imperfections in manufacture or those caused by mishandling may be repaired. The repairs shall be properly finished and cured. The color of the repaired area shall match as closely as possible with the rest of the apron color. Repairs may be made with a mixture of sand and cement, and shall be made to the satisfaction of the Engineer.

- (B) Apron dimensions shall be as required in the contract documents. Dimensions shall not vary by more than 1/4 inch from those specified. Aprons shall be sound and free from cracks or other defects that would interfere with their proper placement or performance.
- (C) Basis of Acceptance - The precast reinforced concrete apron shall be accepted at the job site based on the following:
- (1) The manufacturer's name must appear on the N.Y.S. Department of Transportation's Approved List of "Precast Concrete Manufacturers Approved for QC/QA Production" for either Product Group 1, 2, or 4.
  - (2) A manufacturer's certification.
  - (3) An acceptable product evaluation made by the Engineer.
- (D) Prior to installation, the subgrade must be compacted and carefully graded such that the concrete apron slab will be seated flush on the subgrade, at the proper elevation and slope as shown on the Contract Drawings.

**SECTION GI-2.04  
(NOT A PAY ITEM)  
PRECAST POROUS CONCRETE**

**GI-2.04.1. DESCRIPTION.** Under this Section, the Contractor shall be required to furnish and install a Precast Porous Concrete Gutter systems adjacent to the curb and a Precast Porous Concrete Walkway system between hydraulically connected Right-of-Way Bioswales (R.O.W.B). Each Precast Porous Concrete system shall include, but not be limited to: 5" thick modular precast porous concrete paving slabs; edge restraints; an un-compacted/screed crushed stone leveling (base) layer; and either a compacted broken stone storage reservoir (subbase) course wrapped in geotextile over a prepared subgrade in the Gutter system or an Open-Graded Stone Base wrapped in geotextile in the Walkway system; all in accordance with the Contract Drawings, the specifications and directions of the Engineer.

**GI-2.04.2. MATERIALS.**

**A. PRECAST POROUS CONCRETE PAVING SLAB**

1. Precast Porous Concrete Gutter systems shall be Stormcrete™ or approved equivalent.
2. Manufacturer: Stormcrete™ Precast Porous Concrete Paving Slab System manufacturers shall include, but not be limited to, the following:
  1. Porous Technologies, LLC  
8 Blue Moon Drive  
North Yarmouth, ME 04097  
1-877-271-9055
  2. Faddis Concrete Products  
2206 Horseshoe Pike  
Honey Brook, PA 19344  
610-269-4685
  3. Pre-cast Concrete Products of Maine, Inc.  
139 Main Street  
P.O. Box 307  
Topsham, ME 04086  
800-696-8265
  4. Camp Precast Concrete, Inc  
78 Precast Road  
Milton, VT 05468  
802-893-2401
  5. Or Approved Equal.
- 3 Each precast porous concrete paving slab shall have permanent lifting points imbedded in the top of the slabs for ease of slab installation, maintenance, removal, and reinstallation; and, shall be reinforced with epoxy coated steel bars as per the Manufacturer's recommendations.
4. Typical dimensions of precast porous concrete paving slab in plan shall be 5 ft. by

1-1/2 ft. for gutters adjacent to bioswales and 5 ft. by 4 ft. for the walkway between hydraulically connected bioswales. All precast porous concrete paving slabs shall be 5 inches thick.

5. Average core compressive strength of at least 3,000 psi at 28 days per ASTM C42/C42M; and shall conform to ACI 522R-06.
6. Infiltration rate in accordance with ASTM C 1701/C 1701M; and shall conform to ACI 522R-06.
7. Concrete average unit weight shall be 125 lb/cf (+/- 5%) conforming to ACI 522R-06.
8. Slab units shall include a minimum of 2 lifting permanent lifting points for the 1.5 ft. x 5 ft. units and a minimum of 4 lifting permanent lifting points for the 4 ft. x 5 ft. units.
9. Precast porous concrete slabs shall be cured by the manufacturer's approved methods. Slabs shall not be shipped until the porous concrete has achieved 85% of the minimum compressive strength.

#### B. EDGE RESTRAINT

1. Edge restraints installed at exterior sides of precast porous concrete pavers shall be as follows:
  - a. Expansion Joint Material and either of the following to be furnished and installed under other concrete items: Precast Concrete, Cut Stone or Cast-in-Place Concrete, as shown on the Contract Drawings.
  - b. Manufacturer: Expansion Joint Material shall be from a manufacturer listed in the current New York State Department of Transportation's approved list of Premoulded Resilient Joint Fillers. Precast Concrete, Cut Stone and Cast-in-Place edge restraint shall comply with the requirements of other contract items.
  - c. Material Standards for Expansion Joint Material shall comply with the requirements of Section 2.15, Type IV, in the New York City, Department of Transportation, Standard Highway Specification, as currently amended, and shall be either one-quarter (1/4") inch or one-half (1/2") inch thick, at the Contractor's option.

#### C. BROKEN STONE RESERVOIR (SUBBASE) FOR GUTTER SYSTEMS AND LEVELING COURSE FOR BOTH THE GUTTER SYSTEM AND WALKWAY SYSTEM

1. Use of screened rounded gravel is prohibited.
2. All broken stone material acceptable under this section shall be sound, hard, durable, unweathered stone freshly broken. All broken stone shall be double-washed and clean and free of all fines and debris, not contaminated with clay, and free from any organic or other deleterious material.
3. Broken stone reservoir (subbase) for gutter systems shall be 3/4" (nominal) size conforming to ASTM C33, Size Number 6 in TABLE 2 Grading Requirements for Coarse Aggregates. Thickness of compacted reservoir course shall be as shown on the Contract Drawings or as otherwise directed by the Engineer.

4. Un-compacted/screed broken stone for leveling course shall be 3/8" (nominal) size conforming to ASTM C33, Size Number 8 in TABLE 2 Grading Requirements for Coarse Aggregates. Thickness of un-compacted/ screed leveling course layer shall be three (3") inches, unless otherwise shown on the Contract Drawings.
5. Product Substitutions: Substitutions may be allowed for gradations of broken stone storage reservoir (subbase) and leveling course. Compacted broken stone for storage reservoir (subbase) shall have a minimum porosity of 0.40. All substitutions shall be as approved by the Engineer.

**D. OPEN-GRADED STONE (SUBBASE) FOR WALKWAY SYSTEMS**

1. Open-graded stone (Subbase) shall be furnished and place in accordance with I-Pages, Section GI-2.07 and wrapped in geotextile fabric in accordance with I-Pages, Section GI-2.09, contained herein.

**E. GEOTEXTILE FABRIC FOR THE GUTTER SYSTEMS**

1. Geotextile Fabric used to wrap the broken stone reservoir course in gutter systems shall meet the requirements of I-Pages, Section GI-2.09, contained herein.

**GI-2.04.3. SUBMITTALS.**

- A. The Contractor shall furnish: Shop drawings, in accordance with the requirements of Subsection 1.06.13. of the NYC Department of Transportation Standard Highway Specifications, showing the installation plan layout of each full and partial precast porous concrete paving slab complete with lifting points in surface, edge restraint detail(s), and geotextile manufacturer specification sheets, indicate materials outside perimeter and profiles/sections.
- B. Test results performed by an independent testing laboratory of the following:
  1. Particle-size analysis in accordance with ASTM C136 for the broken stone storage reservoir (subbase) and broken stone leveling course (base) with source(s) of supply noted.
  2. Infiltration rate in accordance with ASTM C1701/C1701M and bulk density for the precast porous concrete paving slabs conforming to ACI 522R-06.
  3. Average Core Compressive strength in accordance with ASTM C42/C42M of cores obtained from the precast concrete paving slabs; conforming to ACI 522R-06.

**GI-2.04.4. METHOD OF CONSTRUCTION.**

**A. CONTRACTOR'S QUALITY CONTROL PLAN**

1. A Quality Control Plan shall be furnished by the Contractor at least five (5) working days prior to installing the precast porous concrete paving slab system for the Engineer's approval before commencing work. The plan shall include, but not be

limited to, horizontal and vertical layout of the work, installation of edge restraint, fine grading of subgrades, installing geotextile, placing and compacting broken stone reservoir course (subbase) or open graded stone (Subbase) as shown on the Contract Drawings, placing broken stone leveling course (base), and placing precast porous concrete paving slabs.

2. The installation contractor/subcontractor shall have documented experience with the successful installation of precast porous concrete paving slabs similar in complexity of this project.
3. The installation contractor/subcontractor shall use adequate forces to perform this work and shall indicate what equipment and work force he will be using.
4. Precast porous concrete paving slabs shall be visually inspected for completeness, texture and consistency with installation drawings. A small amount of "skinning", not to exceed 5% of the top or bottom of slab surface areas, will be allowed.
5. A review of the Contractor's installation plan will be done in a pre-construction meeting with the manufacturer's representatives, paving slab installation contractor/subcontractor, the Engineer, and the project's Design Engineer.

#### B. GENERAL

Before paving slabs are installed, the Contractor shall ensure that all materials and preparation for subbase and edge restraints are acceptable to the installer and manufacturer of precast pervious concrete paving slabs. Preparation of subbase materials shall include proper compaction procedures, placement of geotextile fabric as shown on the Contract Drawings, conditions of subgrade soils, and any other potential obstructions to a satisfactory installation as specified herein.

#### C. WEATHER CONSIDERATIONS

1. Do not place and/or compact broken stone subbase in rain or snow, or on saturated or frozen subgrade.
2. Do not place and/or screed broken stone base in rain or snow, or on saturated or frozen subbase.
3. Do not install precast porous concrete slabs in rain or snow, or on saturated or frozen base.

#### D. DELIVERY, HANDLING AND STORAGE OF PRECAST POROUS CONCRETE PAVING SLABS

1. Coordinate delivery to not interfere with other construction and avoid delays.
2. Slabs shall be offloaded two at-a-time by forklift operated by a trained and experienced operator. Forklift must be equipped with 6-ft. long forks to safely offload slabs. Slabs delivered on pallets can be offloaded in its entirety.

3. Verify safe load capacity of forklift in accordance with Occupational Safety & Health Administration (OSHA) recommended practices. Only use forklifts with adequate safe load capacity.
4. Store slabs on level ground and propped with 4-in. by 4-in., minimum, timbers placed parallel to one another located directly beneath imbedded lifting points. Place timbers between each slab.
5. Slabs shall be stored in stacks not more than 6 slabs high.
6. Store slabs such that they are kept free from mud, dirt, grass cuttings, accumulation of foliage and debris.

#### E. STOCKPILING AND SAMPLING OF BROKEN STONE RESERVOIR AND LEVELING COURSE AGGREGATE

All material shall be stockpiled, unless otherwise directed. Stockpile construction requirements, sampling, testing and acceptance/rejection procedures shall be as stipulated in the appropriate New York State Department of Transportation publication in affect at the time of advertisement.

No material shall be added to a stockpile after the stockpile has been sampled for approval. Only material from approved stockpiles shall be placed on the subgrade for this section. The presence of any oversize particles in the stockpile will be cause for rejection of the entire stockpile. No material shall be removed for use from any stockpile until the stockpile has been sampled, tested, and approved in writing, by the Engineer, for placement on the subgrade. It shall be the duty of the Contractor to furnish suitable and approved excavating equipment for such sampling. Approval of a stockpile for placement on the subgrade shall not relieve, in any degree, the full responsibility of the Contractor to furnish, in its compacted position, a subbase course of select granular materials, the final condition of which conforms to all the requirements of the specifications for this section. In the event the Contractor shall have a plant or procedure resulting in subbase course material of uniform quality, at a rate satisfactory to the Engineer, and such that satisfactory samples for tests can be obtained, the requirement for stockpiling may be waived. Prior approval of the Engineer must be obtained and the work must be done in accordance with such conditions as may be imposed in the approval. Such waiver shall remain in force only so long as a satisfactory material is produced.

#### F. EXCAVATION AND EARTH SUBGRADE FOR GUTTER INSTALLATIONS

The Contractor shall be required to full depth saw cut the roadway pavement as required to install precast porous concrete pavers within the gutter, as shown on the Contract Drawings. Excavation shall be made to dimensions sufficient to accommodate placement of the broken stone reservoir course material.

#### G. INFILTRATION SYSTEM SUBGRADE PREPARATION

1. Verify that the broken stone reservoir course or open graded stone base, as shown on the Contract Drawings, has been properly placed within the trench and compacted as approved and accepted by the Engineer.
2. The subgrade under the broken stone reservoir course shall not be compacted or permanently covered with geotextile, unless otherwise shown on the Contract Drawings or directed by the Engineer.

3. Prepared subgrades shall not be subject to construction equipment traffic.
4. Where erosion has caused accumulation of sediment or ponding on the subgrade, remove sediment with light equipment and/or manually. Scarify the underlying soils to a minimum depth of 6 inches with a York type rake, or equivalent equipment.
5. Restore any subgrade areas damaged by erosion, ponding, or traffic compaction to design line and grades prior to installation of storage reservoir course (layer) .

## H. INSTALLATION

### 1. Acceptance of Site Conditions:

The Contractor shall inspect, accept and document in writing to both the Engineer and the slab installation contractor/subcontractor that site conditions meet specifications for the following prior to installation of concrete paving slabs.

- a. Verify that subgrade is dry and relatively compacted, surface tolerances and elevations conform to Construction Drawings and specified requirements.
- b. Verify location, type, and elevations of edge restraints, utility structures, manholes, and valve boxes.
- c. Do not proceed with installation of precast porous concrete paving system until site conditions are corrected by the Contractor or designated subcontractor.

### 2. General

- a. Any excess thickness of soil placed over the soil subgrade to trap sediment transported by runoff from adjacent construction areas shall be removed before placement of geotextile when shown on the Contract Drawings and the storage reservoir layer.
- b. Keep areas where precast porous concrete paving slabs are to be installed free of sediment during the entire construction period. Geotextiles when shown on the Contract Drawings and storage reservoir broken stone contaminated with sediment shall be removed and replaced with clean materials.
- c. Do not damage drainpipes, underdrains, observation wells, roadway boxes, manholes or any other utilities during installation. Report any damage immediately to the Engineer.

### 3. Geotextile Fabric

- a. Place the geotextile on the prepared subgrade and side slopes for it to wrap around the stone reservoir course and open graded stone, as shown on the Contract Drawings. Also place geotextile conforming to the requirements of I-Pages, Section GI-2.09 to wrap around the broken stone reservoir.
- b. Secure geotextiles in place to prevent shifting, wrinkling or folding during placement of the broken stone reservoir course and the leveling course.
- c. Overlap geotextile edges a minimum of 12 inches in the direction of drainage flow.

### 4. Broken Stone Reservoir Course in Gutters Systems



- a. Place 3/4" (nominal) size broken stone, conform to ASTM C33 Size Number 6 over the prepared subgrade and spread and level evenly by raking to a minimum thickness of six (6") inches. Do not disturb prepared subgrade or shift, wrinkle or fold the geotextile fabric and/or impermeable liner when and where place as shown on the Contract Drawings.
  - b. The broken stone reservoir course material shall be spread in equal thickness layers. The spreading of any layer of this material shall be done with spreader equipment approved by the Engineer, and to such thickness that the maximum depth of the layer, after compaction, will be 6 inches. Spreading from piles dumped on the roadway will not be permitted. No segregation of large or fine particles will be allowed, but the material, as spread, shall be well graded, with no pockets of fine material. Water shall be added in such amounts as the Engineer may consider necessary to obtain satisfactory compaction.
  - c. Compact layers with approved vibrating plate compactors or impact rammers until there is no visible movement, weaving or deflection in the surface of the broken stone reservoir course.
  - d. The surface tolerance of the compacted broken stone reservoir course shall be + 3/4 in. under a 10 ft. straightedge.
  - e. Compacted storage reservoir area shall not substantially exceed that which is covered by paving slabs by the end-of-day.
  - f. The Contractor shall assume full responsibility for any contamination and/or degradation of any part of this base during construction and shall, at his own expense, remove any and all portions of this base which do not conform to the requirements of these specifications and replace these portions with specified material.
5. Leveling Course Layer (Un-compacted/Screed Broken Stone). Prior to placing the leveling course layer, the subbase surface tolerance shall not be more than  $\pm 3/8$  inch over a 10 ft. straight edge.
- a. Place and spread ASTM C 33 Size Number 8 crushed stone evenly over the screed rails to a thickness of 2 to 3 inches. Level surface of crushed stone with screed.
  - b. Do not compact or disturb screed leveling layer.
  - c. The surface tolerance of the screed leveling layer shall be + 1/4 inch under a 10 ft. straightedge.
  - d. Screed leveling layer placed shall not substantially exceed that which is covered by paving slabs by the end-of-day.

#### I. EDGE RESTRAINT

- 1. Edge restraints shall be either the existing pavement surface or required to be furnished and installed under other contract items, as shown on the Contract Drawings.

**J. PAVING SLAB PLACEMENT**

1. Since the uniformity of the leveling (base) layer determines the differential settlement between precast porous concrete paving slabs, the slab installer shall not be permitted to correct deficiencies in the leveling layer surface with additional stone, raking, compaction or by other similar means. The Contractor shall be required to check and accept the surface of the leveling layer, in writing to Engineer, prior to placing precast porous concrete paving slabs.
2. Paving slabs shall only be lifted and placed using swivels and spreader chains. Chains, cables or slings should never be wrapped around the paving slabs for lifting under any circumstances. Swivels shall be securely bolted snug but not over-tightened to avoid damage to the surface.
3. Place units hand tight without using metal hammers, pry bars or drift pins. Make horizontal adjustments to placement of laid slabs with wood wedges and levers, and rubber mallets as needed. Joint widths and lines shall be continually straightened as paving proceeds.
4. Unless otherwise recommended by the manufacturer of the precast porous concrete paving slabs, provide joints between slabs of 1/4" wide using spacers provided by the manufacturer of the precast porous concrete paving slabs. No joints shall exceed 1/4" in width.
5. Joints shall be left open. No stone or sand is to be placed in joints.
6. Joint lines shall not deviate more than  $\pm 1/2$  inch over 50 ft. from string lines.
7. Fill gaps at the edges of the paved area with properly-sized end slabs.
8. Cut end slabs to be placed along the edge or corners with a masonry saw. Cut units shall be no shorter than 1/4 of a whole slab.
9. Keep skid steer and forklift equipment off unrestrained paving slabs.
10. After an area is completely paved, set the precast porous concrete slabs into the screed broken stone leveling course layer by trafficking with light rubber-tired equipment.
11. Remove and replace any slabs cracked or damaged during installation with new ones. Reset slabs not in conformance with specified installation tolerances
12. Check final surface elevations of set slabs for conformance to design drawings. The final surface tolerance from grade elevations shall not deviate more than  $\pm 3/8$  inch under a 10 ft. straightedge.
13. The surface elevation of set slabs shall be flush with manholes or the top of utility structures.

**K. PROTECTION**

After work in this section is complete, the Contractor shall be responsible for protecting the precast porous paving slab system from damage and/or contamination with mud, dirt, grass cuttings, accumulation of foliage and debris. Use plastic caps to fill permanent lifting points to protect the holes from filling with dirt or debris.

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**SECTION GI-2.06  
(NOT A PAY ITEM)  
L-SHAPED EDGING**

**GI-2.06.1. INTENT**

Under this section, the Contractor shall furnish and install new landscape edging adjacent to the stone strip bed in bioswales as specified herein, as detailed on the Contract Drawings and the directions of the Engineer.

**GI-2.06.2. MATERIALS**

Edging shall consist of L-shaped PVC or aluminum edge restraint product, a minimum of six (6) inches high by five (5) inches wide, in up to ten (10) foot lengths. The thickness of the material shall be a minimum of 0.15 inches. Drainage holes flush with the horizontal leg shall be present on both the sides of the L-shaped edging. Nine (9) inch minimum length stakes shall be installed a minimum of every two (2) feet on center. The color of the edging shall be black.

Edging shall be Teco-Edg Specialty Edge Restraint manufactured by Oly Ola Edgings, Inc. in Villa Park, IL; GeoEdge Aluminum Green Building Edging manufactured by Permaloc Corporation in Holland, MI; or approved equivalent. Submit product cut sheets as shop drawings for Engineer's approval prior to ordering the product.

**GI-2.06.3. DESCRIPTION**

The edging shall be installed adjacent to the stone strip bed in bioswales where required, as shown on Contract Drawings and in accordance with the specifications and the directions of the Engineer.

**GI-2.06.4. METHODS**

(A) The edging shall be installed true to line and grade in accordance with the drawings and as directed by the Engineer. The "L" of the edging shall face towards the curb, and the top of the "L" shall be at or below the concrete curb elevation. Crushed stone shall be placed on top of the edging as per the drawings and as directed by the Engineer.

**GI-2.06.5. RELATED SPECIFICATIONS**

I-Pages Section GM-30 – Epoxy Bonded Stone Strip Bed

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**SECTION GI-2.07  
(NOT A PAY ITEM)  
OPEN GRADED STONE BASE**

**GI-2.07.1. INTENT**

Under this section, the Contractor shall furnish and install new open graded stone base as specified herein, as detailed on the Contract Drawings and the directions of the Engineer.

**GI-2.07.2. KIND**

All materials for this work shall comply with the latest New York State Department Of Transportation Standard Specifications Coarse Aggregate Section 703.02. The material shall be #5 crushed stone (or larger) that is washed and sorted between 3" and 4".

**GI-2.07.3. DESCRIPTION**

The thicknesses and locations of the "open-graded stone base" shall be as shown on the NYC Department of Environmental Protection Standard Design and Guidelines for Green Infrastructure Practices drawings, or as determined by field conditions and ordered by the Engineer.

**GI-2.07.4. CONSTRUCTION METHODS**

- (A) Prior to the placement of any base material, the Contractor shall submit a representative sample to the Engineer and obtain approval, in writing.
- (B) The material shall be spread in equal thickness layers.
- (C) Prior to backfilling with the Open Graded Stone Base, the subgrade of the bioswale footprint shall be scarified to ensure no compaction. Stone base shall be placed by gravity with no additional compaction.
- (D) The Contractor shall assume full responsibility for any contamination and/or degradation of any part of this base during construction and shall, at his own expense, remove any and all portions of this base which do not conform to the requirements of these specifications and replace these portions with specified material.

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**SECTION GI-2.08  
(NOT A PAY ITEM)  
HDPE BARRIER**

**GI-2.08.1. INTENT**

This section describes the HDPE BARRIER. The purpose of the High Density Polyethylene (HDPE) Barrier is to provide an impermeable layer which does not allow water to pass through it. The HDPE barrier shall be furnished and installed as shown on Contract Drawings, in accordance with the specifications and the directions of the Engineer.

**GI-2.08.2. MATERIALS**

The HDPE barrier shall consist of High Density Polyethylene (HDPE) Geomembrane sheets not less than 80 mil thickness, meeting or exceeding Geosynthetic Research Institute (GRI) Test Method GM13.

**GI-2.08.3. SUBMITTALS**

(A) The Contractor, prior to the start of work, shall submit to the Engineer for approval samples of the geomembrane in accordance with the requirements of Section 1.06.31 of the NYC Department of Transportation Standard Highway Specifications, and methods of splicing permitted at utility crossings.

(B) Certified material test reports showing that the geomembrane meet the specified requirements shall be submitted for each shipment and identified with specific lots prior to installing materials. Material test reports shall meet the requirements of ASTM and GRI test method GRI GM 13.

(C) The manufacturer shall submit certified test data to cover each shipment of the material.

**GI-2.08.4. CHEMICAL AND PHYSICAL REQUIREMENTS**

(A) HDPE geomembrane sheets supplied for the project shall meet or exceed all required physical characteristics as defined below:

1. HDPE Geomembrane - High quality, high density polyethylene (HDPE) geomembrane specially formulated with virgin formulated polyethylene.
2. Thickness - Thickness shall not be less than (minimum average) 80 mil, measured in accordance with ASTM D5199.
3. Density - The Density shall not be less than 59 lb./ft<sup>3</sup>, measured in accordance with ASTM D1505.
4. Tear resistance - Tear resistance shall not be less than 40 lb., measured in accordance with ASTM D1004.
5. Puncture Resistance - Puncture Resistance shall not be less than 100 lb., measured in accordance with ASTM D4833.
6. The HDPE Barrier shall be strong enough to resist both rot and insects.

#### **2.08.5. METHODS**

- (A) Delivery - Deliver materials to site in manufacturer's original, unopened packaging, with labels clearly identifying product name and manufacturer.
- (B) Storage - Store materials in clean, dry area in accordance with manufacturer's instructions.
- (C) Handling - Protect materials during handling and installation to prevent damage.
- (D) Prior to the installation of the HDPE Barrier, the Contractor shall excavate the Bioswale area to the satisfaction of the Engineer.
- (E) Install HDPE Barrier as indicated on the Standard Design and Guidelines for Green Infrastructure Practices drawings.
- (F) The HDPE Barrier shall be placed in one piece directly on the vertical face of the excavation. No splicing will be permitted, except at utility crossings.
- (G) No equipment, materials or machinery shall be placed on or be transported over exposed HDPE Barrier.
- (H) HDPE Barrier shall be placed as shown on the plans and as directed by the Engineer. Care shall be taken in the placement of backfill under other items so as to prevent dislocation of the HDPE Barrier. If the HDPE Barrier is ruptured during installation, the rupture shall be covered with a patch of new HDPE Barrier that will overlap the undamaged area by at least six (6") inches in all directions. No additional payment will be made for the repair.

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**SECTION GI-2.09  
(NOT A PAY ITEM)  
GEOTEXTILE FABRIC**

**GI-2.09.1. INTENT**

This section describes geotextile fabric. The Contractor shall furnish and install non-woven geotextile - drainage as specified herein, in accordance with the NYC Department of Environmental Protection Standard Design and Guidelines for Green Infrastructure Practices drawings and as directed by the Engineer.

**GI-2.09.2 SUBMITTALS**

(A) All submittals shall be submitted prior to purchase and shall be made in accordance with the requirements of the NYC Department of Transportation Standard Highway Specifications, General Conditions, Subsection 1.06.31.

(B) Samples: The Contractor shall furnish two (2) labeled samples of the geotextiles intended for use in the work for approval and the Engineer's use. The label shall include the manufacturer's product name, the type of fabric, and the weight of grade of the material. Geotextiles used in the work shall conform to the approved samples.

**GI-2.09.3. CHEMICAL AND PHYSICAL REQUIREMENTS**

(A) Drainage application is defined as a soil to geotextile system that allows for long-term, adequate liquid flow normal to the geotextile with limited soil loss across the plane of the geotextile.

(B) Fibers used in the manufacture of drainage geotextiles, and the threads used in joining geotextiles by sewing, shall consist of long-chain, synthetic polymers, composed of at least 95 percent by weight polyolefins, polyesters, or polyamides. They shall be formed into a stable network such that the filaments or yarns retain their dimensional stability relative to each other, including selvages. The geotextile shall have no tears or defects which adversely alter its physical properties. Geotextiles used in drainage applications shall conform to the following properties for Non-Woven Geotextile Drainage:

Property	ASTM Test	Requirements
Structure		Non-Woven
Elongation	ASTM D4595	≥ 50%
Grab Strength (Min.)	ASTM D4632	700N (157 LBS)
Tear Strength (Min.)	ASTM D4533	250N (56 LBS)
Puncture Strength (Min.)	ASTM D4833	250N (56 LBS)
Permittivity (Min.)	ASTM D4491	0.21 / sec.
Apparent Opening Size (Max.)	ASTM D4751	0.25 mm (0.0098 inch) Std. No. 60 sieve



**GI-2.09.4. BRAND**

(A) Geotextiles shall be as manufactured by Advanced Drainage Systems, Inc., Hilliard, OH; Carthage Mills, Cincinnati, OH; Mirafi, Inc., Charlotte, NC; or approved equivalent.

**GI-2.09.5 CONSTRUCTION METHODS**

(A) Each geotextile roll shall be wrapped with a material that will protect the geotextile, including the ends of the roll, from damage due to shipment, water, sunlight, and contaminants. The protective wrapping shall be maintained during periods of shipment and storage. During storage, geotextile rolls shall be elevated off the ground and adequately covered to protect them from the following: site construction damage, precipitation, extended ultraviolet radiation including sunlight, chemicals that are strong acids or strong bases, and any environmental condition that may damage the physical property values of the geotextile.

(B) Prior to installation of geotextile, the ground shall be prepared by removing stumps and other organic material, along with any large boulders and sharp objects which may tear or damage the fabric. Install geotextile at elevations and alignments as indicated on the drawings or as directed by the Engineer. The drainage geotextile shall be placed loosely with no wrinkles or folds. Care will be taken to place the geotextile in intimate contact with the soil so that no void spaces occur between the geotextile and trench or ground. Where the geotextile is to be installed in a trench, the geotextile shall be overlapped at the top of the trench, twelve (12) inches or the full width of the trench, whichever is less. If the geotextile is damaged during installation, the rupture shall be removed and the damaged area shall be covered with a patch of new fabric which will overlap the undamaged fabric at least six (6) inches in all directions. All repaired fabric surface costs will be deemed part of the price bid.

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**SECTION GI-2.10  
(NOT A PAY ITEM)  
STEEL TREE GUARDS**

**GI-2.10.1. INTENT**

This section describes steel tree guards. The Contractor shall furnish and install Steel Tree Guards in accordance with the NYC Department of Environmental Protection Standard Design and Guidelines for Green Infrastructure Practices drawings and as directed by the Engineer.

**GI-2.10.2. MATERIALS**

Steel tree guards shall conform to Specifications C1015 of the American Iron and Steel Institute (AISI) and shall be of solid steel and not hollow in section.

Concrete shall Type B-32 comply with the requirements of Sections 3.05 and 4.06 in the NYC Department of Transportation Standard Highway Specifications.

**GI-2.10.3. SUBMITTALS**

(A) The Contractor shall submit for the approval of the Engineer finished samples of parts of the steel tree guards. The workmanship and finish of the final product shall be equal to the approved samples. Also, the Contractor shall submit detailed shop drawings of steel tree guards for the approval of the Engineer.

(B) Paint Substitution: A written request for paint substitution must be submitted to the Engineer for approval. Contractor shall submit this request, along with manufacturer's data sheets for approval, a minimum of two weeks prior to the intended date of paint application. All paint substitutes must be approved in writing prior to use.

**GI-2.10.4. CHEMICAL AND PHYSICAL REQUIREMENTS**

Steel Tree Guards shall be constructed of bars, posts, and rails of the sizes shown on the plans. All material shall conform to Specifications C1015 of the AISI

**GI-2.10.5. MATERIALS**

(A) All material for the steel tree guards shall conform to Specifications C1015 of the AISI.

**GI-2.10.6. CONSTRUCTION METHODS**

(A) Steel Tree Guards shall be fabricated in strict accordance with the plans and approved shop drawings. Posts, pickets, bars, and rails shall be formed into panels of the shapes shown on the Contract Drawings. Joints shall be completely welded with welds of proper size and shape. All welds shall be ground smooth to a neat finish. Connections shall be provided as indicated on the plans. Welding shall conform to current industry requirements for this type of application.

(B) Steel spike shall be concrete encased as shown on the plans or as per Standard Design and Guidelines for Green Infrastructure Practices

(C) Posts and pickets shall, in all cases, be truly vertical as shown on the plans. Rails and bars shall be parallel to grade as shown on the Contract Drawings. Panels shall be curved as required

by the work. Dimensions of individual steel tree guards may vary as required by existing site conditions, in accordance with the directions of the Engineer.

(D) Steel tree guards shall receive three (3) shop applied coats of paint. A field applied touch-up coat shall be applied at the discretion of the Engineer. Immediately prior to painting, all surfaces of framework shall be thoroughly cleaned free of debris. All surfaces that are rust free shall be treated in

accordance with SP-1, Solvent Cleaning. Treatment shall be performed with a solvent such as mineral spirits, xylol, or turpentine to remove all dirt, grease, and foreign matter. Surfaces that show evidence of scale and rust shall be cleaned in accordance with SP-2, Hand Tool Cleaning, a method generally confined to wire brushes, sandpaper, hand scrapers, or hand impact tools or SP-3, Power Tool Cleaning, a method generally confined to power wire brushes, impact tools, power sanders, and grinders in order to achieve a sound substrate. After the steel tree guards have been cleaned and prepared, they shall be painted as follows:

(1) First Coat (Shop Applied): Sherwin Williams # E41N1 Metal Primer, Brown, or approved equivalent. Primer is an alkyd oil, flat finish coating having a dry film thickness of 3 to 4 mils. Paint requires twenty four (24) hours drying time before recoating. Performance shall meet or exceed the standards of Federal Specification TT-P-86H.

(2) Second Coat (Shop Applied): Sherwin Williams High Solids Alkyd Metal Primer, B50 Series, Reddish Brown, or approved equivalent. Primer is an alkyd, low luster coating having a dry film thickness of 3-5 mils. Paint requires four (4) hours drying time before recoating (with alkyds)

(3) Third Coat (Shop Applied): Sherwin Williams Silicone Alkyd Low VOC B56Z Black, or approved equivalent. Topcoat is a silicon alkyd, high gloss coating having a dry film thickness of 2 -4 mils. Paint requires sixteen (16) hours drying time @ 45° F; eight (8) hours @ 77°F. (tack free)

Alternative paint manufacturers shall be Devoe and Reynolds, Co.; Pratt and Lambert, Inc.; Pittsburgh Plate Glass Company; Sapolin; or an approved equivalent. All paints used shall be compatible and the product of the same manufacturer.

(E) All paints shall be applied when ambient air temperature is forty-five (45) degrees F. and rising and when surfaces to be painted are moisture free. No painting will be allowed below the minimum ambient air temperature. In addition, no painting will be allowed below the temperature at which moisture will condense on surfaces. Refer to the Dew Point Chart at the end of this section to find the minimum allowed moisture free temperature.

(F) The steel tree guards shall be erected in soil only, inside the tree pits. The posts shall be set in place and properly supported to hold them to line and grade. The lowest portion of the steel band at the bottom of all side rails set 1" above the finished grade of the sidewalk. Any guards not set plumb and true to line and grade shall be removed and replaced at the Contractor's expense.

**SECTION GI-2.13A  
(NOT A PAY ITEM)  
ENGINEERED SOIL AND SAND**

**GI-2.13A.1. INTENT**

This section describes Engineered Soil and Sand. The Contractor shall furnish, amend (if required), place and prepare the Engineered Soil for seeding and/or plant material as shown on the NYC Department of Environmental Protection Standard Design and Guidelines for Green Infrastructure Practices drawings and/or as directed by the Engineer.

**GI-2.13A.2. MATERIALS**

Engineered Soil and Sand shall conform to the following standards:

1. Recommended Soil Testing Procedures for The Northeastern United States, 3<sup>rd</sup> Edition, Northeast Regional Publication, Agricultural Experiment Station, University of Delaware. Bulletin #493, Revised October 2009 or latest.
2. USDA Soil Survey Laboratory Methods Manual, Soil Survey Investigations Report No. 42 Version 4.0 November 2004.

**GI-2.13A.3. SUBMITTALS**

(A) Prior to the procurement of Engineered Soil and Sand, the following information and samples are required for review and approval for each source:

1. Proposed material source and vendor.
2. A sample of the proposed material, taken with a representative of the Department, indicating the method of sampling and location of the sample.
3. The Contractor shall submit to the Engineer the name and location of the borrow (source) or stockpile site(s) and the estimated quantity of material available. The Contractor shall provide a notarized letter from the owner(s) of the proposed borrow site and/or stockpile site(s) indicating ownership of the proposed site(s) and a commitment to supply a specified minimum quantity of material for this project. Additionally, the supplier shall provide a certificate of clean fill and/or source materials for topsoil, signed by a NYS licensed PE/RLA or RA. To avoid delays in planting and seeding, the Contractor shall immediately begin to secure and test Engineered Soil at least one month in advance of the material actually being needed on site. This will allow sufficient time to blend the specified soil mix and make all the necessary adjustments in the mixing process.
4. Results of the organic content analyses conducted in accordance with the above referenced standard, *Recommended Soil Testing Procedures for The Northeastern United States, 3rd Edition, Northeast Regional Publication, Agricultural Experiment Station, University of Delaware. Bulletin #493, Revised October 2009 or latest.*
5. Results of the USCS soil texture gradation (gravel, sand, silt and clay) analyses and sand sieve analyses, with full reporting of all information in AASHTO sieve sizes, in accordance with the *AASHTO T 27 Sieve Analysis of Fine and Coarse Aggregates* and *ASTM D2487 Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System)*

6. Results of the pH tests conducted in accordance with the above referenced standard, *USDA Soil Survey Laboratory Methods Manual, Soil Survey Investigations Report No. 42 Version 4.0 November 2004*.
7. Results of the soluble salts test conducted in accordance with the above referenced standard, *Recommended Soil Testing Procedures for The Northeastern United States, 3rd Edition, Northeast Regional Publication, Agricultural Experiment Station, University of Delaware. Bulletin #493, Revised October 2009 or latest*.
8. Results of the Nutrient analyses test conducted in accordance with the above referenced standard, *Recommended Soil Testing Procedures for The Northeastern United States, 3rd Edition, Northeast Regional Publication, Agricultural Experiment Station, University of Delaware. Bulletin #493, Revised October 2009 or latest*.
9. Results of the Inorganic nitrogen and total Kjeldahl nitrogen tests conducted in accordance with the above referenced standard, *USDA Soil Survey Laboratory Methods Manual, Soil Survey Investigations Report No. 42 Version 4.0 November 2004*.
10. Results of the acid-producing (iron sulfide) test conducted in accordance with the methodologies utilized by the *USDA Soil Survey Laboratory Methods Manual, Soil Survey Investigations Report No. 42 Version 4.0 November 2004*.

NOTE: Due to the agricultural nature of some of the Quality Control testing the Contractor is notified that both Rutgers University and Cornell University can perform nearly all agricultural testing required, one exception may be the acid-producing test. Turn around times for results may vary from standard soils testing. However, all agricultural testing procedures must be performed in accordance with the above referenced standards and the *USDA Soil Survey Laboratory Methods Manual (No. 42, November 2004)* *AASHTO T 27 Sieve Analysis of Fine and Coarse Aggregates* and the *Recommended Soil Testing Procedures for The Northeastern United States, 3rd Edition, Northeast Regional Publication, Agricultural Experiment Station, University of Delaware. Bulletin #493, Revised October 2009 or latest*. If another lab is proposed, the Contractor can submit written certification from the proposed lab certifying that the lab will utilize the same methodologies for soil testing as outlined in these specifications. Approval of the laboratory for Contractor's Quality Control testing will be by the Engineer.

(B) As delivery of Engineered Soil to the site progresses, the following additional testing shall be conducted by the Contractor on the Engineered Soil brought to the site. Frequency of testing is one for every 50 CY delivered. Results of tests shall be submitted to Engineer for review and approval.

1. Organic Content Testing in accordance with the *Recommended Soil Testing Procedures for The Northeastern United States, 3rd Edition, Northeast Regional Publication, Agricultural Experiment Station, University of Delaware. Bulletin #493, Revised October 2009 or latest*.
2. pH testing in accordance with the *USDA Soil Survey Laboratory Methods Manual, Soil Survey Investigations Report No. 42 Version 4.0, November 2004*.
3. Soluble Salts testing in accordance with the *Recommended Soil Testing Procedures for The Northeastern United States, 3rd Edition, Northeast Regional Publication, Agricultural Experiment Station, University of Delaware, Bulletin #493, Revised October 2009 or latest*.
4. Results of the Nutrient analyses test conducted in accordance with the *Recommended Soil Testing Procedures for The Northeastern United States, 3rd Edition,*

*Northeast Regional Publication, Agricultural Experiment Station, University of Delaware, Bulletin #493, Revised October 2009 or latest.*

5. Results of the Inorganic nitrogen and total Kjeldahl nitrogen tests conducted in accordance with the *USDA Soil Survey Laboratory Methods Manual, Soil Survey Investigations Report No. 42 Version 4.0, November 2004.*

6. Results of the USCS soil texture gradation (gravel, sand, silt and clay) analyses and sand sieve analyses, with full reporting of all information in AASHTO sieve sizes, in accordance with the *AASHTO T 27 Sieve Analysis of Fine and Coarse Aggregates and ASTM D2487 Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System).*

7. Results of the acid-producing (iron sulfide) test conducted in accordance with the methodologies utilized by the *USDA Soil Survey Laboratory Methods Manual, Soil Survey Investigations Report No. 42 Version 4.0; November 2004.*

(C) The Contractor shall submit to Engineer the materials and procedures for amending soil, if appropriate. Amendment of soil is only permitted to meet the nutrient and organic requirements of the specifications. Nutrient modifications are only permitted through the use of the approved contract specified organic fertilizer and the organic amendment permitted is leaf compost, no other organic amendment is permitted.

(D) The Contractor shall submit quantity records on a weekly basis to Engineer.

(E) Material failing the frequency testing shall not be incorporated into the work and shall be removed from the site at the Contractor expense.

#### **GI-2.13A.4 CHEMICAL AND PHYSICAL REQUIREMENTS**

(A) Engineered Soil is an integral part of the Green Infrastructure System; as such, certification of its material properties is subject to the testing protocols of the Contractor's Quality Control (QA) plan and quality assurance testing by New York City Department of Design and Construction's Quality Assurance and Construction Safety (QACS) Bureau. The QC requirements relative to Engineered Soil are detailed below. **The Contractor shall strictly comply with all requirements of its QA plan.** Sufficient lead time is required to develop an appropriate plan for mixing methodologies and ratios that will provide reliable results to meet the parameters listed below.

(B) Engineered Soil shall be predominately sand (80-85% sand) as classified by the Unified Soil Classification System (USCS). Based on test results, a determination will be made to ensure that the sand fraction analysis results are capable of supporting proposed vegetation. Engineered Soil shall be free of refuse, hard clods, woody vegetation, stiff clay, construction debris (of any kind), boulders, stones larger than 1-1/2 inches, chemicals, or other deleterious material toxic to any vegetation used on this project.

(C) Engineered Soil shall have a minimum organic content of 3.0 percent and a maximum of 6.0 percent. If the source soil requires amendment to meet the Engineered Soil organic content requirement, leaf compost will be the only approved admixture. No soil mixing shall be permitted during or after Engineered Soil placement. Engineered Soil shall be tested for compliance with Contract specifications and submitted for approval prior to delivery to the site.

(D) The organic content of soils shall be determined by a laboratory using the loss on ignition method as described in the *Recommended Soil Testing Procedures for The Northeastern*

United States, 3rd Edition, Northeast Regional Publication, Agricultural Experiment Station, University of Delaware. Bulletin #493, Revised October 2009 or latest.

(E) The gradation of Engineered Soil shall be determined by a laboratory using the methods of the ASTM D2487 Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System). The gradation of the Engineered Soil as determined by USCS classifications shall be within the following ranges:

Ranges:	0-08% gravel	
	80-85% sand of which:	0-05% coarse sand
		55-75% medium sand
		20-40% fine sand
	5-10% silt	
	3-8% clay	
Classification/sieve size:	75mm to 4.75 mm	gravel
	4.75 mm to 0.075 mm	sand
	0.075 mm to 0.002 mm	silt
	0.002 mm to 0.001 mm	clay

In addition to the above gradation the Contractor shall provide the percentage of particle sizes corresponding to U.S.D.A. classifications:

Coarse gravel	(75 mm to 19 mm)
Fine gravel	(19 mm to 4.75 mm)
Coarse sand	(4.75 mm to 2.00 mm)
Medium sand	(2.00 mm to 0.425 mm)
Fine sand	(0.425 mm to 0.075 mm)

(F) The pH value of Engineered Soil shall be 5-7.0 as determined by an approved laboratory using soil pH (Water (1:1. V:V)) procedures as described in the USDA Soil Survey Laboratory Methods Manual, Soil Survey Investigations Report No. 42 Version 4.0, November 2004. Amendment of soil to lower pH to meet Contract requirements is not permitted.

(G) The soluble salt value of the Engineered Soil shall be (0-.4mmhos cm-1) as determined by an approved laboratory using the soluble salt (1:2(V:V)) procedures as described in the Recommended Soil Testing Procedures for The Northeastern United States, 3rd Edition, Northeast Regional Publication, Agricultural Experiment Station, University of Delaware, Bulletin #493, Revised October 2009 or latest.

(H) The value for Kjeldahl Nitrogen shall be as outlined below as determined by an approved laboratory using the USDA Soil Survey Laboratory Methods Manual, Soil Survey Investigations Report No. 42 Version 4.0 November 2004.

Kjeldahl N Acceptable range is 0.06% to 0.25% (with nitrate (NO-3) form of nitrogen not to exceed 20 ppm).

(I) The value for Macro (P, K) Nutrients shall be determined by an approved laboratory using the procedures as described in the *Recommended Soil Testing Procedures for The Northeastern United States, 3rd Edition, Northeast Regional Publication, Agricultural Experiment Station, University of Delaware, Bulletin #493, Revised October 2009* or latest. Ideal values for macro nutrients shall fall within the ranges indicated below:

P	80 lbs/acre to 100 lbs/acre
K	100 lbs/acre to 300 lbs/acre

The value for Micro Nutrients (Mg, Ca, Mn, Zn, Cu and B) shall be determined by an approved laboratory using the procedures as described in the *Recommended Soil Testing Procedures for The Northeastern United States, 3rd Edition, Northeast Regional Publication, Agricultural Experiment Station, University of Delaware, Bulletin #493, Revised October 2009* or latest. Micro Nutrient values and the determination of their compliance with accepted industry standards shall fall on the discretion of the Engineer. Test reports for Micro Nutrients shall be approved in writing by the Engineer prior to delivery of any soil to the work site.

(J) An acid-producing soil test is required to determine the potential for decreases in soil pH after oxidation. The pH value of the solution shall be greater than 4.5 as determined by the *USDA Soil Survey Laboratory Methods Manual, Soil Survey Investigations Report No. 42 Version 4.0, November 2004*.

(K) Engineered Soil shall not contain any traces of hydrocarbons, petroleum products, chemically prohibited substances or any other elements considered to be toxic to any vegetation used on this Project. The Engineered Soil shall not smell of petroleum or give off other unnatural or toxic odors. Regardless of prior acceptance of sample material should the Engineered Soil delivered to the site seem suspicious in any way; the Resident Engineer shall reject the material. Should the Contractor strongly disagree with the Resident Engineers' Determination, the Contractor may appeal According to the following APPEAL PROCESS:

**APPEAL PROCESS:** The Engineer shall check for discoloration and evidence of unacceptable contents. If the Engineer and/or Engineer suspects that the fill possesses hazardous or contaminated characteristics, it will be rejected. Should the Contractor contest the Engineer's determination, then samplings of the rejected soil will be sent to a Laboratory which is certified by the NYSDOH Environmental Laboratory Accreditation Program (E.L.A.P.) for the selected analytical method.

Environmental Analysis shall include, but not be limited to, U.S.E.P.A. Standard Test Methods for determination of Contaminant Concentrations and the Toxicity Characteristic Leaching Procedure (T.C.L.P.) for determination of Leachability of at least 39 Components. The extraction portion of the T.C.L.P. Test shall be performed according to E.P.A.-SW846 Method 1311. Analysis of the extract shall be performed by E.P.A. Methods SW846; 8021 for Volatiles, 8270 for Semi-Volatiles and 6010 for Priority Pollutant Metals (P.P.L.), including lead. Other characteristic tests may include those for ignitability, corrosivity, and reactivity, as deemed required by the Engineer.

The Test Results shall be compared with Guidance Values developed by the NYSDEC Division of Spills Management, known as "Spill Technology And Remediation Series" (S.T.A.R.S.) dated 8/92 (Reprinted 7/93), which contains criteria for determining whether petroleum-contaminated soil meets beneficial reuse conditions.



For analyses which are not included in the S.T.A.R.S. guidance, the Test Results shall be compared with Guidance Values developed by the New York State Department of Environmental Conservation (NYSDEC), Bureau of Program Management, Technology Section, for the Division of Hazardous Waste Remediation.

These N.Y.S.D.E.C. Guidance Values are known as "Recommended Soil Cleanup Objectives" or "Appendix A" (Revised 1/24/94), and consist of Table 1 for V.O.C.'s, Table 2 for Semi-V.O.C.s, Table 3 for Organic Pesticides/Herbicides and P.C.B.'s, and Table 4 for Heavy Metal. Final values shall be determined by either a health-based level, or a concentration necessary to protect groundwater quality, whichever is lower. Contractor shall be responsible for:

- 1) Payment of fees for services of the N.Y. State certified lab;
- 2) Removal and legal disposal of unacceptable fill;
- 3) Replacement with acceptable fill; and,
- 4) All other expenses, as well as potential fines that may be incurred.

If the results of the appeal come out to be in favor of the Contractor, then the Contractor will be reimbursed for all lab fee expenditures incurred in carrying out such appeal testing.

(L) SAND shall consist of sand, free of organic material, loam, debris, frozen soil or other deleterious material which may be compressible. The sand shall be of uniform quality, friable, free from hard clods, stiff clay, hard pan, partially disintegrated stone, stones, lime, cement, ashes, slag, concrete, tar residues, tarred paper, gasoline, motor oil, or other petroleum hydrocarbons, boards, brush, weeds, stalks, roots, sods, chips, sticks or any other undesirable material. Invasive, nonnative seed shall not be allowed in the clean sand material.

Clean sand should conform to the following gradation requirements:

U.S. Standard Sieve Size	Percent Passing by Weight
No. 8	100
No. 10	15-100
No. 40	0-70
No. 60	0-12

**SECTION GI-2.14  
(NOT A PAY ITEM)  
MULCH**

**GI-2.14.1. INTENT**

This section describes mulch covered by Jute and Coir Mesh.

The Contractor shall furnish and place mulch in accordance with the NYC Department of Environmental Protection Standard Design and Guidelines for Green Infrastructure Practices drawings, specifications, and directions of the Engineer.

**GI-2.14.2. SUBMITTALS**

The Contractor shall furnish two (2) labeled samples of the Mulch intended for use in the work for approval and the Engineer's use. The label shall include the manufacturer's product name and the type of material. The Engineer reserves the right to reject on or after delivery any materials which do not, in his opinion, meet these specifications.

**GI-2.14.3. MATERIALS**

1. Material Description:

- a. Jute mesh shall be a uniform, open, plain weave cloth of undyed and unbleached single jute yarn. Jute mesh shall be furnished in rolled strips.
- b. Coir Mesh shall be of a uniform woven matting of single coir yarn made from high strength white (retted) coconut fiber.
- c. Wood Pegs: Shall be wedge shaped, approximately one inch by two inches by six inches (1" x 2" x 6").

2. The width of the mesh shall be approximately forty-five (45) inches or as specified or approved. Mesh shall be woven as follows:

- a. Approximately 60 warp ends per yard of width;
- b. Approximately 40 weft ends per linear yard.
- c. Weight of Mesh shall be a minimum of 11 ounces per square yard (plus or minus 5%).
- d. This yarn shall be of a loosely twisted construction having an average twist of not less than 1.6 turns per inch and shall not vary in thickness by more than one-half its normal diameter.

3. Smolder Resistance: The Mesh shall be treated so as to be smolder resistant, meeting the following conditions:

- a. The cloth shall be made resistant to smoldering and/or after-glow by treatment with non-leaching and non-toxic chemicals. The chemicals must be non-toxic to vegetation and the germination of seed. The chemicals used for this purpose must

resist leaching based on the equivalent of two inches of rain. The cloth itself shall bear some identification mark to differentiate it from untreated jute cloth.

- b. "Test Method" – When a lighted cigarette is placed on the upper or treated surface of the cloth, neither flame nor after-glow will proceed in any direction more than twelve inches (12") from the original position of the cigarette after it has burned out completely.

#### **GI-2.14.4 . METHODS**

Mulch shall be applied as a ground cover to the surface of all ROWB and ROWGS after the planting is completed. Mulch shall be applied to a uniform depth and shall be so distributed as to create a smooth, level cover. Mulch shall cut and placed within two (2) inches of tree and shrub stems. Plants shall not be covered.

Mulch shall be placed on topsoil and seeded areas as shown on the plans or where directed by the Engineer within areas without stretching so that it lays loosely on the soil and in contact with the soil at all points. The upper end of each roll of jute mesh shall be turned and buried to a depth of six (6) inches, with the soil.

Mulch shall be placed parallel to the slope and shall have a minimum lap of six (6) inches.

Jute mesh or coir mesh shall be held tightly to the soil by wood pegs driven firmly into the ground. Wood pegs shall be spaced not more than three (3) feet apart, along the sides of the jute mesh and not more than one (1) foot apart at roll ends or as determined by the Engineer.

**MAINTENANCE:** The Contractor shall maintain the areas of jute mesh or coir mesh installation until final acceptance of the contract. Maintenance shall consist of providing protection of jute mesh and the repair of areas damaged by equipment, erosion, fire, or other causes, to re-establish the grade and conditions of the area as specified.

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**SECTION GI-2.16**  
**(NOT A PAY ITEM)**  
**High Density Polyethylene (HDPE)**

**GI-2.16.1 INTENT**

This section describes High Density Polyethylene (HDPE) pipe, fittings, flanges, unions, couplings, as specified in the NYC Department of Environmental Protection Standard Design and Guidelines for Green Infrastructure Practices drawings, or as required for a complete installation. Furnish and install all HDPE pipe and fittings in accordance with the specifications, the manufacturers' recommendations, and approved shop drawings.

**GI-2.16.2 REFERENCES**

(A) HDPE pipe shall conform to the latest standards of the American National Standards Institute (ANSI), the American Society for Testing and Materials (ASTM), the American Water Works Association (AWWA) and the National Sanitation Foundation (NSF).

(B) HDPE pipe and fittings shall conform to the following ASTM and AASHTO standards:

1. ASTM D3212      Standard Specification for Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals
2. ASTM D3350      Standard Specification for Polyethylene Plastics Pipe and Fittings Materials
3. AASHTO M 252    Standard Specification for Corrugated Polyethylene Drainage Pipe
4. ASTM D1248      Standard Specification for Polyethylene Plastics Extrusion Materials for Wire and Cable
5. ASTM D7001      Standard Specification for Geocomposites for Pavement Edge Drains and other High-Flow Applications
6. ASTM D2321      Standard Practice for Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity-Flow Applications

**GI-2.16.3 SUBMITTALS**

(A) Submit catalog data for pipe, couplings, and other appurtenances.

**GI-2.16.4 CHEMICAL AND PHYSICAL REQUIREMENTS**

(A) The pipe shall be as uniform as commercially practicable in color, capacity, density, and other physical properties.

(B) The pipe shall be manufactured from high density polyethylene resin in accordance with ASTM D3350 and PPI TR4. The pipe shall conform to cell classification PE 424420C for PE42 under ASTM D-3350. The pipe material shall conform to the following cell classification requirements:

Property	Value	ASTM Test Procedure Designation
Density	0.955 gm/cm <sup>3</sup>	D 1505
Melt Flow Index	1.0	D 1238
Flexural Modulus	80,000 psi	D 790

Tensile Strength @ Yield	3,200 psi	D 638
ESCR	Max Failure = 50%	D1693
Hydraulic Design Basis	Not Pressure Rated	D 2837
<b>Property</b>	<b>Value</b>	<b>ASTM Test Procedure Designation</b>
UV Stabilizer	C, Black with 2-3% carbon black	D 3350

(C) The pipe shall contain no recycled materials or compounds.

(D) HDPE pipe shall be marked either continuously or on intervals not to exceed five (5) feet by indirect printing with the following information:

- (1) Name and/or trademark of the manufacturer.
- (2) Nominal pipe size.
- (3) Dimension Ratio (DR).
- (4) The letters PE followed by the polyethylene grade per ASTM D 1248, followed by the Hydrostatic Design Basis.
- (5) Manufacturing Standard Reference.
- (6) Production Code from which time and date of manufacture can be determined.

(E) Visible defects, such as cracks, creases, crazing, non-uniformly pigmented areas or undispersed raw materials shall not be acceptable and will result in rejection of the pipe by the Engineer.

(F) HDPE fittings shall be manufactured to the requirements of ASTM D 3212 and this Specification. Fabricated fittings shall be pressure rated to match the system piping.

#### **GI-2.16.5 MANUFACTURERS**

- (A) Advanced Drainage Systems, Inc. (ADS)  
4640 Trueman Blvd. Hilliard, OH 43026  
1-800-821-6710  
<http://www.ads-pipe.com>
- (B) Hancor, Inc.  
12370 Jacksontown Rd. #172  
Findlay, OH 45840  
1-888-367-7473  
<http://www.hancor.com>
- (C) LANE Enterprises, Inc.  
3905 Hartzdale Drive, Suite 514  
Camp Hill, PA 17011  
717-761-8175  
[www.lane-enterprises.com](http://www.lane-enterprises.com)

(D) Other manufacturers of equivalent products may be submitted for approval.

**GI-2.16.6. CONSTRUCTION METHODS**

- (A) Utilize care when lowering unit into the trench. Handle using nylon slings and two pick points.
- (B) When the unit consists of two sections, place the downstream section first. Properly lube the bell and spigot to connect and home the remaining section.
- (C) All connections to stormwater manholes, , stormwater inlets, junctions, and/or inlets should be grouted and water/soil tight.
- (D) Only use couplings to join standard lengths of pipe and as required to complete a straight run of pipe. Do not use couplings to join random lengths of pipe and cuttings from standard lengths.
- (E) Use reducing fittings for all changes in pipe size. Do not use bushings.
- (F) During construction, keep the lines free from foreign matter. The piping shall be left thoroughly clean to the satisfaction of the Engineer.

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**SECTION GI-2.16A  
(NOT A PAY ITEM)  
PVC PIPE**

**GI-2.16A.1. INTENT**

This section describes Polyvinyl Chloride (PVC) pipe, fittings, flanges, unions, couplings, as specified in these NYC Department of Environmental Protection Standard Design and Guidelines for Green Infrastructure Practices drawings, or as required for a complete installation. Furnish and install all PVC pipe and fittings in accordance with the specifications, the manufacturers' recommendations, and approved shop drawings.

**GI-2.16A.2. REFERENCES**

(A) PVC pipe shall conform to the latest standards of the American National Standards Institute (ANSI), the American Society for Testing and Materials (ASTM), the American Water Works Association (AWWA) and the National Sanitation Foundation (NSF).

(B) PVC pipe, gasket, and fittings shall conform to the following ASTM and AASHTO standards:

1. ASTM D3034 Standard Specification for Type PSM Poly(Vinyl Chloride) (PVC) Sewer Pipe and Fittings
2. ASTM D1784 Standard Specification for Rigid PVC Compounds and CPVC Compounds
3. ASTM D2412 Standard Test Method for Determination of External Loading Characteristics of Plastic Pipe by Parallel – Plate Loading
4. ASTM D3212 Standard Specification for Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals
5. ASTM D2321 Standard Practice for Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity-Flow Applications
6. ASTM D2152 Standard Test Method for Adequacy of Fusion of Extruded PVC Pipe and Molded Fittings by Acetone Immersion

**GI-2.16A.3. SUBMITTALS**

(A) Submit catalog data for pipe, couplings, and other appurtenances.

**GI-2.16A.4. CHEMICAL AND PHYSICAL REQUIREMENTS**

(A) The pipe shall be as uniform as commercially practicable in color, capacity, density and other physical properties.

(B) The pipe shall be manufactured from high density polyvinyl chloride in accordance with ASTM D1784. The pipe shall conform to cell classification 12354 under ASTM D1784. Pipes that conform to a different cell classification because one or more properties are superior to those of the specified classification are also acceptable. The pipe material shall conform to the following cell classification requirements:

Property	Value	ASTM Test Procedure Designation
Base Resin	PVC homopolymer	D 4216
Notched Izod	0.65 ft-lb/in	D 256
Tensile Strength	5,000 psi	D 638

Tensile Modulus	400,000 psi	D 638
DTUL @ 264 psi	154° F	D 648

- (C) The pipe shall contain no recycled materials or compounds.
- (D) PVC pipe shall be marked either continuously or on intervals not to exceed five (5) feet by indirect printing as specified in ASTM D1785
- (1) Name and/or trademark of the manufacturer.
  - (2) Nominal pipe size.
  - (3) Material designation code
  - (4) Dimension Ratio (DR).
  - (5) Manufacturing Standard Reference.
  - (6) Production Code from which time and date of manufacture can be determined.
- (E) Visible defects, such as cracks, creases, crazing, non-uniformly pigmented areas or undispersed raw materials shall not be acceptable and will result in rejection of the pipe by the Engineer.
- (F) PVC fittings shall be manufactured to the requirements of ASTM D 3212 and this Specification. Fabricated fittings shall be pressure rated to match the system piping.

#### **GI-2.16A.5. MANUFACTURERS**

- (A) Advanced Drainage Systems, Inc (ADS)  
4640 Trueman Blvd. Hilliard, OH 43026  
<http://www.ads-pipe.com>
- (B) Hancor, Inc.  
12370 Jacksontown Rd. #172  
Findlay, OH 45840  
<http://www.hancor.com>
- (C) Royal Municipal Solutions  
131 Regalcrest Court  
Woodbridge, ON L4L 8P3  
<http://www.royalbuildingproducts.com/>
- (D) National Pipe & Plastics, Inc.  
3421 Old Vestal Road  
Vestal, NY 13850  
<http://www.nationalpipe.com/>
- (E) Or an approved equivalent

#### **GI-2.16A.6. METHODS**

- (A) Utilize care when lowering unit into the trench. Handle using nylon slings and two pick points.



- (B) When the unit consists of two sections, place the downstream section first. Properly lube the bell and spigot to connect and home the remaining section.
- (C) Only use couplings to join standard lengths of pipe and as required to complete a straight run of pipe. Do not use couplings to join random lengths of pipe and cuttings from standard lengths.
- (D) During construction, keep the lines free from foreign matter. The piping shall be left thoroughly clean to the satisfaction of the Engineer.

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**SECTION GI-2.17  
(NOT A PAY ITEM)  
STONE GABION**

**GI-2.17.1. INTENT**

This section describes gabions. Stone Gabions shall be installed where required, as shown on the Standard Design and Guidelines for Green Infrastructure Practices drawings and in accordance with the specifications and the directions of the Engineer.

**GI-2.17.2. KIND**

(A) A gabion is a wire mesh container filled with stone at the project site to form a stable stone basket. The gabion shall have the shape and dimensions as shown on the Contract Drawings and as directed by the Engineer. Wire mesh openings shall be of the necessary size to contain the crushed stone.

(B) The wire mesh shall be non-raveling mesh made of twisting continuous pairs of wires to form hexagonal shaped openings which are interconnected to adjacent wires. The wire mesh shall be of sufficient strength to hold the open graded stone in place, and rigid enough to hold the shape as shown on the contract drawings. The wire shall be coated with PVC and shall be free from any cracks or breaks after the fabrication of the mesh. Fasteners used to assemble and interconnect the individual units shall be made of stainless steel.

(C) The stones for the gabion shall be between three (3) and four (4) inches in diameter. The stones shall meet the specifications of I-Pages Section GI-2.07 – Open Graded Stone Base.

**GI-2.17.3. CONSTRUCTION METHODS**

Gabions shall be filled with stone on site and installed as per the NYC Department of Environmental Protection Standard Design and Guidelines for Green Infrastructure Practices drawings, Contract Drawings, and as directed by the Engineer. The gabions are to be installed at all bioswales except those with Stone Columns or with Stormwater Inlet.

**GI-2.17.4 MANUFACTURERS**

- (A) Maccaferri  
10303 Governor Lane Boulevard  
Williamsport, Maryland 21795  
PH: 301-223-6910  
[www.maccaferri-usa.com/home/13890.html](http://www.maccaferri-usa.com/home/13890.html)
- (B) Terra Aqua Gabions, Inc.  
1415 North 32<sup>nd</sup> Street  
Fort Smith, Arkansas 72904  
PH: 800-736-9089  
[www.terraaqua.com](http://www.terraaqua.com)
- (C) Terra Aqua Gabions, Inc.  
Terra Aqua Gabions, Inc.  
1415 North 32nd Street  
Fort Smith, Arkansas 72904  
PH: 800-736-9089

(D) Or Approved Equal

**SECTION GI-2.19  
(NOT A PAY ITEM)  
HDPE STORMWATER CHAMBER**

**GI-2.19.1 . INTENT**

This section describes the HDPE STORMWATER CHAMBER. The purpose of the HDPE STORMWATER CHAMBER is to provide increased storm runoff detention capacity in a Right of Way Bioswale.

The Contractor shall furnish and install the HDPE stormwater chamber in accordance with the NYC Department of Environmental Protection Standard Design and Guidelines for Green Infrastructure Practices drawings, specifications, and directions of the Engineer.

**GI-2.19.2 . MATERIAL**

The stormwater chamber shall be manufactured of high molecular weight high density polyethylene in an ISO-9001 certified manufacturing facility and meet ASTM D 3350 Cell Class 324420C. Chambers will be manufactured with an open bottom and side walls. If approved by the manufacturer, the units may be trimmed to custom length. The stormwater chamber should conform to the dimensions as shown in the Contract Drawings and the NYC Department of Environmental Protection Standard Design and Guidelines for Green Infrastructure Practices drawings with placement on bedding and backfill as shown. The minimum acceptable storage volume shall be 2 cubic feet per linear foot.

**GI-2.19.3 . SUBMITTALS**

(A) The Contractor, prior to the start of work, shall submit to the Engineer for approval catalog samples and cut sheets of the proposed material including certification that materials meet specified requirements and proposed dimensions of the Contract Drawings Drawings and NYC Department of Environmental Protection Standard Design and Guidelines for Green Infrastructure Practices drawings.

**GI-2.19.4 . CONSTRUCTION  
METHODS**

- (A) Delivery - Deliver materials to site in manufacturer's original, unopened packaging, with labels clearly identifying product name and manufacturer.
- (B) Storage - Store materials in clean, dry area in accordance with manufacturer's instructions.
- (C) Handling - Protect materials during handling and installation to prevent damage.
- (D) Prior to the installation of the stormwater chamber, the Contractor shall excavate the Bioswale area to the satisfaction of the Engineer.
- (E) Install stone base, stormwater chamber, and backfill as indicated on the NYC Department of Environmental Protection Standard Design and Guidelines for Green Infrastructure Practices drawings.

**GI-2.19.5. MANUFACTURERS**

- (A) CULTEC Inc.  
P.O. Box 280  
878 Federal Rd.  
Brookfield, CT 06804  
203-775-4416  
[www.cultech.com](http://www.cultech.com)
- (B) Stormtech  
StormTech LLC  
20 Beaver Road, Suite 104  
Wethersfield, CT 06109  
PH: 860-529-8188  
[www.stormtech.com](http://www.stormtech.com)
- (C) Or approved equivalent

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**SECTION GI-4.02  
(NOT A PAY ITEM)  
EARTH EXCAVATION**

**GI-4.02.1. DEFINITION, EARTH EXCAVATION**

(A) Earth Excavation shall include the excavation, removal and disposal of all materials of whatever nature encountered in the prosecution of the work, unless otherwise specified. All materials of whatever nature encountered shall be defined as including, but not limited to, the following:

- (1) soil;
- (2) stones;
- (3) soft weathered rock that can be excavated by mechanical means other than air hammer or drilling and blasting;
- (4) miscellaneous fill and refuse, trees under four (4") inches caliper, stumps up to 6" diameter, anything thrown away or rejected as worthless or useless (both organic and inorganic material) that can be excavated by mechanical means other than air hammer or burning and cutting;
- (5) sidewalk pavements (all types) within limits of trenches and excavations and cutbacks;

(B) Earth Excavation shall not include the following:

- (1) boulders in open cut as defined in Subsection 4.03.1 of the NYC Department of Transportation Standard Highway Specifications;
- (2) contaminated or hazardous materials that materially affect the cost of removal and disposal to the Contractor; and,
- (3) existing man-made objects or structures that are not shown on the contract drawings or indicated in the specifications, that could not reasonably have been anticipated by the Contractor, were not anticipated by the City, and which materially affect the cost of removal and disposal to the Contractor, as determined by the Commissioner.

(C) If the City anticipates that any of the items in paragraph (B) above need to be excavated and disposed of, a separate contract item will be included in this contract.

If a separate contract item is not included in the contract and the City determines: (1) that the Contractor could not have reasonably anticipated that such materials would need to be excavated and disposed of; and, (2) that such excavation and disposal would materially affect the Contractor's costs; then such excavation and disposal shall be paid for as Extra Work under Article 26 of the Standard Construction Contract.

**GI-4.02.2. RELATED SPECIFICATIONS**

**SECTION 6.02 – Unclassified Excavation of NYC Department of Transportation Standard Highway Specifications**

**GI-4.02.3. EXECUTION**

(A) The Contractor shall excavate all materials to the established lines and grades for the construction of all facilities included in this Contract, or as shown and specified, in accordance with the requirements of Section 6.02 of the NYC Department of Transportation Standard Highway Specifications, except as otherwise specified herein. Excavation shall include removing boulders of size less than one-half cubic yard. The limits of excavation shown on the drawings indicate the extent of work to be performed by the Contractor. The Contractor shall furnish and install any temporary side slope supports, bracing, and sheet piling required to perform the excavation to the depths and limits indicated.

(B) Water in Excavations - Prior to starting the work, the Contractor shall submit to the Engineer for approval, a detailed description of the method he proposes to use to prevent the collection of water in excavation during construction, including a coordinated sequence of operation for the entire project. Such prevention shall include, but not be limited to, providing drainage and diversion of runoffs by means of sandbagging and/or removal by pumping. Approval by the Engineer will not relieve the Contractor of his responsibility for the safety of the work, existing structures and adjacent property.

(C) Protection of Underground Utilities - Determine location of underground utilities and perform work in a way that shall avoid possible damage. Hand excavate as required. The Contractor assumes responsibility for damage to underground utilities when excavating and is required to call "One Call" @ 800-272-4480 a service that marks underground facilities on the surface, prior to excavation. Maintain grade stakes set by others until removal is approved by Engineer. However, the Contractor is advised that the provisions of 16 NYCRR Part 753 ("One Call") do not apply to City owned utilities. It shall be the Contractor's responsibility to determine the location of the City owned underground distribution systems. The Contractor shall make his own field observations and research the City's records to determine the location of such facilities before the commencement of excavation.

(D) Trees, Shrubs, and Grassed Areas: Trees, shrubs and grassed areas which are to remain shall be protected by fences, barricades, wrapping or other methods as shown, specified or approved by the Engineer and shall be replaced at no added cost to the City in the event they are destroyed or damaged as a result of excavation and or dewatering by the Contractor. Trees shall not be removed without approval of the Engineer unless shown on the Contract Drawings or specified herein. Dewatering shall be done as per Section GI-5.02, contained herein.

(E) Vehicles used to transport excavated materials to disposal sites shall, when traveling, be watertight and of such a construction as to prevent spillage. All method of transportation and disposal shall be subject to the approval of the Engineer.

(F) The Contractor shall provide a final Survey Data Report for each site which shall include, but not be limited to, the excavation area after all excavation work under this Section has been completed. This report shall include measurements of all final dimensions of the excavation area. The Contractor shall employ a tripod-supported auto-fire or auto-scan laser with built-in angle and distance measurements and software capabilities. No separate payment will be made for this work, the cost of which shall be deemed included under this Item GI-4.02.

**SECTION GI-4.03  
(NOT A PAY ITEM)  
EXCAVATION OF BOULDERS IN OPEN CUT**

**GI-4.03.1. DEFINITION**

Excavation of boulders in open cut shall include the excavation, removal and disposal of boulders or parts thereof from within the excavation limits, more than one-half (1/2) cubic yard in volume. The term boulders as used herein shall include riprap, rock fill, thrust blocks and loose masonry. It shall not include pavement and pavement foundation, or existing sewer or water main structures.

**GI-4.03.2. REMOVAL**

The Contractor may elect to remove an entire boulder when partly extending into the trench. Boulders shall be removed from the site of the work immediately after being excavated and measurements taken by the Engineer. Excavated boulders shall become the Contractor's property and shall be properly disposed from the site of the work at the Contractor's expense.

**GI-4.03.3. NO SEPARATE PAYMENT**

No separate or additional payment will be made for excavating, removal and disposal of boulders one-half (1/2) cubic yard or less in volume, the cost thereof shall be deemed included in the prices bid for all items of this contract.

No separate or additional payment will be made whenever the Contractor elects to remove an entire boulder that extends partly into the excavation limits. Payment will only be made for that volume of the boulder that is within the excavation limits. No separate or additional payment will be made for the removal of boulders or for the filling of voids left by the removal of boulders beyond the limits of excavation.

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**SECTION GI-5.02  
(NOT A PAY ITEM)  
DEWATERING**

**GI-5.02.1. DESCRIPTION**

Construction dewatering shall consist of controlling surface water such that excavation required on the Contract Drawings can be performed to required depths in substantially dry and stable conditions.

**GI-5.02.2 MATERIALS**

(A) All pumps used in the dewatering operation shall be electric and shall be powered directly from a Con Edison drop, unless otherwise unavailable.

**GI-5.02.3. CONSTRUCTION METHODS**

(A) The Contractor shall at all times during the progress of the work keep the excavations free from water. The water from the excavations shall be disposed of in such a manner as will not cause injury to the public health, nor to public or private property, nor to the work completed or in progress, nor to the surface of the streets, nor cause any interference with the use of the same by the public. All sewers used for disposal of water from the excavation during construction shall be acceptably cleaned.

(B) Surface water on and around the site shall be collected into local sumps by means of trenches, pipes, or other means. The Contractor shall discharge the water into the City wastewater collection system. Direct surface water to minimize surface erosion, ponding and softening of slopes and berms, including haul roads and equipment working stations. Slope protection by means of polyethylene sheets, held in place by tires or otherwise, shall be provided locally as required. At the perimeter of the excavation, surface water is to be directed into the storm sewer system and not permitted to enter the excavation. Curbs shall be maintained and, where necessary, extended across intersections, curb cuts and defective curb sections.

(C) The Contractor shall, with the Contractor's own equipment, provide dewatering where required at no additional cost to the City. The cost for all labor, equipment, materials, etc. required to dispose of water from the excavation shall be deemed included in the prices bid for all items of the contract.

(D) All dewatering and discharge pipes and hoses which cross traveled roadways shall be placed in such a manner so as to eliminate any disruption of traffic flow.

**GI-5.02.4. MEASUREMENT AND PAYMENT**

No separate payment will be made for this work, the cost of which shall be deemed to be included under all scheduled items.



**SECTION GI-5.05  
(NOT A PAY ITEM)  
PLANTING TREES IN RIGHT OF WAY BIOSWALES,  
RIGHT OF WAY RAIN GARDEN AND STORMWATER GREENSTREETS**

**GI-5.05.1 DESCRIPTION**

The Contractor shall provide all labor, materials, equipment, insurance, and incidentals required to furnish and plant the scheduled trees in the bioswale, as shown on the Contract Drawings, the NYC Department of Environmental Protection Standard Design and Guidelines for Green Infrastructure Practices drawings and in accordance with the specifications and the directions of the Engineer.

**GI-5.05.2 SUBMITTALS**

(A) Before digging the pits, the Contractor shall submit, for approval, his method of soil preparation and planting to perform the work shown on the plans. Soil amendments shall be thoroughly mixed by approved methods. The soil around each plant shall be thoroughly saturated with water upon planting. Subsequent watering and weeding shall be provided under the requirements of Section GI-5.09, contained herein, at no additional cost.

(B) List of Materials/Suppliers: Submit a complete materials list (e.g., trees, mulch, cedar stakes, shrubs, etc.) of items to be provided under this section, for review by the Engineer or representative before the purchase or use of any such material.

(C) Method of Work: Submit a list of proposed methods of execution of work under this section for review by the Engineer when proposed methods are different from, or supplementary to, those specified herein.

(D) The Contractor must submit the following information to the Engineer immediately following the Notice to Proceed:

(1) Subcontractor(s): The name of a Landscaping Contractor, acceptable to the Engineer, who will be performing all landscaping work (seeding and woody plant material). The proposed subcontractor will be evaluated on the following criteria:

- a. Prior satisfactory experience in the installation of Green Infrastructure Systems.
- b. Demonstrated capacity to accomplish the work in the time allotted. Qualifications of the Contractor's arborist, certified by the International Society of Arboriculture (ISA), who shall be required to be present on site while landscaping work is in progress.
- c. Landscaping experience with other agencies, such as the New York City Department of Environmental Protection (DEP) and the New York City Department of Parks and Recreation. Provide references and a specific contact person.
- d. Membership with appropriate ecological restoration organizations.
- e. Other references or experience deemed appropriate to obtaining approval.
- f. The following is required prior to the start of landscaping work:
  - 1) List of all materials and certificates specified within this item.
  - 2) Schedule/Methods of Operation/Maintenance Plan (which is up to the end of maintenance period specified in the Schedule A of this project).

- 3) List of all equipment to be used.

### **GI-5.05.3                      QUALITY CONTROL**

#### **Sources**

(A) Primary Source. All trees obtained from nurseries must have been produced by plants with a provenance from within a 250-mile radius of the planting site. The Contractor shall submit written verification from the nurseries on their letterhead (submittals on contractor letterhead will be rejected), certifying the collection location of plant species seed sources and cuttings (when applicable) for all plant material used on this project. However, a reasonable effort shall be made to obtain sources of plants as close to the planting site as possible. All plants grown and/or originating from outside the 250-mile radius will be rejected. In addition, all plants must have been grown within the 6a to 7a, inclusive, USDA Plant Hardiness Zones as that of the planting site. No substitutions of specified plants will be accepted without the written permission of Engineer.

Ship landscape materials with certificates of inspection when required by governmental authorities. Comply with governing regulations applicable to landscape materials.

(1) Nurseries that collect plants from the wild will be rejected.

(2) If specified landscape material is not obtainable, submit proof of non-availability, with written proposal for use of equivalent material to Engineer.

(3) The Contractor shall provide trees of quantity, size, genus, species shown and scheduled for landscape work and complying with recommendations and requirements of ANSI Z60.1 "American Standard for Nursery Stock" as referenced above (e.g., container size, plant height, number of stems, etc.). The Contractor shall provide healthy, vigorous stock, grown by a professional nursery in accordance with good horticultural practices and free of diseases, insects, eggs, larvae and defects including, but not limited to, knots, sun-scald, injuries, abrasions, or disfigurement.

(4) All plants furnished under this Item shall be true to name. Plant names shall agree with the nomenclature of "Manual of Vascular Plants of the Northeast United States and Canada," Gleason and Cronquist, 1991. Size and grading shall conform to those of the American Association of Nurserymen.

#### **Inspection of Plant Material at Nursery**

(A) The Engineer or his representative shall inspect all plant material used on this project at the place of growth before planting, for compliance with requirements for genus, species, variety, size and quality. The Contractor shall be responsible for all inspection costs beyond a 50-mile radius from the planting Site.

(B) The Engineer or his representative retains the right to further inspect all plant material for size and condition of root system, insects, injuries and latent defects, and to reject unsatisfactory or defective material anytime during the progress of work. The Contractor shall remove rejected plant material from the project site immediately upon notification without compensation.

(C) Only tagged samples of plant material shall be delivered to the site and planted in locations approved by the Engineer or representative.

(D) The Contractor shall be responsible for all certificates of inspection of plant materials that may be required by Federal, State or other authorities to accompany each shipment of plants and on arrival, the certificates shall be filed with the Engineer.

#### **GI-5.05.4. METHODS**

(A) Plants shall be delivered only when preparations for planting have been completed and plants can immediately be installed. If planting is delayed for more than six hours after delivery, set plant material in shade, protect from mechanical damage and keep roots moist by covering with mulch, burlap or other acceptable means of retaining moisture, watering as necessary.

(B) All plants shall be subject to inspection and approval by the Engineer. Plants required for the work will be inspected and tagged at the place of growth before being dug. The Contractor shall be responsible for all costs related to inspection of plant material by the Engineer beyond a radius of 50 miles from New York City. Selection and/or tagging of material shall cover the type and quality of the plant only, but shall not constitute final acceptance nor preclude the right of rejecting plants not fully meeting the requirements of the specifications. No plant material shall be accepted without prior nomenclature labeling at the nursery of origin. The nursery label must display the full botanical name of the plant.

(C) Cultivars or varieties are not acceptable and written verification from the nurseries certifying this requirement will be required on all plant material. The Contractor should only consider straight species when ordering plant material.

(D) Each shipment of plants must be declared and certified free of diseases of any kind with such necessary inspection certificates accompanying each shipment.

(E) All nursery stock furnished by the Contractor shall be subject to inspection within 48-hours after delivery of said stock. The plants shall also be subject to such inspection during the life of the Contract, and infestations occurring on the stock as a result of conditions existing prior to the receipt of the plants on the project shall be cause for rejection.

(F) The time of planting is subject to the type and size of the material, method of planting and approved planting schedule. The Contractor shall furnish a certification from the nursery regarding the date of digging for all applicable plant material.

(G) Unless otherwise directed by the Engineer in consultation with the NYC Department of Parks and Recreation Green Infrastructure Liaison, plant material may be transplanted from March 1st to May 1st and from October 15th to December 15th or as weather permits; deciduous material shall be planted from March 1st to May 1st and October 15th to December 15th or as weather permits. Evergreen material shall be planted from April 1st to May 15th and from September 1st to October 15th or as weather permits. No plant material shall be planted when the ground is frozen or in excessively moist condition. Notify the Engineer and NYC Department of Parks and Recreation Green Infrastructure Liaison at least three days (excluding weekends) in advance before proceeding with any planting operations. In case the planting season is missed for any reason, the Contractor shall cover the soil with mulch. Mulch shall comply with the requirements of Section PM-01 through PM-24 - Woody and Herbaceous Plant Material, contained herein.

(1) No shipment of plant materials shall be unloaded or planted by the Contractor until such materials have been inspected and accepted by the Engineer, and inspection certificates, if any, have been delivered.

(2) The Contractor shall proceed with and complete work expeditiously, working within the seasonal limitations for each kind of landscape work required.

(3) Determine location of underground utilities and perform work in a way that shall avoid possible damage. Hand excavate, as required. The Contractor assumes responsibility for damage to underground utilities when excavating and is required to call "One Call" @ 800-272-4480 a service that marks underground facilities on the surface, prior to excavation. Maintain grade stakes set by others until removal is approved by Engineer. The Contractor is advised that the provisions of 16 NYCRR Part 753 ("One Call") do not apply to City owned utilities. It shall be the Contractor's responsibility to determine the location of the City owned underground distribution systems. The Contractor shall make his own field observations and research the City's records to determine the location of such facilities before the commencement of excavation.

(4) When conditions detrimental to plant growth are encountered, such as rubble fill, adverse drainage conditions or obstructions, notify Engineer before planting.

(5) The Contractor shall furnish a certification from the nursery regarding the date of digging. All appropriate plant material shall be sprayed in the nursery within 48 hours prior to digging with an approved anti-desiccant.

(H) Sizes of planting pits shall be as proposed in the Contractors approved shop drawing submittals.

(I) All plant material shall be thoroughly watered immediately after installation. Planting will not be permitted unless a water truck is on site and made available whenever the Contractor is installing plant material. Refer to I-Pages, Section GI-5.09 – Watering and Weeding During Maintenance Period.

(J) Anti-desiccant spraying - Unless otherwise directed all trees shall be sprayed with an approved anti-desiccant (Wilt Pruf NFC or approved equivalent) using a power sprayer to apply adequate coverage, according to manufacturer's directions, over trunks, branches, twigs and foliage as directed by and in the presence of the Engineer. The Contractor is to read the product label carefully as some plant material can be injured from the application of an anti-transpirant. The material to be used shall be emulsions or other materials that will provide a protective film over plant surfaces, yet permeable enough to permit transpiration. The time of spraying shall be as follows, unless otherwise directed by the Engineer:

Deciduous: Spring planting - Apply when leaves have reached seventy-five percent (75%) of mature size.

(K) Where deemed necessary by the Engineer, stakes for supporting trees shall be White or Red cedar, with a minimum diameter of three inches. Contractor shall use Camb Guards rubber supporting straps for trees model # 92-111, 92-112, or 92-113 by Keslick and Son Modern Arboriculture, 214 N Penn Street, West Chester PA, 19380 (610)-696-5353 or approved equal. Camb Guards around tree trunk and stake shall be fastened in such a manner as to allow slight movement of trunk.

## Camb Guard ® Specifications

Tree Diameter	Model Number
2" or less	92-113
2" or larger	92-112 or 92-111

(L) In natural area plantings, Engineer will field determine if stakes are required. If it is determined that staking is required, a modified staking system shall be used. The modified stakes shall be shorter than conventional stakes. In either situation, stakes shall be maintained by the Contractor until the end of the maintenance period or as directed by the Engineer. The Contractor shall remove all stakes and camb guards at the end of the-maintenance period or as directed by the Engineer.

**GI-5.05.5. PLANT SCHEDULE**

(A) No planting shall be done except in the presence of the Engineer and in accordance with the planting season as described in Subsection GI-5.05.4.(G). While trees with exposed roots are being distributed in planting beds or are awaiting planting after distribution, the Contractor shall protect the roots from drying out; the means employed shall be satisfactory to the Engineer. All trees shall stand, after settlement, at the same level at which they have grown. Care shall be exercised in setting the plants plumb. All ropes, stones, etc., shall be removed from the pit before backfilling. Soil for backfilling shall be loose and friable.

Planting Schedule

Deciduous      March 1 to May 1 and October 15 to December 15

Evergreen      April 1 to May 15 and September 1 to October 15

(B) Approval of new plantings in each Bioswale will not occur until all landscaping work has been completed. The Contractor shall be responsible for maintaining all new planted trees.

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**SECTION GI-5.06  
(NOT A PAY ITEM)  
TREES (PROTECTION, PRUNING, REMOVAL, STUMP REMOVAL,  
TRANSPLANTING AND PLANTING)**

**GI-5.06.1. DESCRIPTION**

Trees (Transplanting And Planting) shall be done in accordance with **New York City Department of Transportation (NYCDOT) Standard Highway Specifications Section 4.16 - Trees (Removal, Transplanting, Planting)**. However, all tree and stump removals shall be done under the appropriate scheduled contract items.

Tree Pruning shall be done in accordance with **New York City Department of Transportation (NYCDOT) Standard Highway Specifications Section 4.18 - Tree Pruning**.

Protective Tree Barrier shall be done in accordance with **Subsection 1.06.5 and New York City Department of Transportation (NYCDOT) Standard Highway Specifications Section 4.22 - Protective Tree Barrier**.

Tree Consultant shall be in accordance with New York City Department of Transportation (NYCDOT) Standard Highway Specifications Section 4.21 – Tree Consultant.

**GI-5.06.2. PROTECTION OF EXISTING TREES AND SHRUBS:**

In all cases where the Department of Parks and Recreation's Green Infrastructure liaison has determined that construction work will impact the critical root zone of existing trees, the Contractor is responsible for the formulation of a Tree Protection Plan in consultation with a Tree Consultant.

This plan should include, but not necessarily be limited to, the location of pavements to be removed within critical root zones, temporary wooden tree guards, construction fence or temporary snow fence boundaries, areas to be excavated by hand and/or pneumatic methods, soil compaction prevention and mitigation requirements, and impacts of trenching and/or cut and fill operations.

In addition, the plan should address the Contractor's operations, including designated staging areas, site access and stockpiling of materials.

Mandatory provisions of the Tree Protection Plan shall always include, but are not limited to, the following provisions:

A. The Contractor shall not be permitted to park vehicles or equipment or to stockpile materials of any nature under the drip line of trees and shrubs in order to minimize surface and subsurface root damage and soil compaction. This directive shall apply to all areas within or outside the contract limit line.

B. All tree pruning, tree removal and tree decompaction is to be performed by an arborist holding a current certification from the International Society of Arboriculture (ISA).

C. All contact between equipment and overhead tree limbs should be avoided. Bending or breakage of limbs is prohibited. If clearance pruning is proposed, it shall not take place without the written permission of the Borough Forester, and then shall only be performed with professional equipment as per the NYC Department of Parks and Recreation's

standards and specifications for such work.

- D. All trees within or adjacent to the limits of disturbance are to receive at least one (1) inch (the equivalent of 750 gallons of water per 1000 square feet of tree protection zone) of water per week between the months of March and October as directed by the Engineer in consultation with the Tree Consultant and/or the NYC Department of Parks and Recreation Borough Forester. If rainwater in any given week is below this quantity, the Contractor must supplement the amount received by utilizing soaker hoses or as directed by the the Engineer in consultation with Tree Consultant and/or the NYC Department of Parks and Recreation Borough Forester. If a water source is unavailable at the site, then the Contractor must provide tree irrigation bags or a water truck to apply the requisite amount of water.
- E. Where excavations occur within the critical root zone for the removal of existing features or installations of new work, the excavated area shall be backfilled immediately. Where exposed roots cannot be backfilled immediately the Contractor may, for a period of time not exceeding forty-eight (48) hours, treat roots by covering them with moistened fabric or burlap covered with white plastic. This treatment shall be checked a minimum of two (2) times a day to ensure that roots are kept moist at all times. These checks are to occur once in the morning and once in the afternoon. If directed by the the Engineer in consultation with Tree Consultant and/or the NYC Department of Parks and Recreation Borough Forester, soaker hoses shall be installed to facilitate adequately moist conditions. No pooling of water or continuous running water shall occur within the critical root zones other than that during the irrigation process.
- F. Any excavation within the critical root zone as indicated on the plans or by the the Engineer in consultation with Tree Consultant shall be performed by hand. This work includes but is not limited to the breaking of concrete or asphalt with a pneumatic (jack) hammer and excavation of soils/fill with pneumatic tools (air spade or air knife) or shovel, or approved equivalent. All excavation within the critical root zone shall be performed under the supervision of a Tree Consultant.
- G. The Contractor shall exercise extreme care in removing concrete or asphalt within the tree protection zone, lifting rather than dragging paving pieces. Tools and equipment for this activity shall be approved by the Engineer in consultation with Tree Consultant or the NYC Department of Parks and Recreation Borough Forester prior to the start of excavation.
- H. If directed by the the Engineer in consultation with Tree Consultant and/or Borough Forester, the critical root zone of a tree shall be covered with woodchips to a depth of at least six (6) inches in order to protect roots from damage caused by heavy equipment. Such covering shall be maintained during the course of construction and removed after the end of construction. Removal shall be by hand or as specified by the Engineer in consultation with Tree Consultant and/or the NYC Department of Parks and Recreation Borough Forester.
- I. Roots over 1" in diameter shall not be cut without the written permission of the Engineer in consultation with Tree Consultant or Borough Forester or his designated representative.
- J. Protective fencing, pruning, tree guards, woodchips shall be paid for separately as per the drawings or as directed by the Engineer in consultation with Borough Forester .
- K. Tree guards with tree wraps as specified by the NYC Department of Parks and Recreation shall be installed on all trees within or adjacent to the limits of disturbance as directed by the the Engineer in consultation with Tree Consultant or the NYC Department of

Parks and Recreation Borough Forester. Protective fencing shall be installed along the perimeter of the tree protection zones for individual trees or groups of trees within or adjacent to the limits of disturbance or as directed by the the Engineer in consultation with Tree Consultant or the NYC Department of Parks and Recreation Borough Forester.

L. Fencing material shall follow NYC Department of Parks and Recreation's specifications and standards and shall be construction (chain link) fencing or orange polyethylene (snow) fencings or range fencing, as specified by the Engineer in consultation with Borough Forester, or his designated representative. The minimum height of fencing shall be four (4) feet.

M. Fences and tree guards shall not be removed or moved without written permission of the the Engineer in consultation with Tree Consultant or the the NYC Department of Parks and Recreation Borough Forester.

N. All tree protection fenced zones shall be so indicated with signage posted visibly on the fenced in area as directed by the the Engineer in consultation with Tree Consultant or the the NYC Department of Parks and Recreation Borough Forester. Wording shall read "Tree Protection Zone".

O. Signs will be provided by the NYC Department of Parks and Recreation. Contractor is to be held responsible for fixing and maintaining signs for the duration of the Contract.

P. Planting beds within critical root zones may only be installed in the presence of the Tree Consultant or the the NYC Department of Parks and Recreation Borough Forester. All excavation and plant installation is to be done by hand, with minimal soil disturbance. No roots over 1" in diameter shall be cut without the written authorization of the the NYC Department of Parks and Recreation Borough Forester. Plants shall not be placed within 3 feet of the tree trunk unless directed by the the Engineer in consultation with Tree Consultant or the NYC Department of Parks and Recreation Borough Forester.

## REMEDIATION:

In the event of damages to trees and shrubs resulting from the Contractor's work, as determined by the the NYC Department of Parks and Recreation Borough Forester, the following shall apply:

At the completion of the construction project and in response to field conditions, any of the following site restoration/mitigation measures may be required by the NYC Department of Parks and Recreation in addition to those specified in the Tree Protection Plan. These measures shall be assumed at the expense of the Contractor and shall not be done without the approval of the the NYC Department of Parks and Recreation Borough Forester.

- a. Decompact tree. See Subsection GI-5.06.3, below.
- b. Pneumatic excavation. See I-Pages Section 6.02 PA, contained herein. There will be no separate payment for this item.
- c. Pruning of dead or diseased tree branches.
- d. Root collar excavation, to remove any soil that accumulated around the base of the tree during construction.
- e. Tree irrigation, for up to one year after the end of construction. Method shall be as per I-Pages



Section GI-5.09.

- f. Soil replacement in eroded areas.
- g. Root pruning.
- h. Bark tracing.

**DAMAGE ASSESSMENT:**

- a. Tree damage. For trees that are damaged during the course of construction, a monetary credit shall be taken. The monetary assessment shall be the difference between the tree's condition rating, as per the International Society of Arboriculture appraisal method, before and after the damage. The damage assessment shall be determined by the Borough Forester.
- b. Tree Destruction. Any trees irreparably damaged during the course of construction, as determined by the NYC Department of Parks and Recreation Borough Forester, shall be removed at the Contractor's sole expense. Restitution shall be made according to the New York City Tree Valuation Protocol, as determined by the NYC Department of Parks and Recreation. Restitution can be met by the Contractor through the following options:
  - (1) Direct planting by the Contractor or its subcontractor of the required equivalent number of replacement trees at locations determined by Central Forestry (for street trees) and the Borough Forester (for parks and natural areas); or
  - (2) A monetary credit for the value of the tree destroyed; or
  - (3) A combination of (1) and (2) above, as determined by NYC Department of Parks and Recreation Central Forestry and/or the NYC Department of Parks and Recreation Borough Forester. If the Contractor plants some replacement trees, a monetary credit shall be taken for the difference between the full value of the destroyed tree and the value of the number of replacement trees planted.
- c. Tree Removal. Restitution for any prohibited tree removals shall be made according to the New York City Tree Valuation Protocol, with adjustments for tree condition as per the International Society of Arboriculture appraisal method, as determined by the NYC Department of Parks and Recreation.

Tree protection deficiencies. In addition to the remedial actions described above, failure to follow the tree protection guidelines in this Article will result in assessment of liquidated damages. When a tree protection deficiency, as determined by the NYC Department of Parks and Recreation Borough Forester, is identified, it must be remedied within 24 hours of notification by the NYC Department of Parks and Recreation. Failure to correct the deficiency within this timeframe will result in a liquidated damages assessment of \$300 for each day, or part thereof, that the tree protection deficiency is not remedied.

**GI-5.06.3. DECOMPACT TREE OVER 6" TO 12" DBH:**

**WORK:**

Under this Item, the Contractor's arborist shall **DECOMPACT TREE OVER 6" TO 12" DBH**, in accordance with the plans, specifications, and as directed by a the Engineer in consultation with Tree Consultant (Item 4.21) and/or the Engineer.

Note: DBH is defined as Diameter at Breast Height, which is 4'-6" above mean grade.

**NOTIFICATION:**

Before any pruning work can begin under this item, the NYC Department of Parks and Recreation Borough Forestry must be notified a minimum of 48 hours prior to beginning work. The NYC Department of Parks and Recreation Borough Forestry contacts are as follows:

Bronx: (718) 430-1877

Brooklyn: (718) 965-7750

Manhattan: (212) 860-1845

Queens: (718) 393-7373

Staten Island: (718) 390-2080

All of the following information and instructions are subject to the approval and direction of the NYC Department of Parks and Recreation Borough Forester.

**QUALIFICATIONS REQUIRED:**

All work shall be performed by a qualified arborist. A current certification by the International Society of Arboriculture (I.S.A.), shall be considered proof of the requisite experience and educational requirements and as directed by the Engineer.

**MATERIALS:**

Compost: shall contain organic matter, or material of generally humus nature capable of sustaining the growth of vegetation, with no admixture of refuse or material toxic to plant growth. The Compost shall be free of pathogens and stones, lumps, or similar objects larger than two inches (2") in greatest diameter, as well as roots, brush, and weeds.

Composts that have been derived from organic wastes such as food and agriculture residues, animal manures, and sewage sludge that meet the above requirements, and are approved by the New York State DEC, are acceptable compost sources. Compost shall have an approximate N-P-K analysis of at least 1-1-0 as delivered, with a pH between 5.5 and 8.0 and a solids content of at least fifty percent (50%). Compost shall have a minimum of twenty five (25%) to a maximum of fifty percent (50%) organic material.

Compost shall be from Long Island Compost, Islip, NY or "Nature's Choice Compost" by Nature's Choice Corp., Union, NJ, or Agresoil compost by Agresource, Inc. Amesbury, MA or approved equal. Organic biosolids are not acceptable. Compost available from NYC Department of Sanitation may be acceptable for purposes of this specification. See [www.nyc.gov/sanitation](http://www.nyc.gov/sanitation) or [www.nyccompost.org](http://www.nyccompost.org) for pick-up sites.

**METHOD:**

Where specified, existing trees to remain shall be decompacted after completion of construction operations including excavation, paving, pruning, and backfilling. Decompaction shall be performed utilizing one of the three methods listed below as shown on the contract tree protection plan or as determined by the Engineer in consultation with the supervising Tree Consultant or the NYC Department of Parks and Recreation Borough Forester. All tree root protection shall be removed prior to starting decompaction and decompaction shall not be performed in frozen ground conditions.

1. Air-Tilling of the Critical Root Zone Method: Using a pneumatic device, the area within a 3 to 5 foot radius of the tree stem, and specified on the Tree Protection Plan, is to be tilled to a depth of 6 to 8-inches using a compressed air gun. Compost backfill shall be applied to the area at a depth of 1-inch and tilled into the soil using a compressed air gun. The area shall be top dressed with four-inches (4") of shredded bark mulch and thoroughly watered (paid under a separate item).

2. Radial Trenching Method: Using a pneumatic device, narrow trenches, 18 to 24-inches wide, shall be cut in a radial pattern throughout the root zone. These trenches appear similar to the spokes of a wagon wheel. The trenches shall begin two (2') feet from the trunk of the tree and between buttress roots to avoid cutting any major support roots. The trenches should extend at least as far as the dripline of the tree. The trenches shall be 8-12 inches in depth. Compost backfill shall be used to fill the trenches. Where required, fertilizer may be mixed with the compost and applied. The area shall be thoroughly watered after completion.

3. Vertical Mulching Method: Three inch (3") diameter holes shall be excavated 12" deep, spaced 30" on center in a grid pattern throughout the root zone of the tree. Proposed tools and methodology for this work must be submitted and approved by the Director of Capital Arboriculture and Horticulture or his or her designated representative. Compost backfill shall be used to fill the holes and the area shall be thoroughly watered after completion.

Tree DBH Number of 3" Dia. Holes

0-6"	40
6-12"	60
12-18"	80
18-24"	100
24-30"	120
30-36"	160
36-42"	180
42-48"	200
over 48"	220

Where a pneumatic device is required, work shall be performed with a device such as an Air-Spade® CGP System, as manufactured by Concept Engineering Group, Inc. Verona, PA, or approved equal. The Contractor shall provide a compressor unit for operating the pneumatic excavator rated at one hundred fifty standard cubic feet per minute (150 scfm) at ninety pounds per square foot gauge (90 psfg). Different nozzles may be used on the air spade to expedite the work or minimize the amount of airborne material. Where a pneumatic device is used, care shall be taken to avoid rocks being scattered and inadvertently damaging private or public property. In addition, operators must be equipped with adequate protective clothing and gear, in accordance with manufacturer's recommendations. All tree roots exposed by the pneumatic or hand excavation operation must be kept constantly moist with burlap covered with white plastic and checked a minimum of two (2) times a day, once in the morning and once in the afternoon, for a maximum of forty-eight (48) hours, until backfill is complete as directed by the Engineer in consultation with the supervising Tree Consultant.

**Watering:** Watering shall take place at one-week intervals for a period of three weeks following decompaction at a rate of 750 gallons of water per 1000 square feet of decompacted area. The supervising Tree Consultant may order less watering based on weather conditions, resulting soil water content or other factors. If drought conditions warrant, the Engineer in consultation with the supervising Tree Consultant may order more frequent watering than scheduled or during non-scheduled periods. A watering schedule shall be submitted to supervising Tree Consultant each week.

Watering for trees shall be conducted by dispersing water to plants individually. Water shall be delivered to each plant under low pressure through the end of an appropriate sized hose or watering wand, or soaker hose anchored by pins where appropriate. The rate of watering should allow maximum penetration of water into the soil and at a rate that does not displace mulch or soil, cause uprooting or exposure of plant root to the air or break saucers around plants that were created to hold water.

Water shall not be applied in a manner which damages plants, stakes or adjacent areas. Watering shall not cause uprooting or exposure of plant's roots to the air. Damages resulting from these operations shall be immediately repaired at the Contractor's expense.

Where water is supplied from City hydrants, the Contractor shall obtain a free hydrant permit from the NYC Department of Environmental Protection. Permits are issued for a 30-day period, and the Contractor is responsible for keeping the permits current. The permits are available from each NYC Department of Parks and Recreation Borough Forestry office.

## **SUBMITTALS:**

All submittals shall be in accordance with the General Conditions 1.06 of NYC DOT Standard Highway Specifications and as directed by the Engineer.

The Contractor shall submit the following for review and approval prior to performing work.

**Arborist Qualifications:** The Contractor shall submit for approval, the name and qualifications of the proposed tree care sub/Contractor. The Contractor shall submit the following:

- 1.) I.S.A. certification.
- 2.) Name, address, and phone numbers for three (3) professional references associated with similar work performed within the past three (3) years.

The arborist shall meet the qualifications listed on the first page of this item under the heading Qualifications Required:. Verification of certification, qualifications, and references must be submitted to the NYC Department of Parks and Recreation's Borough Forester for approval prior to performing any work

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**.SECTION GI-5.06A  
(NOT A PAY ITEM)  
HAND REMOVAL OF PAVEMENTS**

**GI-5.06A.1. WORK:**

Under this Item, the Contractor shall perform **HAND REMOVAL OF PAVEMENTS** in accordance with the Contract drawings, specifications, and directions of the Engineer in consultation with the Tree Consultant. Tree Consultant shall be in accordance with New York City Department of Transportation (NYCDOT) Standard Highway Specifications Section 4.21 – Tree Consultant.

The intent of the item is to break up and carefully remove pavements with a pneumatic (jack) hammer in areas where trenching or other excavation is required within the critical root zone of existing trees and/or sensitive areas. These are areas, where in the opinion of the Engineer in consultation with the Tree Consultant, use of a backhoe or tractor would not be appropriate.

All unit masonry foundations such as brick and concrete block, and all other materials which can be removed with equipment performing normal excavation operations, shall be excluded from this item. This work shall be paid for under the Item No. 6.02 AAN- Unclassified Excavation.

**GI-5.06A.2. EXECUTION:**

The Contractor shall verify all dimensions and conditions in the field and shall be responsible for the same. The Contractor shall demolish and carefully remove pavements as indicated on the plans and as directed by the Engineer in consultation with the Tree Consultant.

**GI-5.06A.3. DISPOSAL:**

All material shall be removed from the site at no additional cost to the City.

**GI-5.06A.4. UTILITIES:**

Should the Contractor encounter any utilities or services during the performance of the work, it shall notify the City Department or Utility Company owning or controlling such services for appropriate cutoff or repairs. Any service cutoff or interruption by the Contractor shall be restored at the Contractor's expense.

(NO FUTHER TEXT ON THIS PAGE)

**SECTION GI-5.09  
(NOT A PAY ITEM)  
WATERING AND WEEDING DURING MAINTENANCE PERIOD**

**GI-5.09.1. DESCRIPTION**

The Contractor shall maintain and cultivate the healthy growth of all plantings in the planted area after installation, in accordance with the specifications and contract drawings during the maintenance period of the project. For the purposes of this item, the maintenance period shall begin after the completion of planting, and terminate at the completion of the maintenance period. No separate payment shall be made for the work of this specification.

**GI-5.09.2. SUBMITTALS**

(A) The Contractor's Landscape Subcontractor shall submit a watering and weeding plan and maintenance schedule prior to the installation of plant material, to be approved by the Engineer. The plan shall include proposed methods of watering and weeding, including but not limited to the use of tree gators (bags), sprinklers, drip hoses, irrigation, tanker vehicles and hand watering, etc., as well as manual weeding and weeding tools.

(B) The approved plan and schedule do not relieve the Contractor in any way from any aspect of the replacement of dead plant material. The Contractor's Landscape Subcontractor may alter the maintenance schedule based on weather and field conditions.

**GI-5.09.3. METHODS**

(A) The Contractor responsibilities under this section consists of watering and weeding after installation as required to maintain installed plant material in a healthy and vigorous condition in the specified Engineered Soil, in accordance with the specifications and Contract Drawings.

(B) Watering shall take place at one-week intervals from May 1 through October 31, for a total of twenty-seven (27) waterings per year or a total of fifty-four (54) waterings for the 2-year guarantee period. Each week, the individual plants shall receive the following volume of water:

<b>PLANT SIZE</b>	<b>VOLUME OF WATER (gallons)</b>
# 1 container	2
# 2 container	2.5
# 3 container	3
# 7 container	6
1" – 2" caliper	18
2" – 3" caliper	30

This is the maximum amount of water to be applied each week. The Engineer may order less watering based on weather and soil conditions.

Watering shall not be done for any given week if soil is saturated from recent rains or snowmelt. During extended dry periods, the Engineer may order more frequent watering than scheduled or during non-scheduled periods. However, the total number of 54 watering cycles will not be exceeded.

Watering shall be applied in such a manner as to not damage plants or remove mulch (jute mesh) and stakes. Watering shall not cause the uprooting or the exposure of plant roots. Damage resulting from improper watering shall be immediately repaired at the Contractor's expense.

**SECTION GI-5.10  
(NOT A PAY ITEM)  
STONE COLUMN**

**GI-5.10.1. DESCRIPTION**

Furnish and install stone columns as shown on the NYC Department of Environmental Protection Standard Design and Guidelines for Green Infrastructure Practices drawings and in accordance with the specifications and directions of the Engineer.

**GI-5.10.2. MATERIALS**

- (A) Open-graded stone shall comply with I-Pages Section GI-2.07 – Open Graded Stone Base.
- (B) Pipe and fittings shall comply with I-Pages Section GI-2.16A – PVC Pipe.
- (C) Geotextile fabric shall comply with I-Pages Section GI-2.09 – Geotextile Fabric.
- (D) Select granular fill material shall comply with Section 6.67 of the NYC Department of Transportation Standard Highway Specifications.

**GI-5.10.3. CONSTRUCTION METHODS**

- (A) The Contractor shall auger a fourteen (14) inch diameter casing a minimum of five (5) vertical feet into the permeable soil layer. The final depth of the stone column shall be determined by the Engineer but shall be no deeper than twenty (20) feet.
- (B) The stone column shall consist of:
  - (1) Twelve (12) inch inside diameter perforated or slotted PVC pipe
    - a. The pipe length shall be determined by the Engineer.
  - (2) Twelve (12) inch inside diameter solid PVC pipe
    - a. The pipe length shall be determined by the Engineer.
    - b. Extend the pipe two (2) inches above the low point of the Bioswale.
  - (3) Coupling to connect the perforated or slotted PVC pipe to the solid PVC pipe.
  - (4) Twelve (12) inch round grate (perforated or slotted end cap). Manufactured with perforations or slotted grate.
    - a. ASTM D5208-14 "Standard Practice for Fluorescent Ultraviolet (UV) Exposure of Photodegradable Plastics"
    - b. ASTM D4329 "Standard Practice for Fluorescent Ultraviolet (UV) Lamp Apparatus Exposure of Plastics"
- (C) Wrap nonwoven geotextile fabric around the perforated or slotted pipe and fasten by collar to the solid pipe.
- (D) Pull casing and use select granular fill to fill the annular space between the stone column pipe and the hole.
- (E) Fully saturate stone column and surrounding fill. Once the fill is saturated, additional granular fill should be used to bring to grade. Saturate again and repeat as necessary.



(F) Fill the attached perforated or slotted and solid PVC pipe with open-graded stone and seal with a perforated cap

(G) Space the stone columns in accordance with the Contract Drawings and as directed by the Engineer.

(H) Only install middle stone column within the 20'x 5' R.O.W. Bioswale only installed in a planting bed with no tree.

(I) During construction, keep the column free from foreign matter. The piping shall be left thoroughly clean to the satisfaction of the Engineer.

(NO FUTHER TEXT ON THIS PAGE)

**SECTION GI-5.11  
(NOT A PAY ITEM)  
WELDING**

**GI-5.11.1. DESCRIPTION**

All welding shall be performed in accordance with ANSI/AWS D1.1 and ANSI/AWS D1.4. No welding shall be performed when the base metal temperature is lower than 32 degrees Fahrenheit.

**GI-5.11.2. MATERIALS**

(A) All welding equipment, electrodes, welding wire and fluxes shall be capable of producing satisfactory welds when used by a qualified welder or welding operator performing qualified welding procedures.

(B) All welding equipment and materials shall comply with the applicable requirements of ANSI/AWS D1.1 and ANSI/AWS D1.4.

**GI-5.11.3. CONSTRUCTION METHODS**

(A) Each welder, welding operator and tacker assigned to work on this Contract shall be certified in conformance with ANSI/AWS D1.1, Section 4. Welders shall also be New York City certified, and all welding shall be done in conformity with the NYBC and BS&A.

(B) Contract Drawings will include the following information:

(1) Size, length, type and location of welds.

(2) Location of welds for which non-destructive testing is required. When location of non-destructive testing is not shown, it will be indicated by the Engineer in the field.

(C) Workmanship and techniques for welded construction shall conform to the requirements of ANSI/AWS D1.1 and AISC-04. When ANSI/AWS D1.1 and AISC- 04 are in conflict, the requirements of ANSI.AWS D1.1 shall govern.

(D) Welding of reinforcing shall conform to the requirements of ANSI/AWS D1.4 and the Detailed Specifications. Welds shall develop a minimum of 85,000 psi tensile strength. Bars to be welded shall be cut by means of an oxyacetylene torch or by sawing. Ends shall be free of dirt, oxide scale, oil, grease, or other foreign matter. Sheared ends of bars shall be trimmed back at least 1/2-inch by sawing or flame cutting. Preheat and interpass temperature shall conform with ANSI/AWS D1.4. Bars having a carbon equivalent content in excess of 0.50 percent shall not be welded.

(E) Where dissimilar steel are welded together, the procedure used shall be the same as the one used for the lower strength steel.

(F) All groove welds shall be 100 percent complete penetration welds as defined in ANSI/AWS D1.1 or shown in ANSI/AWS D1.4 for reinforcing steel, regardless of whether a backup plate is shown or whether the supplementary backing weld or melt through symbol is included, in each groove-weld symbol shown unless partial penetration is included in the weld symbol.

(G) Gun welded studs shall conform with the requirements of ANSI/AWS D1.1, Section 7.

(H) Upon completion of welding, all weld splatter, flux, slag and burrs left by attachments shall be removed. Welds shall be repaired to produce a workmanlike appearance with uniform weld contours and dimensions. All sharp corners of material which is to be painted or coated shall be ground to a minimum of 1/32-inch on the flat.

- (I) Dimensional tolerances for welded construction, details of welds, and quality of welds shall be in accordance with the applicable requirements of ANSI/AWS D1.1, ANSI/AWS D1.4 and the Contract Drawings.
- (J) The welding shall be subject to inspection and tests in the shop and project site. Inspection and tests in the shop will not relieve the Contractor of the responsibility to furnish weldments of satisfactory quality.
- (K) All welding exhibiting any cracks, either in the weld metal or the parent metal, will be rejected.
- (L) Defective or unsound welds or base metal shall be corrected either by removing and replacing the entire welds.

(NO FUTHER TEXT ON THIS PAGE)

**SECTION GI-5.12  
(NOT A PAY ITEM)  
PAINTING**

**GI-5.12.1. DESCRIPTION**

- A. Painting, as specified herein, shall include, but not be limited to, preparation of surfaces, shop painting of items furnished, field painting of steel tree guards, structures, piping, conduit, ducts and equipment, and marking of piping and electrical conduit.
- B. Painting shall be provided where shown on the Contract Drawings, specified in the herein the Specifications, or as required for a complete installation.

**GI-5.12.2. REFERENCES**

- A. Codes and standards referred to in this Section shall be as follows:
  - 1. New York Spec. - Standard Specifications of the Division of Municipal Supplies of the Department of General Services of the City of New York
    - (a) N.Y. SPEC. 31-P-93 - Pigments, Dry
    - (b) SSPC - The Society for Protective Coatings (formerly of Steel Structures Painting Council)
    - (c) SSPC-SP 1 Solvent cleaning
    - (d) SSPC-SP 2 Hand tool cleaning
    - (e) SSPC-SP 6 Commercial blast cleaning
    - (f) SSPC-SP 10 Near white blast cleaning
    - (g) SSPC-SP 11 Power tool cleaning to bare metal
    - (h) SSPC- SP 15 Commercial grade power tool cleaning
    - (i) SSPC-SP 16 Brush off Blast Cleaning of Non Ferrous Metals
  - 2. ASTM - American Society for Testing Materials
    - (a) ASTM D3359 - Standard Test Methods for Measuring Adhesion by Tape Test
    - (b) ASTM D16 - Standard Terminology Relating to Paint, Related Coatings, Materials and Applications .
  - 3. NSF - National Sanitation Foundation

**GI-5.12.3. SUBMITTALS**

- A. The Contractor shall prepare and submit for approval catalog cuts and reference materials in accordance with the NYC Department of Transportation Standard Highway Specifications, General Conditions, Section 1.06.13. - Shop and Working Shop Drawings.

1. Color Chart: The Contractor shall submit the manufacturer's standard color chart for color selection for painting of items
  - a. Paint Samples: The Contractor shall submit two one-quart samples of each required kind of paint material, or the ingredients thereof which are to be mixed on the job. Samples shall be labeled as required under the NYC Department of Transportation Standard Highway Specifications, General Conditions, Section 1.06.31, and shall include the certificate of the manufacturer stating the actual percentages by weight and volume of all ingredients entering into the mixture. Upon request, further samples shall be provided as the work progresses. Painting materials shall not be applied without written approval of samples by the Engineer.
  - b. Painted Surface Samples: Upon request, duplicate samples of the results obtained by painting and finishing various materials on the work shall be submitted. Such samples, and the approved paint applied thereto, shall be applied in strict conformance with these specifications. Finished areas shall be considered adequate for the purpose of determining the quality of the work. All painting work shall be performed in a quality equal to the approved samples. Where equipment is customarily shipped with a standard finish, samples of the proposed color and finish shall be submitted for approval prior to shipping.
  - c. Certification: The Contractor shall furnish affidavits from the manufacturer certifying that materials furnished conform to the requirements specified and that paint products have been checked for compatibility.
  - d. Immersion Certification: The Contractor shall furnish affidavits from the manufacturer certifying that coatings in immersion service contain no water soluble solvents or corrosion inhibitive (active) pigments with slight water solubility.
  - e. Supplementary Schedule: The Contractor shall submit a supplementary schedule of paint products with mil thickness and solids by volume, including all paint applied in the shop and in the field. The schedule shall be in accordance with the recommendations of the paint manufacturer.
  - f. Applicator's Quality assurance: Must have three (3) consecutive years of experience prior to the bid opening.
  - g. Warranty: Submit manufacturer's standard warranty.

#### **GI-5.12.4. MANUFACTURERS**

##### **(A) Painting Manufacturers:**

- (1) Tnemec Company, Inc., Kansas City, MO
- (2) Ameron Protective Coatings Group, Brea, CA (Vy Guard)
- (3) Sherwin Williams, Edison, NJ

- (4) Carboline Company, St. Louis, MO
- (5) M.A. Bruder (M.A.B) Philadelphia, PA
- (6) Keeler & Long, PPG, Watertown, CT
- (7) or an approved equivalent.

#### **GI-5.12.5. CONSTRUCTION METHODS**

- (A) All items to be shop painted shall be primed and finished in the shop. Field painting will not be allowed unless requested in writing to the Engineer, and written consent is given by the Engineer. In general, only areas that are to be field welded are not to be painted until field erected.
- (B) All products and materials shall be delivered, stored, and handled as specified in NYC Department of Transportation Standard Highway Specifications, General Conditions, Section 1.06.34.
- (C) Prior to painting, surface preparation shall be in accordance with the following and as recommended by the painting material manufacturer:
  - (1) Steel (other than structural) – All visible oil, grease, dirt, dust, mill scale, rust, paint, oxides, corrosion products, and other foreign matter shall be removed by compressed air nozzle blasting, centrifugal wheels, or other specified method. Discoloration caused by certain stains shall be limited to no more than 5 percent of each square inch of surface area in accordance with Steel Structures Painting Council SSPC-SP10.
  - (2) Concrete and masonry surfaces – Concrete and masonry shall be dried for a minimum of 28 days and then the dry concrete and masonry shall be brushed and washed to remove all loose dirt, dust, free lime, and other deleterious substances by approved methods. Protruding fins and other adhering matter shall be removed or ground until a smooth, even finish is obtained. Concrete surfaces to be painted shall be acid etched as recommended by the manufacturer of the coating to be applied, to produce a slightly granular surface required for adherence of coating to the concrete unless otherwise indicated.
  - (3) PVC – All adhering debris shall be removed and surface shall be roughened by sandpaper.
- (D) All painting and coatings shall be applied in accordance with the manufacturer's recommendations and approved submittals. A representative of the paint manufacturer shall advise on the proper application.
- (E) All paint material shall be applied by brush or roller. Spray painting will be permitted only with the specific approval of the Engineer.
- (F) Areas under and adjacent to painted surfaces shall be fully protected at all times. Dripped or splattered paint shall be promptly removed and any adjacent surfaces that have been damaged or discolored by overspray shall be repaired, refinished, and repainted.
- (G) Each paint shall be given sufficient time to cure per the manufacturer's recommendation before application of the succeeding coat. Each succeeding coat shall be applied within the

recoat time specified by the manufacturer; otherwise the painted surface shall be prepared per the manufacturer's recommendation before it is recoated.

- (H) Any paint found defective shall be removed. The Contractor shall touch up and restore any finish damaged.

#### **GI-5.12.6. DELIVERY, STORAGE AND HANDLING**

- A. General: All products and materials shall be delivered, stored, and handled as specified in NYC Department of Transportation Standard Highway Specifications, General Conditions, Section 1.06.34. and as follows:
- B. Delivery and Storage: All paint materials delivered and stored at the site shall be from the approved manufacturer only.
- C. Packaging and Labeling: Paints, stains, varnish or ingredients of paints to be used on the job shall be properly prepared, packed, and labeled. All materials shall be delivered to the site in original, unbroken containers bearing the manufacturer's printed labels, which shall specify the following:
  - 1. Project and Contract No.
    - 1. Name of Manufacturer
    - 2. Address of Manufacturer
    - 3. Generic Name of Paint or Ingredients
    - 4. Brand and Trade Mark
    - 5. Schedule Letter as Listed Herein
    - 6. Percent Solids by Volume
    - 7. Net Quantity
    - 8. Date of Manufacturer
    - 9. Date Packed

Storage: Painting materials shall be stored at the site in manner and place which shall be in accordance with applicable codes and regulations, and in accordance with manufacturer's instructions. The storage space shall be kept clean at all times. Every precaution shall be exercised to eliminate fire hazards.

#### **GI-5.12.7 QUALITY CONTROL**

- A. Paint Quality Control Records: The following information shall be recorded for every paint project and submitted to the Engineer:
  - 1. Date
    - (a) Shift
    - (b) Part Temperature
    - (c) Dew Point

- (d) Paint Batch Number/s
- (e) Mixing Time for Each Part and the Combined Parts of a Paint System
- (f) Pot Life
- (g) Curing Time of Primer and Finish Layers
- (h) Paint thickness measurements (DFT)
- (i) Holiday Test Results and Repair Data
- (j) Peel Test Results and Repair Data
- (k) Foreman or Supervisor's Signature

**GI-5.12.8 TEST SURFACES**

- A. The Contractor shall paint certain areas of concrete and other surfaces, where directed, using approved coatings for use by the Engineer for comparisons with coating systems applied during the progress of the work.
1. Such coated areas shall not be subsequently painted during the entire period of construction or during the period one-year after the date of final acceptance.
  2. At or about one year after final acceptance the test surfaces shall be inspected by the City for any deterioration such as cracks, blisters, flakes and excessive chalking.
  3. The Contractor shall supply all material and labor and shall perform any remedial work on all such deteriorated surfaces using the coating system represented by the test surface at no additional cost to the City.

**GI-5.12.9. SAFETY REQUIREMENTS**

- A. All painting materials specified herein, and ingredients of coatings containing substances that are potentially toxic or hazardous shall be shipped with warning labels. These products shall be applied in strict conformance with the safety requirements of the following:
1. The Manufacturer
  2. The National Paint and Coatings Association (NPCA)
  3. The Society of the Plastics Industry (SPI)
  4. The Manufacturing Chemist Association (MCA)
  5. The Society of Protective Coatings formerly of Steel Structures Painting Council (SSPC)
  6. The United States Government Occupational Safety and Health Administration (OSHA)
  7. The Health and Safety Requirements of the State of New York (PESH- Public Employees Safety and Health)
  8. The Health and Safety Requirements of the City of New York (COSH- Citywide Office of Safety and Health)



**GI-5.12.10. ENVIRONMENTAL REQUIREMENTS****A. Weather:**

1. Air and surface Temperatures: Prepare surfaces and apply and cure coatings within air and surface temperature range in accordance with manufacturer's instructions.
  - a. Surface Temperature: Minimum of 5 degrees F (3 degrees C) above dew point.
  - b. Relative Humidity: Prepare surfaces and apply and cure coatings within relative humidity range in accordance with manufacturer's instructions.
  - c. Precipitation: Do not prepare surfaces or apply coatings in rain, snow, fog or mist.
  - d. Wind: Do not spray coatings if wind velocity is above manufacturer's limit.

**B. Ventilation:** Provide ventilation during coating evaporation stage in confined or enclosed areas in accordance with AWWA D102.**C. Dust and Contaminants:**

1. Schedule coating work to avoid excessive dust and airborne contaminants.
  - a. Protect work areas from excessive dust and airborne contaminants during coating application and curing.

**GI-5.12.11. MATERIALS****A. General:** Paint and other materials shall be furnished which are of the type and quality of the manufacturer on which the painting schedule specified herein is based.

1. Compatible shop and field coats shall be provided.
  - a. All coats of paint for any particular surface shall be from the same manufacturer.
  - b. Paint shall be of approved color as selected from the manufacturer's standard range of colors.
  - c. The Contractor shall submit proposed modifications to the specified painting systems for the Engineer's approval prior to use.
  - d. Paints containing lead or manganese driers shall not be submitted.
  - e. Submittal shall comply with N.Y. Spec. 31-P-93 for final colors.

**GI-5.12.12. MATERIAL PAINTING SCHEDULE**

- A. All materials shall be painted in accordance with the following schedule. The number of coats shall not be less than the number shown on the following schedule.

## MATERIAL PAINTING SCHEDULE

Material and Conditions	Paint Symbols															
	Tn- Tnemec, Cb- Carboline, SW- Sherwin Williams, IP- International paint															
	Prime Coat								Finish Coats							
									1 <sup>st</sup>				2 <sup>nd</sup>			
	Tn	Cb	SW	IP	Tn	Cb	SW	IP	Tn	Cb	SW	IP	Tn	Cb	SW	IP
Steel and Iron: Structural and Miscellaneous steel:																
	B	A	A or D	A	B	A	D	A	A	A	D	A	A	A	D	A
Interior (Indoors) shop primed, field finished																
Exterior (Outdoors) shop primed, field finished	B	A	A or D	B or A	B	A	A	A	B or A	A	D or A	D	A	C	D	C

## MATERIAL PAINTING SCHEDULE

Material and Conditions	Paint Symbols												
	Tn- Tnemec, Cb- Carboline, SW- Sherwin Williams, IP- International paint												
	Prime Coat					Finish Coats							
Submerged, Buried or Continuously Wet Exposed to sewage, shop primed, field finished	1 <sup>st</sup>					2 <sup>nd</sup>							3 <sup>rd</sup>
	B	A	A	B	B	A	A	B	D	D	D	D	

## MATERIAL PAINTING SCHEDULE

[illegible]

## MATERIAL PAINTING SCHEDULE

Material and Conditions	Paint Symbols									
	Tn- Tnemec, Cb- Carboline, SW- Sherwin Williams, IP- International paint									
	Prime Coat					Finish Coats				
	1 <sup>st</sup>					2 <sup>nd</sup>				
	3 <sup>rd</sup>									
Submerged, Buried or continuously wet in wastewater, completely shop coated inside and out, includes OEM factory finished items such as gates, valves, etc.	L	A	A	D	L	D	A	B	D	D
	or			or						
	M			L						
	*			or						
Above grade, indoors, exposed to waste water, completely shop coated inside and out, includes OEM factory finished, items such as gates, valves etc.	L	A	A	D	L	A	C	B	A	A
	or			or					or	or
	M			L					D	D
	*			or						

## MATERIAL PAINTING SCHEDULE

Material and Conditions		Paint Symbols																					
		Tn- Tnemec, Cb- Carboline, SW- Sherwin Williams, IP- International paint																					
		Finish Coats																					
														1 <sup>st</sup>				2 <sup>nd</sup>				3 <sup>rd</sup>	
														Prime Coat				L	A	A	D	A or D	L
Above grade, outdoors, exposed to waste water, completely shop coated inside and out, includes OEM factory finished, items such as gates, valves etc.		L	A	A	D	L	A	B	A	A or D	L	C	B	A or D		B	A or D						
		or			or																		
		M			L																		
		*			K																		
		Tn	Cb	SW	IP	Tn	Cb	SW	IP		Tn	Cb	SW	IP	Tn	Cb	SW	IP					

Above grade, outdoors, exposed to waste water, completely shop coated inside and out, includes OEM factory finished, items such as gates, valves etc.

## MATERIAL PAINTING SCHEDULE

Material and Conditions	Paint Symbols									
	Tn- Tnemec, Cb- Carboline, SW- Sherwin Williams, IP- International paint									
	Prime Coat				Finish Coats					
	1 <sup>st</sup>				2 <sup>nd</sup>			3 <sup>rd</sup>		
Inside of item immersed in sewage	L or M *	A or J	A	D or L or K	L	A or J	B	D		B D
Ductile Iron or Steel Process Piping, submerged, Buried or constantly wet, <b>exposed to sewage</b> , H2S exposures, OEM factory finished.	M *	A or M*	A	D or K	-	A	B	D or K	-	B D or K

## MATERIAL PAINTING SCHEDULE

[illegible]



## MATERIAL PAINTING SCHEDULE

Material and Conditions	Paint Symbols															
	Tn- Tnemec, Cb- Carboline, SW- Sherwin Williams, IP- International paint															
	Prime Coat				Finish Coats											
1 <sup>st</sup>					2 <sup>nd</sup>						3 <sup>rd</sup>					
Exposed to Potable water (NSF) completely shop coated, inside and out, OEM factory finished items such as Gates, Valves etc.	B	A	I	B	B	D	I	B	B	D	I	B	-			
			or													
			A													
	Tn	Cb	SW	IP	Tn	Cb	SW	IP	Tn	Cb	SW	IP	Tn	Cb	SW	IP
Equipment above grade, indoors, exposed to Potable water (NSF), completely shop coated inside and out, OEM factory finished items such as Gates, Valves etc.	B	A	I	B	B	D	I	B	A	D	I	B	-			
			or													
			A													

## MATERIAL PAINTING SCHEDULE

Material and Conditions	Paint Symbols											
	Tn- Tnemec, Cb- Carboline, SW- Sherwin Williams, IP- International paint											
	Prime Coat			Finish Coats								
				1 <sup>st</sup>			2 <sup>nd</sup>			3 <sup>rd</sup>		
Equipment above grade, outdoors, exposed to Potable water (NSF), completely shop coated inside and out, OEM factory finished items such as Gates, Valves etc.	N* A	I	B	-	D	I	B	-	D	I	B	-
Ductile Iron or steel process piping exposed to Potable Water (shop finished) alternate	N* A	A	B	-	A	I	B	-	C	I	B	-
		or										
		N*	I									



## MATERIAL PAINTING SCHEDULE

Material and Conditions	Paint Symbols									
	Tn- Tnemec, Cb- Carboline, SW- Sherwin Williams, IP- International paint									
	Prime Coat					Finish Coats				
	1 <sup>st</sup>					2 <sup>nd</sup>				
										3 <sup>rd</sup>
<b>Heated Metal (Air Main Piping):</b> Submerged, Buried and Exposed	L	E								
	or	or	E	E	D	-	A	D	D	D
	M	M*								
<b>Concrete Masonry:</b> Interior	F	--								
			D	F	F	D	A	D	D	D
			or							
			A							

## MATERIAL PAINTING SCHEDULE

Material and Conditions	Paint Symbols											
	Tn- Tnemec, Cb- Carboline, SW- Sherwin Williams, IP- International paint											
	Prime Coat				1 <sup>st</sup>				Finish Coats			
											2 <sup>nd</sup>	3 <sup>rd</sup>
Concrete: Interior excluding floors	A	G			D	A	D	D	D	A	D	D
					or							
					A							D
	Tn	Cb	SW	IP	Tn	Cb	SW	IP	Tn	Cb	SW	IP
Concrete: Immersion, Waste Water	A				A	J	J	J	A	K	B	D

## MATERIAL PAINTING SCHEDULE

Material and Conditions	Paint Symbols									
	Tn- Tnemec, Cb- Carboline, SW- Sherwin Williams, IP- International paint					Finish Coats				
	Prime Coat				1 <sup>st</sup>		2 <sup>nd</sup>			3 <sup>rd</sup>
<i>Pipe and Duct Insulation:</i> Exposed	A				H	B	H	H	H	H
<i>PVC:</i>										
Interior	A				A	B	D	A	A	A
Exterior	A				A	B	D	A	C	C

## MATERIAL PAINTING SCHEDULE

Material and Conditions	Paint Symbols												
	Tn- Tnemec, Cb- Carboline, SW- Sherwin Williams, IP- International paint				Finish Coats								
	Prime Coat				1 <sup>st</sup>			2 <sup>nd</sup>			3 <sup>rd</sup>		
<i>Gypsum Wallboard and Plaster:</i>	G				H	G	G	H	H	H	H	H	H
<i>Nonferrous Metal and Galvanized steel:</i>	A				A	B	D	A	A	A	A	D	A
Interior													
Exterior	A				A	B	D	A	A	C	C	C	C
*Require only one coat.													

- B. Schedule of Paints: Alphabetical designations in the following list are given solely for the purpose of indicating the type and quality of materials desired. Equivalent material from other approved manufacturers may be substituted.

<b>SCHEDULE OF PAINTS</b>			
<b>Symbol</b>	<b>Product Name and Number</b>	<b>Volume Solids %</b>	<b>Dry Film Thickness Mils per Coat</b>
<b>A</b>	<b>Tnemec:</b> Series V69 Hi-Build Epoxoline II	69	3.0-5.0
	<b>Carboline:</b> Carboguard 60/61	72	3.0-6.0
	Carboguard 635	65	3.0-6.0
	<b>Sherwin Williams:</b> Copoxy shop Coat Primer	72	2.0-4.0
	<b>International Paint:</b> Integard 345 or Devran 224 HS	82	3.0-4.0
<b>B</b>	<b>Tnemec:</b> Series V 140-44BR Pota-Pox plus	69	4.0-6.0
	<b>Carboline:</b> Sanitile 120	38	1.0-2.0
	<b>Sherwin Williams:</b> Dura-Plate 235 (Waste Water)	72	3.0-5.0
	<b>International Paint:</b> Interseal 670 HS or Bar Rust 233HS	82	3.0-6.0
<b>C</b>	<b>Tnemec:</b> Series 73 Endura-Shield	68	2.0-3.0
	<b>Carboline:</b> Carbothane 134 HG	70	2.0-3.0
	Carbothane 134WB	50	2.0-3.0
	<b>Sherwin Williams:</b> Acrolon -218HS	65	3.0-5.0
	Hi solid Polyurethane	65	2.0-3.0
	<b>International Paint:</b> Interthane 990HS or Devathane 379 UVA	68	2.0-3.0
<b>D</b>	<b>Tnemec:</b> Series 69 Hi-Build Epoxoline II	69	3.0-5.0



<b>SCHEDULE OF PAINTS</b>			
<b>Symbol</b>	<b>Product Name and Number</b>	<b>Volume Solids %</b>	<b>Dry Film Thickness Mils per Coat</b>
	<b>Carboline:</b> Carboguard 61/691	80-100	4.0-8.0
	Carboguard 635	65	4.0-8.0
	<b>Sherwin Williams:</b> Macropoxy 646	72	4.0-6.0
	<b>International Paint:</b> Interseal 670HS or Bar Rust 233H / 236	82	3.0-6.0
<b>E</b>	<b>Tnemec:</b> Series 90-97 Tneme-Zinc	63	2.5-3.5
	<b>Carboline:</b> Carbozinc 859 or Carbozinc 859 VOC	66	3.5-5.0
	<b>Sherwin Williams:</b> Corothane I Galvpac	67	2.5-3.5
	<b>International Paint:</b> Interzinc 52 or Catha Coat 302H or Catha 316 (immersion)	59	3.0-5.0
<b>F</b>	<b>Tnemec:</b> Series 130 Envirofill masonry filler	68	As Required
	<b>Carboline:</b> Sanitile 100 Block Filler	54	As Required
	<b>Sherwin Williams:</b> Heavy Duty Block Filler (dry)	80	As Required
	KemCati-Coat Epoxy Filler / Sealer	72	As Required
	<b>International Paint:</b> Truglaze 4015 or Intercryl 320	45	As Required
<b>G</b>	<b>Tnemec:</b> Series 151 Elasto-Grip	17	1.0-1.5
	<b>Carboline:</b> Sanitile 120	38	1.0-2.0
	<b>Sherwin Williams:</b> Pro-Mar 200 Primer	28	1.0-2.0
	<b>International Paint:</b> Glidden PC 1000	39	1.0-2.0

<b>SCHEDULE OF PAINTS</b>			
<b>Symbol</b>	<b>Product Name and Number</b>	<b>Volume Solids %</b>	<b>Dry Film Thickness Mils per Coat</b>
<b>H</b>	<b>Tnemec:</b> Series 6	43	2.0-3.0
	<b>Carboline:</b> Sanitile 155	38	2.0-3.0
	<b>Sherwin Williams:</b> Promar 200 Series (dry wall) DTM Acrylic (pipe insulation)	41	1.5-2.0
	<b>International Paint:</b> Glidden Dulux Lifemaster 1500 series	45	1.5-2.0
<b>I</b>	<b>Tnemec:</b> Series 140-AA83 Pota-Pox Plus	82	4.0-6.0
	<b>Carboline:</b> Carboguard 691/ Phenoline 341	80-100	4.0-6.0
	<b>Sherwin Williams:</b> Macropoxy 646 PW	72-98	4.0-6.0 Up to 50 Mils
	<b>International Paint:</b> Interseal 670HS or Bar Rust 233HS	82	4.0-6.0
<b>J</b>	<b>Carboline:</b> Phenoline 311	47	1.0-3.0
	<b>International Paint:</b> Enviroline 54	70	3.0-5.0
<b>K</b>	<b>Carboline:</b> Reactamine 760	100	20.0-100.0
	Plasite 4550S	100	20.0-60.0
	<b>International Paint:</b> Enviroline 222	100	20.0-100.0
<b>L</b>	<b>Tnemec:</b> Series 141	82	6.0-14.0
	<b>Carboline:</b> Reactamine 28 or Carboguard 1340WB	100	1.0-2.0
	<b>International Paint:</b> Ceilcote Interzone 954	85	14.0-18.0
<b>M</b>	<b>Tnemec:</b> Series 431 Perma- Shield PL	100	30.0-40.0
	<b>Carboline:</b> Reactamine ET	100	30.0-40.0

<b>SCHEDULE OF PAINTS</b>			
<b>Symbol</b>	<b>Product Name and Number</b>	<b>Volume Solids %</b>	<b>Dry Film Thickness Mils per Coat</b>
N	<b>Tnemec:</b> Series FC22 or 22 Epoxoline	100	20.0-30.0
	<b>Carboline:</b> 341	100	20.0-30.0
	<b>International Paint:</b> Interline 975	100	25.0-30.0

## GI-5.12.13.

**PREPARATION**

- A. Surface Preparation: Prior to painting, surface preparation shall be in accordance with the following schedule and as recommended by the painting material manufacturer.

<b>SURFACE PREPARATION SCHEDULE</b>	
<b>Class of Work</b>	<b>Preparation of Surface Prior to Painting</b>
Structural Steel and Steel Encased in Concrete, Masonry or Fireproofing	All visible oil, grease, dirt, dust, mill scale, rust, paint, oxides, corrosion products and other foreign matter shall be removed by compressed air nozzle blasting, centrifugal wheels or other specified method. Discoloration caused by certain stains shall be limited to no more than 33 percent of each square inch of surface area in accordance with Society of Protective Coatings (SSPC-SP6).
Steel (other than structural, encased or galvanized) and Steel Submerged Under Water	All visible oil, grease, dirt, dust, mill scale, rust, paint, oxides, corrosion products and other foreign matter shall be removed by compressed air nozzle blasting, centrifugal wheels or other specified method. Discoloration caused by certain stains shall be limited to no more than 5 percent of each square inch of surface area in accordance with Society of Protective Coatings (SSPC-SP10).
Galvanized Steel and Other Metals	All welds, beads, blisters or protuberances, other than identification markings shall be smooth, and other imperfections shall be removed. All nonferrous metals and galvanized steel, whether shop primed or field primed, shall be solvent cleaned in accordance with Society of Protective Coatings (SSPC-SP1).
Canvas Pipe Covering	All adhering debris shall be removed and indentations or other unsightly spots shall be smoothed out to give a uniform, even surface. Surfaces shall be brushed clean.
Gypsum Wallboard and Plastered Surfaces	Gypsum wallboard shall be prepared as recommended by the wallboard manufacturer.  Plaster surfaces shall be dry. Scratches, cracks, holes and other defects shall be filled flush with adjoining surfaces by approved methods, sandpapered smooth, and brushed clean.
Concrete and Masonry Surfaces	Concrete and masonry shall be dried for a minimum of 28 days and then the dry concrete and masonry shall be brushed and washed to remove all loose dirt, dust, free lime and other deleterious substances by approved methods. Protruding fins and other adhering matter shall be removed

SURFACE PREPARATION SCHEDULE	
Class of Work	Preparation of Surface Prior to Painting
	or ground until a smooth, even finish is obtained. Concrete surfaces to be painted shall be acid etched or otherwise roughened as recommended by the manufacturer of the coating to be applied, to produce a slightly granular surface required for adherence of coating to the concrete, unless otherwise indicated.
PVC	All adhering debris shall be removed and surface shall be roughened using suitable sandpaper. Surfaces shall be dry and free from dirt, oil, grease etc.

**GI-5.12.14. INSTALLATION**

- A. General: All painting and coatings shall be applied in accordance with the manufacturer's recommendations and approved submittals. A representative of the paint manufacturer shall inspect the surfaces to be painted and shall advise on the proper application. The paint manufacturer representative shall periodically be consulted regarding ambient temperature and humidity conditions.
- B. Shop Painting: The following items shall be provided with shop coats of primer and finish coats as herein specified before exposure to the weather:
1. Metals:
    - a) Structural steel  
*Note: Consider using hot dip galvanizing at crevices or hard to reach places on steel structural.*
    - b) Miscellaneous steel and wrought iron
    - c) Ornamental wrought and light iron
    - d) Iron castings
  2. Machinery and Equipment:
    - a) Mechanical and electrical equipment
  3. Pipe:
    - a) All piping except galvanized iron, stainless steel, aluminum, copper, brass and bronze piping.
- C. Field Painting: All painting at the site of the project is hereby designated as field painting for those items that cannot be shop painted or are touched up due to minor damage to the painted surface.

1. Repair and Repainting: Field coatings shall not be applied until all marred surfaces have been repaired or repainted. Shop coated surfaces shall be thoroughly cleaned and retouched prior to the application of successive paint coats in the field.
  - a) Unpainted Materials: Do not paint or finish copper, bronze, chromium plate, nickel, stainless steel, aluminum (except ducts and conduit adjacent to finish painted surfaces), monel metal, lead, lead coated copper and brass, except as otherwise indicated.
  - b) Items to Receive Coating: All ferrous metals and insulated surfaces shall be provided with a protective coating. Interior surfaces, exposed masonry walls and concrete walls, floors and ceilings shall be provided with protective coatings as indicated on the drawings and specified.
  - c) Surface Condition: Only surfaces that are dry and free from dust, grease or other undesirable or interfering substances shall receive coatings. Coatings shall be as specified in the Painting Schedule.
  - d) Application: Finish coats shall be applied after all adjacent work has been completed. Successive coats shall have different shades or tints of color wherever possible. Colors shall be as selected and approved by the Engineer. Prime and successive finish coats shall be cleaned, sand papered, or otherwise treated before the next coat is applied, in accordance with the recommendations of the coating manufacturer, and as approved by the Engineer. All coats shall be inspected and approved by the Engineer, before application of any succeeding coats. All coats shall be applied to the dry film thickness (DFT) specified. Coatings shall be applied by skilled personnel under adequate illumination. All painted surfaces shall be left in a clean, orderly and acceptable condition.
  - e) Surface and Atmospheric Conditions: Paints shall not be applied when the surface temperature is less than 40 degrees F, when the relative humidity exceeds 85 percent, or when the surface to be painted is wet or damp, unless more stringent requirements are called for by the paint manufacturer.
- D. Field Painting Operations: Surfaces to be given protective coating shall be thoroughly cleaned. Scratches and abrasions on equipment which has been shop coated shall be refinished and all surfaces to be field painted shall be approved by the Engineer before proceeding with painting. Painting shall be performed in a continuous and orderly operation to facilitate adequate inspection, however material subject to weathering or corrosion shall be given prime coats as quickly as practicable.
  1. Method of Application: All paint material shall be applied by brush or roller. Spray painting will be permitted only with the specific approval of the Engineer. Surfaces which are so close together as to prevent the insertion of a standard size roller or

brush shall be painted thoroughly with the prescribed number of coats by using special narrow rollers or brushes.

- a) **Adjacent Areas:** Areas under and adjacent to painted surfaces shall be fully protected at all times. Dripped or spattered paint shall be promptly removed and any adjacent surfaces that have been damaged or discolored by overspray shall be repaired, refinished, and repainted.
- b) **Tinting:** Successive coats of paint shall be tinted to make the various coats easily distinguishable. Undercoats of paint shall be tinted to the approximate shade of the final coat of paint. Final coats of paint shall not be applied until all other work has been completed, the dirt and rubbish removed and the surfaces suitably prepared. Paint to be applied shall be at room temperature.
- c) **Conditions for Application:** Each coat of paint shall be given sufficient time to cure per the manufacturer's recommendation before application of the succeeding coat. Each succeeding coat shall be applied within the recoat time specified by the manufacturer; otherwise the painted surface shall be prepared per the manufacturer's recommendation before it is recoated. Exterior painting will not be allowed in dust laden air, during damp or threatening weather, or on moist or wet surfaces, or when the surface temperature is below 40 degrees F on a falling thermometer or under 50 degrees for catalyzed epoxy material; it will not be allowed in extreme heat or when metal is hot enough to cause the paint to blister and produce a porous film. Do not apply interior painting until the building is thoroughly dry. If the temperature in the interior of the building, in the opinion of the Engineer, is too low painting will be stopped until the building is heated. Proper ventilation and sufficient heat shall be maintained to permit the paint to dry. The building shall be maintained to be free from dust.
- d) **Remedial Work:** Any paint found defective shall be removed. Touch-up and remedial painting shall be provided as directed and as required until completion and acceptance of final work. If damage to the painted surface is excessive, as determined by the Engineer, that item shall be rejected and shipped back, at Contractor's expense, to be properly recoated before it can be accepted.
- e) **Application:** Each coat of paint shall be applied as a continuous film of uniform thickness, free of pinholes and blemishes, to the maximum extent practicable. Any thin spots or areas missed in the application shall be repainted and permitted to dry before the next coat is applied. An approved low voltage wet sponge "holiday" detector shall be used as directed by the Engineer. All paint shall be carefully applied to a smooth even coating without runs or sagging. Enamels shall be brushed with a smooth even flow. Each coat of paint shall be dry, not only on the surface, but

throughout the thickness of the paint film, before the next coat is applied. Finished surfaces shall be uniform in gloss, finish, and color, and free from flash spots and brush marks. In all cases, the resultant paint film produced shall be satisfactory in all respects to the Engineer.

- f) Thinning: If the paint material must be diluted for application by spray gun, the coating shall be built up to the same film thickness achieved with undiluted material (i.e., one gallon of paint as originally furnished must not cover a greater surface area when sprayed than when applied unthinned by brush). Where thinning is necessary, only the products of the manufacturer furnishing the paint shall be used for the particular purpose, and thinning shall be done with the manufacturer's knowledge, in accordance with his printed instructions.
- g) Thickness and Adhesion Testing: Dry film thickness of each coat shall be as specified herein. Dry film thickness will be checked by the Engineer or a representative with a magnetic gauge for ferrous metal in accordance with SSPC 2 or Tooke gauge destructive test for concrete. Film thickness of shop coats or other previously applied coating shall be checked by the Engineer or a representative and recorded before painting in order to determine thickness of field coats. Dry film thicknesses for concrete surfaces shall be determined by measuring with a wet-film gauge and by material consumption. Paint adhesion shall be tested by the peel method in accordance with ASTM D 3359.
- h) Inaccessible Items: Exposed members which will be inaccessible after erection shall be painted and cleaned prior to erection.
- i) Coverage: All surfaces to be painted shall be completely covered. When color on undercoats shows through the final coat of paint, surfaces shall be covered by additional coats until paint is of uniform color and appearance and coverage is complete.
- j) Safe Atmosphere: The Contractor shall provide sufficient temporary ventilation during painting operations in enclosed areas to remove moisture and solvents, and to keep the atmosphere safe from harmful or dangerous fumes and dust levels for personnel.

- E. Workmanship: Only skilled painters shall perform the work and specialists shall be employed where required. Finished surface shall not show brush marks or other irregularities. Top and bottom edges of doors shall be painted as required for the adjacent surfaces. Undercoats on hollow metal shall be thoroughly and uniformly sanded with No. 00 sandpaper, or equal abrasive, to remove all surface defects and provide a smooth, even surface.



- F. Mixing: All paints and coatings shall be mixed in accordance with the manufacturer's instructions on the printed label. The Contractor shall provide galvanized iron pans of sufficient size to contain all mixing pails and mix all paints and ingredients therein.
- G. Rates of Application: Paints shall be applied so as to give coverage per gallon not greater than that recommended by the manufacturer. Quantities of paint used for successive coats on the various parts of the work shall be recorded in a manner satisfactory to the Engineer.
- H. Touch-Up of Shop-Primed and Finished Items: Touch-up of any and all damaged portions and imperfections in shop-primed and finished items shall be accomplished using the same paint as used for the shop prime and finish. Surface shall be prepared prior to touch-up by wire brushing and sanding to remove rust, scale and loose paint.
- I. Aluminum and Incompatible Surfaces: Where aluminum surfaces come in contact with incompatible metals, lime, mortar, concrete or other masonry materials, one field coat of paint indicated as Symbol "A" under Article 2.02 "SCHEDULE OF PAINTS" in this specification shall be applied to the incompatible surfaces.
- J. Concealed Surfaces: All wall surfaces which will be concealed by equipment shall be painted before equipment installation.

**GI-5.12.15. CLEANING AND REPAINTING**

- A. The Contractor shall touch up and restore any finish damaged. Paint or other finishes spilled, splashed or splattered shall be removed from all surfaces using care so as not to mar any surface or item being cleaned.
- B. The Contractor shall rectify any failures or breakdowns, loosening of the paint or coatings within a year after acceptance of work, regardless of the paint systems used. This will require removal of the entire coating where failure occurs and repainting with the coating system previously specified. Patching will not be allowed.

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**SECTION GI-5.13A  
(NOT A PAY ITEM)  
STORMWATER INLET**

**GI-5.13A.1. DESCRIPTION**

Stormwater Inlets shall be constructed of the sizes and shapes shown complete with frames, gratings, covers, hoods, hooks, and all other hardware as shown or required.

**GI-5.13A.2. MATERIALS AND CONSTRUCTION METHODS**

The Contractor is notified that the materials and construction methods necessary and required to construct complete stormwater inlets shall be in accordance with the requirements for Catch Basins under Subsections 51.41.2 and 51.41.3 of the NYC Department of Environmental Protection (DEP), Standard Sewer and Water Main Specifications, and in accordance with STANDARD DESIGN AND GUIDELINES FOR GREEN INFRASTRUCTURE PRACTICES Standard Details that are made part of this Contract, unless otherwise amended herein.

**GI-5.13A.3. PRECAST REINFORCED CONCRETE STORMWATER INLET**

The Contractor is advised that in lieu of poured-in-place stormwater inlets the substitution of Precast Reinforced Concrete Stormwater Inlets that comply with the Standards for Green Infrastructure drawings will be permitted as Stormwater Inlets. The Precast Reinforced Concrete Stormwater Inlets shall be constructed in accordance with the requirements for Catch Basins under Subsection 51.41.4 of the NYCDEP Standard Sewer and Water Main Specifications, and in accordance with the NYC Department of Environmental Protection STANDARD DESIGN AND GUIDELINES FOR GREEN INFRASTRUCTURE PRACTICES drawings that are made part of the Contract, unless otherwise amended herein.

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**SECTION GI-5.14 TF  
(NOT A PAY ITEM)  
TEMPORARY FENCING**

**GI-5.14TF.1. DESCRIPTION**

The Contractor shall completely enclose by temporary fences all excavations, steep embankments, open shops and storage areas and all other potentially hazardous locations as soon as such condition exists and as ordered by the Engineer. The fencing is in addition to any provisions that the Contractor would normally follow to safeguard the Contractor's work operations and in no way reduces the Contractor's obligations as provided in the contract.

**GI-5.14TF.2. MATERIALS**

Fencing shall be five (5) foot high above the existing surface and shall be constructed in ten (10) linear foot removable sections to facilitate construction. Each section shall consist of three (3) horizontal rails of 2" x 8" lumber nailed at each end to 2" x 8" vertical posts. The lower rail shall be located not more than six (6) inches above ground or street surface. The posts shall be of sufficient height to be firmly anchored in a manner approved by the Engineer. The spaces between rails shall be covered with 1/12-inch (0.083") diameter, (No. 14 B.W.G.) iron wire (both directions) of an electrically welded rectangular mesh, with openings no greater than two (2) inches wide by four (4) inches high.

**GI-5.14TF.3. CONSTRUCTION METHODS**

(A) The Contractor shall be solely responsible for the furnishing, erecting, relocating, maintenance and removal and replacement of all temporary fencing required under this contract.

The Contractor shall maintain all fencing in a satisfactory and safe condition. The Contractor shall replace, at no additional cost to the City, any and all fencing that the Engineer deems cannot be maintained and/or fails to meet the requirements of this section.

(B) The Contractor shall be permitted to remove such portions of the fencing as are required for the purpose of performing the Contractor's construction operations during working hours, providing that the public is continuously safeguarded by other satisfactory means during these construction operations. In all such cases the sections of fencing removed shall be restored to their original locations at the end of each workday.

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**SECTION GI-5.21  
(NOT A PAY ITEM)  
SAWCUTTING PAVEMENT**

**GI-5.21.1. DESCRIPTION**

This section describes the full-depth sawcutting of both sidewalk and roadway pavements for the opening of pavements under other contract items.

**GI-5.21.2. CONSTRUCTION METHODS****(A) SAWCUTTING OF PAVEMENTS**

(1) The Contractor will be required to saw cut all asphaltic pavement; concrete pavement; asphaltic top course on concrete base pavement; and all other roadway pavements specified, or ordered as follows:

- (a) full-depth saw cuts of pavement along the initial opening limits of all trenches and excavations;
- (b) full-depth saw cuts of pavement along the edges of all trenches and excavations for cutbacks of trenches and excavations;
- (c) full-depth saw cuts of asphaltic top course along the edges of all trenches and excavations for cutbacks of asphaltic top course;

NOTE: A "FULL-DEPTH SAW CUT" shall be defined as the cutting of pavement by the use of a dust controlling water lubricated rotary blade concrete and pavement saw cutting machine. (Vermeer type cutting machines will not be permitted for use in order to make full-depth saw cuts.)

- (2) The Contractor will be required to full-depth saw cut all sidewalks and curbs along the limits of all trenches and excavations or as directed by the Engineer.
- (3) All saw cutting shall be done with approved power tool equipment.

**(B) BREAKING EXISTING PAVEMENT**

All pavements shall be initially opened as specified in Subsection GI-5.21.2. paragraphs (A)(1)(a) and (A)(2), above. Unless otherwise specified, the remainder of pavements between full depth saw cuts may be opened with hand-held "Jack" Hammers. The use of Hoe-Rams will not be permitted.

The area under construction shall be kept as clean and neat as possible and no material shall restrict water flow in gutter areas. These requirements shall be the responsibility of the Contractor.

**(C) EXCAVATION OF PAVEMENTS**

Excavation of roadway pavement will be paid for under Item 6.02 AAN; excavation of sidewalk pavement within the limits of the Green Infrastructure will be paid for under GI-4.02; excavation of sidewalk pavement outside the limits of the Green Infrastructure where new sidewalk is to be placed will be deemed included in the unit price bid for the new sidewalk; and, excavation of curbs will be deemed included in the unit price bid for the new curb construction. All pavement removal shall be done in such a manner so as not to disturb the existing pavements outside the specified and ordered area of removal and restoration.

For the removal and restoration of brick or block pavements the edges of the pavement shall be toothed or racked back.

**SECTION GI-5.35  
(NOT A PAY ITEM)  
SLEEVE FOR UTILITY CROSSINGS**

**GI-5.35.1. DESCRIPTION**

The Contractor shall furnish and install HDPE (High-Density Polyethylene) split sleeve pipes to protect utilities in concrete ducts crossing Green Infrastructure. Each split sleeve pipe shall have a wire (not wire mesh) reinforced concrete collars on each side of the Green Infrastructure, as shown on the NYC Department of Environmental Protection STANDARD DESIGN AND GUIDELINES FOR GREEN INFRASTRUCTURE PRACTICES drawings.

Sleeve lengths shall range from six (6') feet to eight (8') feet depending on the width of the Green Infrastructure or at any given location it shall be two (2') feet greater than the width of the Green Infrastructure.

**GI-5.35.2. MATERIALS**

(A) HDPE SPLIT SLEEVE PIPE shall be of the diameter and length required as shown on the Contract Drawings or as directed by the Engineer. HDPE SPLIT SLEEVE PIPE shall comply with the requirements of Section GI-2.16, contained herein.

(B) SEALING GASKET shall be as recommended by the manufacturer of the sleeve.

(C) CONCRETE shall be Type B-32 comply with the requirements of Sections 3.05 and 4.06 in the NYCDOT Standard Highway Specifications.

(D) WIRE REINFORCEMENT shall comply with the requirements of Sections 4.14 in NYC Department of Transportation Standard Highway Specifications. Size and spacing shall vary in accordance with the cross sectional area of the utility and as directed by the Engineer.

(E) MORTAR, if required for end capping, shall comply with the requirements of Section 3.07 in the NYC Department of Transportation Standard Highway Specifications, Type 1, Mortar, except that the proportions shall be one (1) part of cement to one and one-half (1-1/2) parts of sand and that the ingredients may be mixed by hand.

(F) SAND fill bedding the utilities in the split sleeve pipe shall be meet the requirements of Section 2.21 in the NYC Department of Transportation Standard Standard Highway Specifications.

**GI-5.35.3. METHODS**

(A) Duct spacers shall be used to hold utilities in position to maintain a two (2") separation between the concrete utility duct and the HDPE sleeves when encasing utilities within the split sleeve pipe.

(B) The space between the utility and the sleeve shall be filled with sand as directed by the Engineer.

(C) Immediately after the Engineer has inspected and approved the encasement, the HDPE Split Sleeve pipe shall be backfilled as per the appropriate items.

(D) Concreting shall comply with the requirements of Sections 3.05 and 4.06 of NYC Department of Transportation Standard Standard Highway Specifications.

**GI-5.35.4. DAMAGE TO THE UTILITY CROSSINGS.**

Any damage cause to the utility crossings during the construction or any cause whatsoever, whether in or out of the trench, shall be made good at the sole expense of the Contractor.

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**SECTION 6.02 PA  
(NOT A PAY ITEM)  
PNEUMATIC EXCAVATION AROUND TREES**

**6.02PA.1. INTENT.**

This Section describes the excavation of trenches to be performed pneumatically around existing trees to remain.

**6.02PA.2. DESCRIPTION.**

The Contractor shall perform pneumatic excavation work at locations where trees existing within the work area are required to remain. This work requires the Contractor to protect tree roots during excavation and implement, as needed, a temporary excavation support system. Work covered under this section shall be performed at the locations indicated on the Contract Drawings, in accordance with the specification, and as directed by the Engineer, in consultation with and under the supervision of a Tree Consultant in accordance with Section 4.21 of the NYCDOT standard highway specifications.

**6.02PA.3. SUBMITTALS.**

Follow the procedures in the NYC Department of Transportation's Standard Highway Specifications, General Conditions, **Section 1.06.31.**

- (A) **Qualifications:** Submit letter documenting prior experience of Contractor performing pneumatic excavation.
- (B) **Shop drawings:** Where required, the Contractor shall submit design shop drawings for any temporary excavation support system to be used during the pneumatic excavation work. The shop drawings shall be prepared, signed, and sealed by a Professional Engineer currently licensed in the State of New York. The shop drawings shall be submitted to the Engineer at least two (2) weeks before commencement of excavation. Excavation work may not commence until the shop drawings are approved by the Engineer.

**6.02PA.4. QUALITY CONTROL**

- (A) **OPERATOR QUALIFICATIONS:** The Contractor or Subcontractor performing this excavation work shall have at least one year of documented experience operating the pneumatic excavation tool in conjunction with related equipment as described herein.
- (B) **TREE CONSULTANT:** Unless otherwise directed by the Engineer, all pneumatic excavation work shall be performed under the direction of the Engineer, in consultation with the Tree Consultant (Item 4.21), also referred to as the Contractor's Certified Arborist.
- (C) **PRE-PNEUMATIC EXCAVATION MEETING:** Prior to the start of such excavation, the Contractor and its approved Operator for pneumatic excavation shall attend a meeting arranged by the Engineer, with the Tree Consultant (Item 4.21) and other parties as appropriate, to review the requirements of this item including the schedule of operations, the mandatory presence of the Tree Consultant, safety measures, reporting, etc. The Contractor is required to submit a schedule of his anticipated pneumatic excavations at this meeting.

**6.02PA.5. MATERIALS**

Materials shall meet the following requirements, as modified by any supplemental landscape specifications or special notes included in the contract documents. Where indicated, reference shall be to the latest revision/edition of Standard Specifications of the New York State Department of Transportation (NYSDOTSS):

- (A) **PNEUMATIC EXCAVATING TOOL.** Excavation shall be performed through the use of a pneumatic excavation tool with the following requirements:

- (1) The high air velocity excavation tool shall be specifically designed to fracture, pulverize, and displace porous and semi-porous soils without harming or causing damage to tree roots, existing subsurface utilities or other non-porous objects.
- (2) The Contractor shall submit catalog cuts from the manufacturer verifying that the Pneumatic excavation tool meets the following criteria:

Rated Operating Pressure: 6.2 – 7.0 bar

Air Stream Velocity at Cutting Head: 2,200 – 2,500 km/hr

Air Displacement: 4,000 – 5,000 L/min

- (B) **AIR COMPRESSOR.** The air compressor may be either a portable or truck-mounted unit and shall be adequately sized as required to power the pneumatic excavation tool in accordance with the manufacturer's recommendations for the pneumatic excavating tool.
- (C) **VACUUM TRUCK.** A vacuum truck should be used to collect excavated spoil directly from the trench or pit.
- (D) **CONTAINMENT STRUCTURE.** To prevent the spread of excavated soil onto adjacent roadways and areas beyond the designated work zone limits, the Contractor shall provide a mobile structure or barrier to contain the material dislodged by the pneumatic excavation tool from the trench or pit. Timber or corrugated metal shields, tents supported on tubular frames or other structures as approved by the Engineer may be used.
- (E) **ROOT PROTECTION.** The following are required for root protection:

<u>Item</u>	<u>NYSDOTSS Articles</u>
Quilted Covers	711-02
Burlap	711-06

**6.02PA.6. METHODS.**

The work shall be performed where shown on the Contract Drawings and as directed by the Engineer.

- (A) **RESPONSIBILITIES OF THE CONTRACTOR:** Prior to bidding, the Contractor shall examine the site and available information, and formulate methods of construction that will not result in any damage to existing trees during excavation. In any event, the Contractor will be held liable for irreparable and/or irreversible damage to any trees harmed due to the Contractor's methods and shall replace those trees as directed by the Department of Parks and Recreation, at no additional cost to the City.



- (B) **WORK SITE SAFETY:** In addition to the Department of Design and Construction's Safety Requirements policy and responsibilities, the pneumatic excavation shall be performed in accordance with the manufacturer's operating instructions. The Contractor shall be responsible to provide adequate equipment and perform pneumatic excavation techniques properly to preclude movement of any air-borne soils onto adjacent roadways or other areas beyond the designated work zone limits. Failure to contain and/or collect the excavated soil will result in the immediate termination of pneumatic excavation until soil containment and/or collection procedures are determined adequate by the Engineer. The Contractor shall keep the public at a safe distance from the work zone at all times by means approved by the Engineer.
- (C) **DUST CONTROL:** The work area shall be watered thoroughly at least twenty-four (24) hours in advance of, but no more than forty-eight (48) hours, prior to the start of any pneumatic excavation in order to reduce the incidence of airborne dust resulting from the pneumatic excavation operation.
- (D) **EXCAVATION – GENERAL:** All excavation using the pneumatic excavation tool shall be performed in accordance with the manufacturer's recommendations in order to remove soil without causing damage to the roots of trees, buried structures, and/or utilities either in or adjacent to the excavation. The Contractor shall excavate within limits designated for pneumatic excavation shown on the Contract Drawings or as directed by the Engineer, in consultation with the Tree Consultant (Item 4.21), using the pneumatic excavating tool. When working near utilities, the Contractor shall be responsible to locate underground facilities as required under 16 NYCRR Part 753 and **Section 1.06.28** of the NYC Department of Transportation's Standard Highway Specifications.
- (E) **EXCAVATION – TEMPORARY EXCAVATION SUPPORT SYSTEM:** Approved sheeting and bracing shall be used where necessary to support the sides of the excavation, in order to: prevent damage to subsurface structures and adjacent buildings; safeguard persons and property; minimize inconvenience to traffic and the public; protect the structure to be installed; support the adjacent tree(s); and, provide suitable and safe working conditions. Except as otherwise provided, deviations from the above will be permitted only where, in the judgment of the Engineer, such exception will not result in any of the hazards described above.

In cases where sheeting and bracing will not adequately protect adjacent structures from damage and settlement, the Contractor will be required to use such measures as are necessary to safely support and maintain adjacent and abutting property and structures, support the tree without causing damage to the tree, and to maintain the work safe to life, limb, and property.

All sheeting and bracing systems that the Contractor elects to use or that are ordered to use by the Engineer shall comply with the requirements of **Section 40.05, "SHEETING AND BRACING,"** of the NYCDEP, Standard Sewer and Water Main Specifications, and must receive the approvals stated therein.

Unless otherwise specified in the Contract Drawings or these Specifications or specifically permitted in writing by the Engineer, the Contractor shall be required to withdraw and remove all sheeting and bracing simultaneously with the backfilling of the excavation.

- (F) **ROOT PROTECTION:** The Contractor shall place wet burlap or cotton mats upon both the fibrous and structural roots immediately after they have been exposed by the pneumatic excavating tool. The burlap or cotton covering may be removed to perform inspection or

construction operations, but the Contractor shall be required to keep the burlap or cotton towels wet and the roots moist until backfilling is complete.

The Engineer shall be immediately informed of any damaged tree roots. No tree roots may be pruned except as specifically authorized by the Tree Consultant (Item 4.21). In case the concentration of roots obstructs the placement of utilities, footings or other structures, limited pruning may be necessary as directed by the Tree Consultant (Item 4.21). Tree roots in excess of one (1) inch in diameter, measured at the edge of the excavation, shall be cut cleanly at the edge of excavation using a sharp cutting tool. All root pruning shall be performed under the direction of the Tree Consultant (Item 4.21).

- (G) **TREE CONDITION REPORT:** The Contractor shall supply the Tree Consultant (Item 4.21) with information as needed for the Tree Consultant to prepare periodic reports to the Engineer summarizing the number, type and condition of trees adjacent to each area of pneumatic excavation. These reports shall also indicate the duration of open excavation and identify any root damage and mitigation actions taken.
- (H) **BACKFILLING:** Refer to Section 6.02 PB "Backfilling Around Trees", herein I – 23, for the requirements and procedures for backfilling excavated areas.

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**SECTION GM-30  
NOT A PAY ITEM  
EPOXY BONDED STONE STRIP BED**

**GM-30.1. INTENT**

This section describes the epoxy bonded stone strip bed. The Contractor shall install a stone strip bed of the size and depth as shown on the NYC Department of Environmental Protection Standard Design and Guidelines for Green Infrastructure Practices drawings and apply an epoxy bonding agent to the stone strip where indicated on the Contract Drawing.

**GM-30.2. MATERIALS**

- A) Crushed stone shall conform to the NYC Department of Transportation Standard Highway Specification Section 2.02, Type 1- Broken Stone, Grade B, and shall be washed and conform to the following gradation as modified below:

Percentage of Dry Weight	
Sieve Size	Passing Designated Sieve Size
1"	100
0.5"	25-50
0.25"	0-10

- B) Epoxy Bonding agent shall be a clear, non-toxic, UV-stable bonding. Minimum properties of approved epoxy systems include:
1. Ultimate tensile strength - 4,000psi
  2. Compressive strength – 18,800psi
  3. Flexural Strength – 11,000psi
  4. Bond strength – 1,500psi

**GM-30.3. METHODS**

Stone Strip shall be placed as per Drawings. Then Epoxy Bonding Agent shall be applied to Stone Strip in place where indicated on the Drawings.

Epoxy bonding agent is to be sprayed on clean and dry stone surfaces to sufficiently bond top layer of stone but at a rate no less than recommended by the manufacturer. Do not install if rain is expected within 12 hours. Do not cover area with plastic. Install when outdoor temperature is 50 degrees or above and will not drop below 50 degrees F for at least 12 hours. Allow 24 hours to cure. If the temperature is around 50 degrees F then it may take up to 48 hours to cure.

**SUBMITTALS:**

Prior to the procurement of epoxy bonding agent, the following information and samples are required for review and approval for each source:

1. Product Data: Submit product data provided by manufacturer.
2. Submit a copy of the MSDS for Epoxy Bonding Agent.

**GM-30.4. EPOXY BONDING AGENT SUPPLIERS**

1. Pond Armor  
P.O. Box 6558  
Santa Maria, CA 93456  
phone: 800-716-1545 · fax: 805-922-4580  
email: [info@pondarmor.com](mailto:info@pondarmor.com)  
[www.pondarmor.com](http://www.pondarmor.com)
2. Epoxy Bonding Agent #17  
A Division of Epoxy Systems, Inc.  
20774 W. Pennsylvania Ave.  
Dunnellon, Florida 34431  
email: [info@epoxy.com](mailto:info@epoxy.com)  
[www.epoxy.com](http://www.epoxy.com)
3. Or approved equivalent.

**RELATED SECTIONS**

Section GI-2.06 – Landscape Edging, contained herein.

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**SECTION PM-01 through PM-24  
TREES, SHRUBS, WOODY AND HERBACEOUS PLANT MATERIAL**

**PM-1. INTENT**

This section describes woody and herbaceous plant material.

**PM-2. KIND**

Plant names, size, and grading standards shall conform to those prepared by the American Association of Nurserymen Horticultural Standards, 1998 Edition, unless otherwise specified. No substitution shall be permitted, except with the written permission of the Engineer in consultation with the NYC Department of Parks and Recreation Green Infrastructure Liaison.

**PM-3. QUALITY**

(A) All plants shall be typical of their species or variety. They shall have normal, well-developed branches and vigorous fibrous root systems. They shall be sound, healthy, vigorous plants free from defects, disfiguring knots, sun scald injuries, dead or broken branches, abrasions of the bark, plant diseases, insect eggs, borers, and all forms of infestation and weeds. All plant material shall be tagged by the Engineer before the purchase or use of any such material.

(B) All plants shall be nursery-grown, unless otherwise stated. All shrubs shall have been growing under similar climatic conditions as the locations of this project for at least two (2) years prior to the date of the contract. Plants held in storage will be rejected if they show signs of growth during storage. Collected plants shall be taken from a subgrade favorable to good root development. All collected material shall be clean sound stock, free from decaying stumps.

(C) Herbaceous plants, vines, and groundcover shall be vigorous healthy plants, a minimum two (2) years old, from cuttings, seed, or division, with well-developed root systems and crowns, as specified in the Plant Schedule. Bulbs, corms, tubers and rhizomes shall be firm, non-desiccated, and certified free of disease and viral infection, of the sizes, grades, and varieties indicated in the Plant Schedule.

**PM-4. PLANT SOURCES FOR NATIVE PLANTS ONLY, WHERE APPLICABLE**

(A) Native plant stock must be used when specified on designs and should be used whenever possible and appropriate. Native plant material must be derived from the local genotypes of the native plants specified. For purposes of this native plant material paragraph, "local" shall mean within 250 miles from the planting site. However, a reasonable effort shall be made to obtain sources of plant material as close to the planting site as possible. All plants must have been grown in a hardiness zone no warmer than Zone 7 or colder than Zone 5 as determined by the USDA Agricultural Research Service, Plant Hardiness Zone Map. Plant quality shall be typical of their species. Plant material should exhibit the range of variation typical of local genotypes of the species as determined by the Engineer. They shall have normal branching and vigorous fibrous root systems. They shall be sound, healthy plants, free from sunscald injuries, or other mechanical injury, plant diseases, insect eggs, borers and all forms of infestations. All plants shall be nursery grown unless otherwise stated. Collected material will not be accepted. Except as may otherwise be specified in this native plant material paragraph, all other sections of this Plant Material specification shall also apply to the Native Plants. The native plant material, subject to

availability and adherence to the requirements of this paragraph, may be purchased from the following nurseries or approved equal nurseries:

Greenbelt Native Plant Center, Staten Island, NY

Pineland's Nursery, Columbus, NJ

Wild Earth, Freehold, NJ

Sylva Native, Glen Rock, PA

**PM-5. ORDERING PLANT MATERIALS**

(A) The Contractor shall notify the Engineer of the unavailability of any tree, shrub, herbaceous plant, or bulb species designated in the contract, as well as provide confirmation to the Engineer of all orders from all sources of supply. Any request for species substitution due to unavailability must be submitted in writing to the Engineer, within fifteen (15) days of the award of contract. The Contractor must include the names and addresses of at least ten (10) nurseries they have contacted in an effort to locate these species, and the list shall be submitted to the Engineer. All nurseries supplying material shall be required to have a registration certificate from the Department of Agriculture and Markets, Division of Plant Industry, New York, or any other state where plant material is obtained, certifying that plant material is apparently free of injurious insects and diseases.

**PM-6. CHEMICAL AND PHYSICAL REQUIREMENTS**

(A) Plant material shall be as shown on the Tree Planting Schedule as shown on the Contract Drawings. Where applicable, the Contractor shall provide freshly dug plant material. Cold storage or previously dug plants will not be acceptable. The Contractor shall not prune prior to delivery unless otherwise directed and approved by the Engineer or representative. Plants that are pruned without authorization from the Engineer will be rejected. Plant material shall be delivered to the site in such a manner as to not damage the bark, break branches, or destroy the natural shape of the plant. To protect plant material from desiccation, the Contractor shall when deemed appropriate and only on appropriate plant material, apply an approved anti-desiccant 48 hours prior to transporting and fully cover plant material during transportation to the planting site. Plant material shall not be dropped or in any way be mishandled during unloading. Plants damaged during transportation to the site will be immediately rejected. Unacceptable conditions shall include, but not be limited to, the following: loose burlap or rope, soil spilling from B&B or containers, plants that move independently of root ball or container, soil missing from B&B or containers, and irregularly shaped root balls.

(B) ASIAN LONGHORNED BEETLE QUARANTINE ZONE REGULATIONS: Due to current Federal, State and NYC DPR policy, the following host species may not be planted in the quarantine zone. Host species are as follows: Acer-Maple, Aesculus-Horsechestnut/Buckeye, Salix-Willow, Betula-Birch, Populus-Poplar, Ulmus-Elm, Albiza-Mimosa/Silk Tree, Celtis-Hackberry, Fraxinus-Ash, Platanus-London Planetree, Sycamore, Sorbus-Mountain Ash.

In addition, Nurseries located within the quarantine zone shall comply with State and Federal Law and all Contractors and/or Subcontractors shall be Certified by the New York State Department of Agriculture and Markets to perform work within the Quarantine Zone. For additional information,

including the extent of the quarantine zone, see the NYC Department of Transportation, Standard Highway Specifications, General Conditions, Subsection 1.06.23.(R), "PLANT PEST CONTROL REQUIREMENTS".

(C) Dimensions

A plant shall be dimensioned as it stands in its natural position. Trees up to and including four (4) inch caliper size shall be measured six (6) inches above ground level. Trees over four (4) inches in caliper size shall be measured twelve (12) inches above ground level. Stock furnished shall be a fair average of the minimum and maximum sizes specified. Larger plants cut back to sizes specified will not be accepted.

Container grown herbaceous plants, groundcover, and vines shall be well rooted in the container size indicated on the Plant Schedule, grown in the container at least one year prior to planting. Bulbs, corms, tubers and rhizomes shall be Top Size, or as indicated on the Plant Schedule. Annual flowering plants shall be vigorous, well rooted, with no indications of disease or stress.

(D) Preparation of Plants

All precautions customary in good trade practice shall be taken in preparing plants for moving. Workmanship that fails to meet the highest standards will be rejected. All plants shall be dug immediately before moving unless otherwise specified. All plants shall be dug to retain as many fibrous roots as possible. Balled and burlapped and balled and platformed plants shall have a solid ball of earth of minimum specified size, securely held in place by burlap and stout rope or twine. Oversized or exceptionally heavy plants are acceptable if the size of the ball or spread of roots is proportionately increased, to the satisfaction of the Engineer. Loose, broken, or manufactured balls will be rejected. Bare root plants shall be puddled immediately after digging by immersing the roots in a hydrogel slurry, so as to completely coat the roots.

(E) Delivery

Plants shall be packed, transported, and handled with utmost care to insure adequate protection against injury. When transported in closed vehicles, plants shall receive adequate ventilation to prevent sweating. When transported in open vehicles, plants shall be protected by tarpaulins or other suitable cover material. All bare root plants shall be adequately protected from drying out and immediately after inspection shall be heeled in moist soil. Balled and burlapped plants shall be set on the ground and the ball covered with soil. Until planted, all material shall be properly maintained and kept adequately moist, to the satisfaction of the Engineer.

(F) Inspection

Inspection may be made before digging if the Engineer directs, but no plant material shall be planted by the Contractor until inspected by the Engineer at the site of the work. Plant material will be rejected if delivered with broken or damaged root balls, or if damaged on site by rough handling. All rejected material shall be immediately removed from the site and replaced with acceptable material at no additional cost. Final inspection shall be made upon completion of the contract.

**PM-7. PLANT SCHEDULE**

(A) ABBREVIATIONS

Cal.	Indicates the caliper of the trunk of the tree.
B & B	Indicates tree or shrub to be balled and burlapped.
B.R.	Indicates a tree or shrub to be delivered "bare root".
O.C.	Indicates "on center" or spacing between plants in all directions.
Ht.	Indicates overall height of tree.
Item No.	Indicates specific species of plant material, including a description.

(B) Genus species & Plant description.

TREES: All trees shall be branched 6' from the ground. No tree shall have any limb cuts over 3/4" which have not completely calloused over. Sizes shall be as indicated.

All B&B trees shall be dug with firm root balls free of noxious weeds. There should be no excess soil on top of the root ball or around the trunk. Loose, broken, or manufactured balls will be rejected. Well-branched top and fibrous root system essential.

SHRUBS: Sizes shall be as indicated. Rootball or container sizes shall correspond to A.A.N. Standards for the corresponding shrub height. Heavy root system, all shrubs shall be well branched to the ground. Sizes shall be as indicated.

VINES, GROUNDCOVER, AND HERBACEOUS PLANTS: Container size shall be as indicated on the plans. All plants shall have vigorous root systems and have grown in the container for at least one year prior to planting.

PLUGS: Plugs shall have vigorous root systems.

ANNUALS: Annual flowering plants shall be vigorous, well rooted, with no indications of disease or stress.

BULBS, CORMS, TUBERS AND RHIZOMES: All bulbs, corms, tubers and rhizomes shall be top size, firm, and non-desiccated.

ROSES: Sizes shall be as indicated. Heavy root system, all roses shall be well branched to the ground.

**Items are listed by estimated size and/or shared similarities; they include—but shall not be limited to—the genus and species listed beneath each item.**

1. PLANT MAJOR TREES – 2½" – 3" CALIPER



**Acer rubrum**, Red Maple: 2½" – 3" cal. B&B with 28" - 32" rootball, branched 6' from the ground. Should have single, straight trunk with leader intact, and symmetrical well branched tops.

**Betula nigra**, River Birch: 2½" – 3" cal. B&B with 28" - 32" rootball, branched 6' from the ground, spread of top 6'. Should have a single straight trunk.

**Carpinus betulus**, European Hornbeam: 2½" – 3" cal. B&B with 28" - 32" rootball, branched 6' from the ground, spread of top 5'-6'. Should have single, straight leader.

**Celtis occidentalis**, Hackberry: 2½" – 3" cal. B&B with 28" - 32" rootball, branched 6' from ground. Should have straight trunk w/symmetrical well branched top, spread of 5'-6'.

**Crataegus viridis 'Winter King'**, 'Winter King' Green Hawthorn: 2½" – 3" cal. B&B with 28" - 32" rootball, branched 6' from the ground, spread of top 6'. Should have a single straight trunk.

**Eucommia ulmoides**, Hardy Rubber Tree: 2½" – 3" cal. B&B with 28" - 32" rootball, branched 6' from ground. Should have straight trunk with symmetrical and somewhat pyramidal, well branched top.

**Ginkgo biloba**, Ginkgo: 2½" – 3" cal. B&B with 28" - 32" rootball Branched 6' from ground. Single straight trunk with leader intact, symmetrical well branched tops. Trees with unbalanced tops not acceptable. Spread of top 3'-4'. Staminate form only.

**Gleditsia triacanthos var inermis**, Honey locust: 2½" – 3" cal. B&B with 28" - 32" rootball branched 6' from ground. Spread of top 4'-5'. Shall have straight trunks and picturesque, well branched tops.

**Gymnocladus dioica**, Kentucky Coffeetree: 2½" – 3" cal. B&B with 28" - 32" rootball branched 6' from ground. Single straight trunk with leader intact, symmetrical well branched tops.

**Koelreuteria paniculata**, Goldenrain Tree: 2½" – 3" cal. B&B with 28" - 32" rootball, branched 6' from ground. Should have single straight trunks with leaders intact, and symmetrical well branched tops.

**Liquidambar styraciflua**, Sweetgum: 2½" – 3" cal. B&B with 28" - 32" rootball, branched 6' from ground. Should have single straight trunks, leader intact, well branched tops.

**Metasequoia glyptostroboides**, Dawn Redwood: 2½" – 3" cal. B&B with 28" - 32" rootball, branched 6' from ground. Single straight trunk, pyramidal form and leader intact.

**Nyssa sylvatica**, Black Gum: 2½" – 3" cal. B&B with 28" - 32" rootball, branched 6' from ground. Should have single straight trunks with leader intact. Well branched tops.

**Platanus X acerifolia**, London Plane Tree: 2½" – 3" cal. B&B with 28" - 32" rootball, branched 6' from ground. Shall have single straight trunks with leader intact, symmetrical well branched tops. No cut back trees.

**Quercus acutissima**, Sawtooth Oak: 2½" – 3" cal. B&B with 28" - 32" rootball, branched 6' from ground. Spread of top 4'-5'.

**Quercus bicolor**, Swamp White Oak: 2½" – 3" cal. B&B with 28" - 32" rootball, branched 6' from ground. Spread of top 4'-5'.

**Quercus imbricaria**, Shingle Oak: 2½" – 3" cal. B&B with 28" - 32" rootball, branched 6' from ground. Spread of top 4'-5'.

**Quercus macrocarpa**, Bur Oak: 2½" – 3" cal. B&B with 28" - 32" rootball, branched 6' from ground. Spread of top 4'-5'.

**Quercus palustris**, Pin Oak: 2½" – 3" cal. B&B with 28" - 32" rootball, branched 6' from ground. Spread of top 4'-5'.

**Quercus phellos**, Willow Oak: 2½" – 3" cal. B&B with 28" - 32" rootball, branched 6' from ground. Spread of top 4'-5'.

**Quercus robur**, English Oak: 2½" – 3" cal. B&B with 28" - 32" rootball, branched 6' from ground. Spread of top 4'-5'.

**Quercus robur 'Fastigiata'**, Columnar English Oak: 2½" – 3" cal. B&B with 28" - 32" rootball, fully branched.

**Quercus rubra**, Red Oak: 2½" – 3" cal. B&B with 28" - 32" rootball, branched 6' - 7' from ground. Spread of top 4'- 5'.

**Taxodium distichum**, Bald Cypress: 6'-8'. B&B with 26-28" rootball. Should have single straight trunk, vigorous growth with pyramidal form and single, straight leader intact.

**Taxodium distichum var. nutans**, Pond Cypress: 6'-8'. B&B with 26-28" rootball. Should have single straight trunk, vigorous growth with pyramidal form and single, straight leader intact.

**Ulmus spp. ('Jefferson', 'New Harmony', 'Valley Forge', 'Princeton', 'Homestead', 'Pioneer', 'Delaware')**, American Elm: 2"-2½" cal. B&B with 26-28" rootball, branched 6' from ground. Straight trunk with leader intact, well branched tops.

**Ulmus parvifolia**, Lacebark Elm: 2"-2½" cal. B&B with 26-28" rootball, branched 6' from ground, spread of top 5'-6', straight trunk with symmetrical, well branched tops, must be free from bad crotches and other structural faults, shall be free from scale, Dutch Elm disease and all other infestation.

**Zelkova serrata**, Japanese Zelkova: 2"-2½" cal. B&B with 26-28" rootball, branched 6' from ground, spread of top 4'-5'.

2. PLANT MAJOR TREES: 3 ½" – 4" CALIPER

**Acer rubrum**, Red Maple: 3 ½" – 4" cal. B&B with 36" – 40" rootball, branched 6' from the ground. Should have single, straight trunk with leader intact, and symmetrical well branched tops.

**Betula nigra**, River Birch: 3 ½" – 4" cal. B&B with 36" – 40" rootball, branched 6' from the ground, spread of top 6'. Should have a single straight trunk.

**Carpinus betulus**, European Hornbeam: 3 ½" – 4" cal. B&B with 36" – 40" rootball, branched 6' from the ground, spread of top 5'-6'. Should have single, straight leader.

**Celtis occidentalis**, Hackberry: 3 ½" – 4" cal. B&B with 36" – 40" rootball, branched 6' from ground. Should have straight trunk w/symmetrical well branched top, spread of 5'-6'.

**Crataegus viridis 'Winter King'**, 'Winter King' Green Hawthorn: 3 ½" – 4" cal. B&B with 36" – 40" rootball, branched 6' from the ground, spread of top 6'. Should have a single straight trunk.

**Eucommia ulmoides**, Hardy Rubber Tree: 3 ½" – 4" cal. B&B with 36" – 40" rootball, branched 6' from ground. Should have straight trunk with symmetrical and somewhat pyramidal, well branched top.

**Ginkgo biloba**, Ginkgo: 3 ½" – 4" cal. B&B with 36" – 40" rootball Branched 6' from ground. Single straight trunk with leader intact, symmetrical well branched tops. Trees with unbalanced tops not acceptable. Spread of top 3'-4'. Staminate form only.

**Gleditsia triacanthos var inermis**, Honeylocust: 3 ½" – 4" cal. B&B with 36" – 40" rootball branched 6' from ground. Spread of top 4'-5'. Shall have straight trunks and picturesque, well branched tops.

**Gymnocladus dioica**, Kentucky Coffeetree: 3 ½" – 4" cal. B&B with 36" – 40" rootball branched 6' from ground. Single straight trunk with leader intact, symmetrical well branched tops.

**Koelreuteria paniculata**, Goldenrain Tree: 3 ½" – 4" cal. B&B with 36" – 40" rootball, branched 6' from ground. Should have single straight trunks with leaders intact, and symmetrical well branched tops.

**Liquidambar styraciflua**, Sweetgum: 3 ½" – 4" cal. B&B with 36" – 40" rootball, branched 6' from ground. Should have single straight trunks, leader intact, well branched tops.

**Metasequoia glyptostroboides**, Dawn Redwood: 3 ½" – 4" cal. B&B with 36" – 40" rootball, branched 6' from ground. Single straight trunk, pyramidal form and leader intact.

**Nyssa sylvatica**, Black Gum: 3 ½" – 4" cal. B&B with 36" – 40" rootball, branched 6' from ground. Should have single straight trunks with leader intact. Well branched tops.

**Platanus X acerifolia**, London Plane Tree: 3 ½" – 4" cal. B&B with 36" – 40" rootball I, branched 6' from ground. Shall have single straight trunks with leader intact, symmetrical well branched tops. No cut back trees.

**Quercus acutissima**, Sawtooth Oak: 3 ½" – 4" cal. B&B with 36" – 40" rootball, branched 6' from ground. Spread of top 4'-5'.

**Quercus bicolor**, Swamp White Oak: 3 ½" – 4" cal. B&B with 36" – 40" rootball, branched 6' from ground. Spread of top 4'-5'.

**Quercus imbricaria**, Shingle Oak: 3 ½" – 4" cal. B&B with 36" – 40" rootball, branched 6' from ground. Spread of top 4'-5'.

**Quercus macrocarpa**, Bur Oak: 3 ½" – 4" cal. B&B with 36" – 40" rootball, branched 6' from ground. Spread of top 4'-5'.

**Quercus palustris**, Pin Oak: 3 ½" – 4" cal. B&B with 36" – 40" rootball, branched 6' from ground. Spread of top 4'-5'.

**Quercus phellos**, Willow Oak: 3 ½" – 4" cal. B&B with 36" – 40" rootball, branched 6' from ground. Spread of top 4'-5'.

**Quercus robur**, English Oak: 3 ½" – 4" cal. B&B with 36" – 40" rootball, branched 6' from ground. Spread of top 4'-5'.

**Quercus robur 'Fastigiata'**, Columnar English Oak: 3 ½" – 4" cal. B&B with 36" – 40" rootball, fully branched.

**Quercus rubra**, Red Oak: 3 ½" – 4" cal. B&B with 36" – 40" rootball, branched 6' – 7' from ground. Spread of top 4' - 5'.

**Taxodium distichum**, Bald Cypress: 8' – 10". B&B with 34"-36" rootball. Should have single straight trunk, vigorous growth with pyramidal form and single, straight leader intact.

**Taxodium distichum var. nutans**, Pond Cypress: 8' – 10". B&B with 34"-36" rootball I. Should have single straight trunk, vigorous growth with pyramidal form and single, straight leader intact.

**Ulmus spp.** ('Jefferson', 'New Harmony', 'Valley Forge', 'Princeton', 'Homestead', 'Pioneer', 'Delaware'), American Elm: 3 ½" – 4" cal. B&B with 36" –

40" rootball, branched 6' from ground. Straight trunk with leader intact, well branched tops.

**Ulmus parvifolia**, Lacebark Elm: 3 ½" – 4" cal. B&B with 36" – 40" rootball, branched 6' from ground, spread of top 5'-6', straight trunk with symmetrical, well branched tops, must be free from bad crotches and other structural faults, shall be free from scale, Dutch Elm disease and all other infestation.

**Zelkova serrata**, Japanese Zelkova: 3 ½" – 4" cal. B&B with 36" – 40" rootball, branched 6' from ground, spread of top 4'-5'.

3. PLANT FLOWERING AND ORNAMENTAL TREES

**Amelanchier arborea**, Downy Serviceberry: 8'-10' Ht., B&B, 20" rootball, spread of top 5'-6'.

**Amelanchier canadensis**, Shadblow: 2"-2½" cal. B&B with 26-28" rootball, branched 6' from the ground, average height 8'-10', spread of top 5'-6'. Should have single, straight leader. Provide multi-stemmed specimens if requested. Multi-stemmed trees shall have a minimum of 4 main stems and be a minimum height of 4'.

**Amelanchier x grandiflora 'Autumn Brilliance', 'Robin Hill'**, Apple Serviceberry: 2"-2½" cal. B&B with 26-28" rootball, branched 6' from the ground, average height 8'-10', spread of top 5'-6'. Should have single, straight leader. Provide multi-stemmed specimens if requested. Multi-stemmed trees shall have a minimum of 4 main stems and be a minimum height of 4'.

**Amelanchier laevis 'Snowcloud'**, Snowcloud Serviceberry: 8'-10' Ht., B&B, 20" rootball, spread of top 5'-6'.

**Cercis canadensis, 'Alba' 'Forest Pansy'**, Eastern Redbud: 2"-2½" cal. B&B with 26-28" rootball, branched 6'-7' from ground, average height 12'-14', spread of 4'-5', well branched. Should have straight trunk with leader intact. No limb cuts over 3/4' which have not completely calloused over. Heavy fibrous root system essential. Supply multi-stemmed if specified. Multi-stemmed shall be a minimum of 6'.

**Chionanthus retusus**, Chinese Fringetree: 1¾"-2" cal., B&B, 22" rootball, well branched, spread of top 5'.

**Chionanthus virginicus**, White Fringetree: 5'-6' Ht., B&B, 16"-18" rootball, well branched, spread of top 5'.

**Cornus kousa**, Korean Dogwood: 8'- 10' Ht., B&B, 20" rootball, well branched, spread of top 5'

**Cornus mas**, Cornelian Dogwood: 2"-2½" cal. B&B with 26-28" rootball, spread of top 5'-6'. Should have single, straight leader.

**Halesia caroliniana/Halesia tetraptera**, Carolina Silverbell: 2"-2½" cal. B&B with 26-28" rootball branched 6' from the ground, spread of top 5'-6'. Should have a single straight trunk. Specimen quality.

**Hamamelis x intermedia**, Hamamelis Intermedia Witchhazel: 4'-4.5' Ht., B&B, 14" rootball, spread of top 4', specimen quality.

**Maackia amurensis**, Amur Maackia: 2"-2½" cal. B&B with 26-28" rootball, branched 5' from ground. Should have single straight trunks with leaders intact, and symmetrical well branched tops.

**Magnolia virginiana**, Sweetbay Magnolia: 8'- 10' Ht., B&B, 20" rootball, well branched, spread of top 5'. Provide multi-stemmed specimens if requested. Multi-stemmed trees shall have a minimum of 4 main stems and be a minimum height of 6'.

**Malus sargentii**, Crabapple: 5-6' Ht., B&B, 18" rootball, heavy plant, well furnished to ground, spread equal to height.

**Prunus sargentii**, Sargent Cherry: 2"-2½" cal. B&B with 26-28" rootball. Shall have a single straight trunk with symmetrical well branched top.

**Prunus serrulata 'Kwanzan'**, Kwanzan Cherry: 2"-2½" cal. B&B with 26-28" rootball. Shall have a single straight trunk with symmetrical well branched top.

4. MEDIUM DECIDUOUS SHRUBS – CLASS B

**Aronia arbutifolia**, Red Chokeberry: 24-36" Ht., #3 can., heavy well-branched tops.

**Aronia melanocarpa**, Black Chokeberry: 24-36" Ht., #3 can., heavy well-branched tops.

**Callicarpa spp.**, Beautyberry: 24-36" Ht., #3 can, heavy well-branched tops.

**Clethra alnifolia**, Summersweet Clethra: 24-36" Ht., #3 can., heavy well branched tops with at least 8 canes 24" and up.

**Cornus sericea**, Redtwig Dogwood: 24-36" H, #3 can, heavy, well-branched tops.

**Cotoneaster apiculatus**, Cranberry Cotoneaster: 18-24" Ht., #3 can. with at least 5 runners. Must be well established in pot.

**Cotoneaster horizontalis**, Rockspray Cotoneaster: 18-24" Ht., #3 can.

**Forsythia x intermedia**, Showy Border Forsythia: 18-24" Ht., #3 can., full, well-branched head with at least 4 canes.

**Fothergilla gardenii**, Dwarf Fothergilla: 18-24" Ht., #3 can, heavy well branched top.

**Hamamelis vernalis**, Vernal Witchhazel: 24-36" Ht., #3 can, Heavy well-branched top.

**Hamamelis virginiana**, Witchhazel: 24-36" Ht., #3 can, heavy well branched top.

**Hydrangea quercifolia**, Oakleaf Hydrangea: 24-36" Ht., #3 can., well-branched top with at least 4 canes 24" and up.

**Ilex verticillata**, Winterberry: 24-36" Ht., B&B or #3 can., heavy symmetrical top, furnished to the ground, spread of top 15".

**Itea virginica**, Virginia Sweetspire: 18-24" Ht., #3 can., well-branched top with at least 4 canes.

**Lindera benzoin**, Spicebush: 24-30" Ht., #3 can, well branched top with at least 4 canes 20" and up.

**Myrica pennsylvanica**, Northern Bayberry: 24-36" Ht., B&B or #3 can, well-branched, spread of top 18".

**Physocarpus opulifolius**, Common Ninebark: 2-3 H, #3 can, well branched, must have at least 4 canes, 24" and up; 'Diablo' where specified.

**Potentilla fruticosa**, Shrubby Cinquefoil: 12-18" Ht., #3 can, spread of top 18", must have at least 4 canes 12" and up.

**Rhus aromatica 'Gro-Low'**, Gro-Low Fragrant Sumac: 18-24" Spread. #3 can, well branched.

**Spirea japonica**, Japanese Spirea: 18-24" Ht., #3 can., well-branched top with at least 4 canes 18" and up.

**Spirea nipponica 'Snowmound'**, Snowmound Nippon Spirea: 18-24" Ht., #3 can., well-branched top with at least 4 canes 18" and up.

**Spirea x bumalda**, Bumalda Spirea: 18-24" Ht., #3 can., well-branched top with at least 4 canes 18" and up.

**Viburnum dentatum**, Arrowwood Viburnum: 24-36" Ht., #3 can, well-branched top with at least 4 canes. Extra dense and heavy.

5. LARGE EVERGREEN SHRUBS – CLASS A

**Ilex opaca**, American Holly: 5'-6' Ht., B&B, 20", heavy well-branched tops.

6. MEDIUM EVERGREEN SHRUBS – CLASS B

**Ilex glabra**, Inkberry: 18-24" Ht., #3 can. Heavy symmetrical top with at least 8 canes 18" and up, furnished to the ground, spread of top 18". 'Shamrock' or 'Compacta' when specified.

**Ilex crenata**, Japanese Holly: 18-24" Ht., #3 can, bushy, heavy rounded top, well furnished to the ground.

**Juniperus conferta 'Blue Pacific'**, 'Blue Pacific' Shore Juniper: 12-18" Ht., #3 can.

**Juniperus horizontalis 'Bar Harbor'**, Bar Harbor Juniper: 12-15" H, #3 can, at least 3 canes 12" and up.

**Prunus laurocerasus**, Cherry Laurel: 18-24" Ht., #3 can.

7. PERENNIALS #1 can

Ornamental perennials including but not limited to the genus Agastache, Asclepias, Astilbe, Chelone, Echinacea, Eupatorium, Geranium, Hemerocallis, Hibiscus, Iris, Liatris, Liriope, Lobelia, Mondarda, Nepeta, Nipponanthemum, Rudbeckia, Salvia, Sedum, Solidago, Symphyotrichum, Verbena, and Vernonia. #1 can, must be in full leaf, well established in pot.

8. PERENNIALS #2 can

Ornamental perennials including but not limited to the genus Agastache, Asclepias, Astilbe, Chelone, Echinacea, Eupatorium, Geranium, Hemerocallis, Hibiscus, Iris, Liatris, Liriope, Lobelia, Mondarda, Nepeta, Nipponanthemum, Rudbeckia, Salvia, Sedum, Solidago, Symphyotrichum, Verbena, and Vernonia. #2 can, must be in full leaf, well established in pot.

9. PERENNIALS 1 QT

Ornamental perennials including but not limited to the genus Agastache, Asclepias, Astilbe, Chelone, Echinacea, Eupatorium, Geranium, Hemerocallis, Hibiscus, Iris, Liatris, Liriope, Lobelia, Mondarda, Nepeta, Nipponanthemum, Rudbeckia, Salvia, Sedum, Solidago, Symphyotrichum, Verbena, and Vernonia. 1 Qt., must be in full leaf, well established in pot.

10. PERENNIALS 2 QT

Ornamental perennials including but not limited to the genus Agastache, Asclepias, Astilbe, Chelone, Echinacea, Eupatorium, Geranium, Hemerocallis, Hibiscus, Iris, Liatris, Liriope, Lobelia, Mondarda, Nepeta, Nipponanthemum, Rudbeckia, Salvia, Sedum, Solidago, Symphyotrichum, Verbena, and Vernonia. 1 Qt., must be in full leaf, well established in pot.

11. GRASSES #1 can

Grasses: Grasses including but not limited to the genus Acorus, Calamagrostis, Carex, Hakonechloa, Juncus, Panicum, Pennisetum, Sorghastrum and Schizachyrium. #1 can, vigorous specimens typical of the species specified in the plans.



12. GRASSES #2 can

Grasses: Grasses including but not limited to the genus Acorus, Calamagrostis, Carex, Hakonechloa, Juncus, Panicum, Pennisetum, Sorghastrum and Schizachyrium. #2 can, vigorous specimens typical of the species specified in the plans.

13. GRASSES #3 can

Grasses: Grasses including but not limited to the genus Acorus, Calamagrostis, Carex, Hakonechloa, Juncus, Panicum, Pennisetum, Sorghastrum and Schizachyrium. #2 can, vigorous specimens typical of the species specified in the plans.

14. ROSES (#2 / #3 can)

**Rosa 'Meidiland':** 18" to 24", #3 can (hardy varieties, which mature into shrub form or groundcovers).

**Rosa 'Carefree Delight' & 'Carefree Wonder':** 18" to 24" H, #3 can (matures to tight compact alternative to Rosa Rugosa).

**Rosa spp. Flower Carpet Roses ®:** 18" to 24" H, 2 Gal., must have at least 3 canes, 15" and up.

**Rosa palustris,** Swamp Rose: 18" to 24" H, #3 can, must have at least 3 canes 15" and up.

**Rosa rugosa,** Rugosa Rose: 18" to 24" H, #3 can, must have at least 3 canes 15" and up.

**Rosa 'The Fairy,'** The Fairy Rose: 18" to 24" H, 2 Gal. Heavy well-rounded top.

15. ROSES #5 can

**Rosa 'Knock Out,'** Knock Out Rose: 18" to 24", 2 Gal., must have at least 3 canes 15" and up.

16. GROUNDCOVERS #1 can

**Arctostaphylos uva ursi,** #1 can: vigorous, well-established in pot

**Ajuga reptans,** #1 can: vigorous, well-established

**Campsis radicans,** #1 can; vigorous, well-established in pot.

**Convallaria majalis,** #1 can: 'Rosea' when specified

**Euonymus coloratus,** # 1 can; vigorous, well-established in pot.

**Hedera helix,** English Ivy: #1 can; vigorous specimens, well-established in pot.

**Iberis sepmervirens,** #1 can, well-established

**Liriope muscari,** Liriope: #1 can; must have well-rounded leafing pattern. 'Big Blue,' 'Variegata'

**Liriope spicata,** Liriope: #1 can; vigorous specimens, well-established in pot.

**Lysimachia nummularia**, #1 can, well-established

**Pachysandra terminalis**, Japanese Pachysandra: #1 can; vigorous specimens, well established in pot.

**Sedum brevifolium**: #1 can, vigorous, well-established

**Sedum spurium 'John Creech'**: quart; vigorous, well-established.

**Thymus praecox**, #1 can: vigorous, well-established

**Vinca minor**, #1 can: vigorous, well-established

#### **PM-8. DESCRIPTION**

The Contractor shall plant the material specified in the following plant schedule in the planting beds in accordance with the plans and specifications, or as directed by the Engineer. The Contractor shall be liable for any damages to property caused by planting operations, and all areas and construction disturbed shall be restored to their original conditions, to the satisfaction of the Engineer.

#### **PM-9. MATERIALS**

(A) Plant names, size, and grading standards shall conform to those prepared by the American Association of Nurserymen Horticultural Standards, 1998 Edition, unless otherwise specified. No substitution shall be permitted, except with the written permission of the Engineer in consultation with the NYC Department of Parks and Recreation Green Infrastructure Liaison.

Burlap: Burlap shall be a natural fabric. No nylon burlap shall be permitted.

Cord or Rope: Cord or rope shall be sisal twine. Nylon rope shall not be permitted.

#### **PM-10. CONSTRUCTION METHODS**

(A) Unless otherwise directed by the Engineer in consultation with the NYC Department of Parks and Recreation Green Infrastructure Liaison, plant material may be transplanted from March 1st to April 1st and from October 15th to December 15th; deciduous material shall be planted from March 1st to May 1st or to when weather permits and from October 15th to December 15th or to when weather permits. Evergreen material shall be planted from April 1st to May 15th and from September 1st to October 15th or as weather permits. In case the planting season is missed for any reason, the Contractor shall cover the soil with mulch. Mulch shall comply with the requirements of I-Pages Section GI-2.14.

(B) Planting shall be performed by an approved Contractor. No planting shall be done except in the presence of the Engineer or the Engineer's representative. All material shall be inspected by the Engineer as it is removed from the truck, prior to placing in an approved storage area or the designated planting site. All rejected material shall be removed from the site and replaced with acceptable material at no additional cost to the City.

Bare root material shall be adequately protected from drying out and immediately heeled in after inspection. The bundles of heeled-in plants shall be set upright on the ground, covered with mulch, and kept adequately moist until the time of installation. Until the time of planting, all plant material shall be stored in an approved location, securely fenced and maintained, to the satisfaction of the Engineer, at no additional cost to the City. All plants not planted immediately shall be watered as necessary to maintain optimal health until planting.

For each plant, dig a hole to correct depth for the placement of the plant material. Place balled and burlapped material in the prepared planting pit by lifting, and carry it by the rootball. Set the tree or shrub straight and in the center of the pit, with the most desirable side facing toward the predominant view. All material shall set, after settlement, at the same level at which they have grown in the nursery. Care shall be exercised in setting the plants plumb. All ropes, stones, etc. shall be removed from the pit before backfilling. Soil for backfilling shall be loose and friable and not frozen or solid.

Cut and remove rope or wire from the top fifty (50%) percent of the rootball and pull the burlap back to the edge of the ball. Remove as much woven product and twine as possible. All plastic or synthetic fabric must be removed from the ball at the time of planting. Any wire basket enclosed root ball will need to have at least two-thirds (2/3) of the wire basket cut away from the sides and top of the ball and removed. Remaining lateral wires must be cut to prevent future root interference. Wire must not be galvanized or aluminum wire.

Balled and burlapped plants shall be handled so that the ball will not be loosened. After the soil has been thoroughly firmed under and around the ball, the burlap shall be cut away from the upper half of the ball, and the remaining burlap adjusted to prevent the formation of air pockets. Where directed by the Engineer, the burlap shall be entirely removed. Soil shall be firmed at six (6") to eight (8") inch intervals and thoroughly settled with water. Plants with exposed roots shall be placed in the proper position in the center of the pit after the soil in the bottom of the pit has been firmed. Roots shall be arranged in their natural position and existing soil worked in among them, firmed at intervals and thoroughly settled with water. Care shall be taken to avoid bruising or breaking the roots when tamping the soil. All large and fleshy roots which are bruised or broken shall be pruned, making a clean cut before planting.

Container plants shall be carefully removed from the containers or flats immediately prior to planting and set to the same depths as they were grown in the nursery bed or container, to the correct spacing indicated on the plans. Roots shall be arranged in their natural position and Engineered Soil worked in among them, taking care to avoid bruising or damaging the roots. No later than one (1) hour after planting, all plants shall be thoroughly settled with water.

(C) Mycorrhizal Fungi Inoculant Shall be applied by means of a three ounce (3 oz.) premeasured dry formulation packet, such as Mycor Tree Saver Transplant®, as manufactured by Plant Health Care, Inc., Pittsburgh, Pa., Rhizanova Tree Transplant, as manufactured by Becker Underwood, Inc., or approved equal. Packets shall contain, as a minimum: one thousand (1000) live spores of Vesicular-Arbuscular fungi, including: *Entrophosphora columbiana*, *Glomus clarum*, *Glomus etunicatum*, and *Glomus sp.*; seventeen million five hundred thousand (17,500,000) live spores of Ectomycorrhizal fungi (*Pisolithus tinctorius*); Biostimulant ingredients including *Yucca schidigera* extract; soluble sea kelp extract derived from *Ascophylum nodosum*; humic acids; and acrylamide copolymer gel as a water absorbent medium. Mycorrhizal fungi inoculant shall be added to the top six to eight inches (6-8") of backfill soil in each planting pit and thoroughly mixed to distribute the inoculant. The material shall be applied according to the following chart:

<u>Size of rootball or container</u>	<u>Ounces per plant</u>
1 gallon	1
2 gal.	2
#3 can.	3
5 gal.	3
7 gal.	3
10 gal.	3
15 gal.	3
20" B&B	6
24" B&B	9
30" B&B	9
36" B&B	12
12" B&B	12

(D) Fertilizer Tablets: Shall be Healthy Start Macro Tablets®, as manufactured by Plant Health Care, Inc., Old Westbury, N.Y., or approved equal. The tablets shall have a nutrient analysis of 12-8-8 and contain a minimum twelve percent (12%) humic acid by weight, as well as biostimulants derived from sea kelp, amino acids, and a wetting agent derived from *Yucca schidigera*. Tablets shall contain a minimum 695,000 each of the following beneficial bacteria: nitrogen fixing, phosphorus solubilizing, and growth promoting. Twenty one gram (21 gm.) twenty four month (24 mo.) release tablets shall be added to the top four inches (4") of backfilled soil in the rates indicated on the following chart:

<u>Size of rootball or container</u>	<u>Tablets per plant</u>
1 gallon	1
2 gal.	2
#3 can.	2
5 gal.	3
7 gal.	3
10 gal.	4
15 gal.	5
20-24" B&B	5
30-36" B&B	6
42-48" B&B	7

(E) The Contractor shall cultivate and rake over finished planting areas and shall leave the site in an orderly condition. On level ground or slight slopes, a shallow basin a little larger than the diameter of the plant pit shall be left around each plant, as shown on the plans, or as directed by the Engineer. On steep slopes, the soil on the lower side of the plant shall be graded in such a manner that it will catch and hold water, as shown on the plans, or as directed by the Engineer.

Upon completion of planting, all debris and waste material resulting from the planting operation shall be removed from the project area, and the affected area raked and cleaned as necessary.

All work done in preparing shallow basins or grading of plant pits on steep slopes and regrading and reseeding of plant saucers shall be deemed included in the unit price per plant. All berms raised for shallow basins in level or gently sloping grass areas shall be removed at the end of the guarantee period. This Engineered Soil shall be cast even over the surrounding grass areas and grass seed sown over the removed berms.

(F) Only crossing, broken or badly bruised branches shall be removed. These shall be pruned with a clean cut. All pruning shall be done with sharp pruning tools in accordance with instructions of the Engineer and the attached pruning diagram. At the time of planting, pruning cuts shall be made at the base of the branch at such a point and angle that neither the branch collar nor the bark of the stem is damaged, and that no branch stub extends from the collar. Crowns of young trees shall not be cut back to compensate for root loss. No leaders shall be cut.

(G) The Contractor shall establish a neat edge where planting areas meet grass areas, as shown on the plan or as directed by the Engineer. Edging shall be done by competent mechanics in a workmanlike manner with a spade or edging tool immediately after all planting is completed.

Particular care shall be exercised in edging to establish good flowing curves as shown on the plan or as directed by the Engineer. Edging shall be maintained by the Contractor until final acceptance of the contract.

(H) All staking shall be done during planting operation and shall be maintained throughout the first year of the guarantee period.

Stakes shall be of white cedar with bark attached and shall show no sign of cracking or decay. They shall have a maximum allowable deflection of ten percent (10%). All trees shall be supported by two (2) stakes, they shall be eight (8') feet long; the diameter at the middle shall be not less than (2") inches or more than two and three quarters (2-3/4") inches and the diameter at the butt shall not exceed three (3") inches. Stakes shall be placed a minimum distance of one (1) foot away from the trunk of the tree, taking care to stay clear of the roots, driven thirty (30) inches into the ground, and shall be fastened to the tree with a suitable length of 3/4" wide, flat, woven polypropylene material as manufactured by DeepRoot®, San Francisco, CA or approved equal that is knotted and nailed to the stakes with one (1) inch galvanized roofing nails as directed by the Engineer.

Unless otherwise directed, trees shall be staked as shown on the plans and in accordance with these specifications. Stakes shall be set parallel to curbs. Trees shall stand plumb after staking. Stakes, and woven polypropylene material, shall be removed at the end of the first year of the two year guarantee period, unless directed otherwise by the Engineer. At the time the stakes are removed any holes left by the stake shall be filled with top soil at no additional cost to the city.

(I) At the time of planting, the entire planting bed shall be saturated to a depth of one (1) foot with twenty (20) gallons being distributed to each tree. Water shall be free from oil, have a pH not less than 6.0 or greater than 8.0 and shall be free from impurities injurious to vegetation. Unless otherwise directed, water may be drawn from mains owned by or supplying water to the City of New York.

Watering shall also take place throughout the guarantee period, as per Section GI-5.09 at approximately two week intervals from May 1 to October 31. Not less than once a week if it has not rained during that period. The Engineer may order less watering based on weather conditions, resulting soil water content or other factors. If drought conditions warrant, the Engineer may order more frequent watering than scheduled or during non-scheduled periods. A watering schedule shall be submitted to the Engineer each week.

Water shall not be applied in a manner which damages plants, plant saucers, stakes or adjacent areas. Each plant saucer shall be carefully filled with water in a manner which does not erode the

soil or the plant saucer. Watering shall not cause uprooting or exposure of plant's roots to the air. Damages resulting from these operations shall be immediately repaired at the Contractor's expense.

Where water is supplied from City hydrants, the Contractor shall obtain a free hydrant permit from the NYC Department of Environmental Protection. Permits are issued for a 30-day period, and the Contractor is responsible for keeping the permits current. The permits are available from each borough office. To obtain a permit, the Contractor should bring a copy of their contract, indicating exemption from the permit fee, with a general description of the hydrant location (s) they propose to access.

During dry conditions as defined by the Engineer, the Contractor will add to water a wetting agent product that is meant to aerate soil and allow for more water to penetrate such as Yuccah® Wetting Agent, or DIEHARD™ Soluble Yucca Extract as manufactured by Plant Health Care, or Horticultural Alliance, Inc., or an approved equal. An anti-desiccant to help prevent loss of water through transpiration shall also be used when directed by the Engineer. The anti-desiccant product, approved by the Engineer, must be mixed into water at appropriate ratios (Contractor must follow product instructions).

#### **PM-11. LANDSCAPE GUARANTEE AND REPLACEMENT**

(A) The Contractor shall maintain all trees within the limits of this contract in accordance with the plans, specifications and directions of the Engineer until two (2) years after the final acceptance of the whole work of this contract.

(B) All planting areas shall be cultivated and weeded with hoes or other approved tools within the period from May 15th to October 31st. Such cultivating and weeding shall be repeated at least every three (3) weeks. Prior to the installation of plant material, the Contractor shall submit a weeding schedule and plan to be approved by the Engineer. The plan shall include proposed methods of cultivating and weeding indicating all proposed weeding tools. Weed whackers may not be used.

Weeds shall be removed with the root. Under no conditions shall weeds be allowed to attain more than six (6) inches of growth. No separate payment will be made for watering, weeding or any other maintenance outlined in this section throughout the duration of the maintenance period and such work will be deemed included in the bid for Plant Material.

(C) All landscaping work shall have upon planting a guarantee period as mentioned in the Schedule "A" of this project. Contractor shall request in writing an inspection of all landscaping work when completed to begin the maintenance and guarantee period.

Maintenance shall include weeding, cultivating, edging, control of insects, fungus and other diseases by means of spraying with an approved insecticide or fungicide, pruning, adjustment and repair of stakes, and woven polypropylene material, repair of minor washouts, soil replacement, mulching and other horticultural operations necessary for the proper growth of all trees, and for keeping the entire area within the contract limits neat in appearance.

(D) Plant material found to be unsatisfactory or in poor condition at the inspection shall be removed and replaced at the appropriate planting season for that type of plant material. No payment will be made for plant material found to be unacceptable during this inspection.

(E) The Contractor shall submit, in writing, any conditions or species which he feels may be questionable prior to ordering said plants. If he is agreeable, the Engineer will substitute recommended species or address the conditions deemed unsuitable. However, upon ordering a plant and installing it, the Contractor accepts the responsibility for guaranteeing the plant's survival. There shall be no exception.

(F) During the guarantee period (as specified in Schedule A), the Contractor shall replace, in accordance with the contract plans and specifications, any planted tree, shrub, perennial or grass that is dead or, in the opinion of the Engineer, is in an unhealthy or unsightly condition, and/or has lost its natural shape due to dead branches, excessive pruning, inadequate or improper maintenance, or other causes including vandalism, prior to final acceptance, in the next planting season. There shall be a guarantee on shrubs, groundcover plants, perennials and grasses after planting for the remaining period of the project. When instructed by the Engineer, the Contractor shall replace trees, shrubs, perennials or grasses that have died after final acceptance in the next appropriate planting season even when the next planting season falls outside the remaining period of the project. Trees, shrubs, perennials or grasses that die within the guarantee period shall be replaced as many times as necessary so that there is a live tree, shrub, perennial or grass at each location at the end of the guarantee period (which is the remaining period of the project). The cost of replacement(s) shall be included in the unit price bid for the various furnished items of the contract.

Where vandalism or related causes are agreed upon by the Engineer as the cause for tree, shrub, perennial or grasses replacement, the Contractor shall be responsible for replacement for one time during the guarantee period after final acceptance. Where dead shrubs, groundcover plants, perennials or grasses have been identified, whether due to natural causes or vandalism, the Contractor shall remove the dead material, including stakes, and wire **within three (3) weeks of notification**. The Contractor shall add Engineered Soil, grass seed or appropriate paving material at the direction of the Engineer to the pit to eliminate potential tripping hazards at the time of removal.

Failure to replace trees, shrubs, perennials or grasses in the next appropriate planting season will result in the assessment of liquidated damages in the amount of two hundred (200) dollars per tree and eighty (80) dollars per shrub and (20) per perennial or grass. The assessment of said liquidated damages shall not absolve the Contractor of its responsibility to replace the plant material.

(G) Unless a written waiver of this clause is issued, under the terms of the guarantee, replacement plants shall be chosen only by the Engineer.

#### **PM-12. MEASUREMENT**

The quantities of Woody or Herbaceous Plant Materials to be paid for under EACH item shall be the number of trees, shrubs, groundcover plants, perennials, or grasses of each Class or size planted to the satisfaction of the Engineer; however, no measurement for payment will be made under Item Nos. PM-05 through PM-24 for work being done in conjunction with Item Nos. ROWB-01, ROWB-04, ROWB-08, ROWB-09, ROWB-10, ROWGS-01, and ROWGS-02.

**PM-13. PRICES TO COVER**

The price bid for each Woody Herbaceous Plant Material planted shall be the number of trees, shrubs, groundcover plants, perennials, or grasses of each Class or size furnished, planted and maintained, in accordance with the Contract Drawings, the specifications and the directions of the Engineer.

Engineered Soil and mulch (jute mesh), where called for in the Contract Drawings or details, will be paid under their respective items.

The cost of water, regardless of source, is deemed included in the unit prices bid. No extra payment will be made for water coming from the Contractor's own source.

Payment will be made under:

Item No.	Item	Pay Unit
PM-01	PLANT MAJOR TREES (2.5" TO 3" CALIPER)	EACH
PM-02	PLANT MAJOR TREES (3.5" TO 4" CALIPER)	EACH
PM-03	PLANT FLOWERING AND ORNAMENTAL TREES	EACH

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**SECTION P-1  
(NOT A PAY ITEM)  
PHOTO DOCUMENTATION**

**P-1.1. GENERAL REQUIREMENTS.**

- A. Pre-Construction Photographs
- B. Construction Photographs
- C. Post-Construction Photographs

The Contractor shall engage the services of an experienced professional photographer, approved by the City, to take color job photographs. The photographer will be required to take pre-construction, construction and post-construction photographs of the work as directed by the Engineer.

**A. Pre-Construction Photographs**

1. The photographer shall visit the site prior to start of construction to take a total of five (5) photographs per bioswale or stormwater greenstreet showing existing condition of the bioswale site and any adjacent areas which could possibly be disturbed during construction.

**B. Construction Photographs**

1. The photographer shall visit the site and take five (5) photographs per right-of-way bioswale, stormwater greenstreet and right-of-way rain garder, to show the work in progress, and any adjacent areas which were disturbed during construction.

**C. Post-Construction Photographs**

1. The photographer shall visit the site at the completion of construction to take a total of five (5) photographs showing the completed work and any adjacent areas which were disturbed during construction.

**P-1.2. PRODUCTS**

**A. Photographs**

1. For the purposes of this Section, a photograph shall be defined as one (1) exposure.
2. Three (3) color 8" x 10" (or 8-1/2" x 11") glossy prints of each photograph shall be submitted to the Engineer. Digital images shall be submitted along with the color glossy prints. The prints shall have indelibly printed on their reverse side the information listed below. The same information shall be printed on a sheet of paper in a clear sleeve to be included in the binder holding the prints, slides, and CD-Rs.
  - a) R.O.W. Bioswale/ R.O.W. Rain Garden/ R.O.W. Stormwater Greenstreet Number.
  - b) Project number.

- c) Project name.
  - d) Contract number and description.
  - e) Photo number.
  - f) Date picture was taken.
  - g) View and description, indicating location of camera, general description of what photograph represents and whether this is a pre-construction, construction or post-construction photograph. (A plot plan shall be submitted by the Contractor indicating location and photo number of all photographs.) The Contractor shall transmit one print of each photo to the Engineer for use in preparing descriptions. The photos with descriptions will be returned to the Contractor for printing description, mounting, etc.
  - h) Name of photographer.
  - i) Engineer or Engineer's Representative.
- 3. The Engineer will accompany the photographer for the taking of all photographs.
  - 4. The Contractor shall furnish hard-back binders to hold the three (3) sets of prints and the digital images. The binders, print, and digital images shall meet the requirements of ISO 18902:2001 "Imaging materials -- Processed photographic films, plates and papers -- Filing enclosures and storage containers".
  - 5. Digital photographs shall be created, indexed and transferred to the Department of Environmental Protection in accordance with the requirements of Section R-1.17, 'Records in Electronic Formats'. The Contractor shall provide the Engineer with updated images on a monthly basis.

### P-1.3. EXECUTION

#### A. Use Of Photographs

- 1. All photographs, slides, prints and negatives, resulting from the work under this Contract, shall become the property of the City upon their approval by the Engineer and may be used in whole or in part and in such manner or for such purpose as the City may desire, without any additional compensation to the Contractor or photographer.
- 2. All photographs, aerials, slides, prints, negatives, reports, documents, data, or other materials produced pursuant to this Agreement ("Copyrightable Materials") shall be considered "work-made-for-hire" within the meaning and purview of Section 101 of the United States Copyright Act, 17 U.S.C. '101, and the City shall be the copyright owner thereof and of all aspects, elements and components thereof in which copyright protection might subsist. To the extent that the Copyrightable Materials do not qualify as "work-made-for-hire," the Contractor and the photographer hereby irrevocably transfer, assign and convey exclusive copyright ownership in and to the Copyrightable

Materials to the City, free and clear of any liens, claims, or other encumbrances. Neither the Contractor nor the photographer shall retain any rights pertaining to the Copyrightable Materials, including any copyright or intellectual property interests, nor shall they reproduce, publish, disseminate or otherwise use any of the Copyrightable Materials without the prior written approval of the City.

3. The Contractor and the photographer acknowledge that the City may, in its sole discretion, register copyright in the Copyrightable Materials with the U.S. Copyright Office or any other government agency authorized to grant copyright registrations. The Contractor and the photographer shall cooperate in this effort, and agree to provide any further documentation necessary to accomplish this.

The Contractor shall not retain any copy of any photograph taken for this project unless he specifically requests and receives written approval from the Engineer who in consultation with NYC Department of Environmental Protection shall allow the Contractor to retain specific construction photographs. The request for approval shall be processed through the Resident Engineer. The Contractor shall not request or procure copies for his use of any photograph from the photographer without this written approval

#### P-1.4. DIGITAL PHOTOGRAPHS

- A. The file format for digital photographs is Tagged Image File Format (TIFF).
- B. Photographic (raster) images may be produced directly by digital cameras or indirectly by scanning silver-gelatin images (film or prints). If the digital photographic images are produced indirectly by scanning silver-gelatin images, the preferred source is the silver-gelatin film image (whether negative or reversal) rather than prints made from that film image.
- C. Digital cameras and scanners shall produce records with true optical resolution. Images shall not be resized or interpolated to a higher resolution from a lower resolution.
- D. Photographic images shall be provided as continuous-tone (8-bit) gray scale or color (24-bit or 48-bit RGB) raster images.
- E. Digital camera files shall be captured as 6 megapixel files or greater with a minimum pixel array of 3,000 pixels by 2,000 pixels. Photographic images produced at this resolution and size is comparable in quality to 35-mm film photographs.
- F. Scanned photographs shall be produced as minimum 3,000 line files to approximate a 6 megapixel file according to the following image size and resolution guidelines. Photographic images conforming to these guidelines will be comparable in quality to 35-mm film photographs. Scan an 8" x 10" original (print, slide or negative) at 300 dpi to produce a file that is 2,400 x 3,000 pixels. Scan a 4" x 5" original (print, slide or negative) at 600 dpi to produce a file that is 2,400 x 3,000 pixels. Scan a 35-mm original (print, slide or negative) at 2100 dpi to produce a file that is 2,000 x 3,000 pixels.
- G. Quality control in the scanning process shall follow the practices established in ANSI/AIIM MS44 "Recommended Practice for Quality Control of Image Scanning" and ANSI/AIIM TR34 "Sampling Procedures for Inspection by Attributes of Images in Electronic Image

Management and Micrographic Systems". The sampling rates for each type of quality control (visual and printed) shall be established by the Engineer in consultation with NYC Department of Environmental Protection. The production contractor shall supply a description of the quality control inspection performed as part of the scanning process and a report on the results of the last inspection performed on the images and the date of that inspection.

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**SECTION R-1  
(NOT A PAY ITEM)  
FINAL RECORD DOCUMENTS**

**R-1.1. SECTION INCLUDES**

- A. R-1.2 General Requirements for Submittals
- B. R-1.3 Definitions
- C. R-1.4 Paper
- D. R-1.5 Electronic
- E. R-1.6 Formats
- F. R-1.7 As-Built Drawings
- G. R-1.8 Final Copy Shop Drawings
- H. R-1.9 Bid Set Specifications
- I. R-1.10 Conformed Drawings
- J. R-1.11 Change Orders
- K. R-1.12 Job Photographs
- L. R-1.13 Key Documents
- M. R-1.14 Additional Documents
- N. R-1.15 Quantities
- O. R-1.16 Records in Paper Formats
- P. R-1.17 Records in Electronic Formats
- Q. R-1.18 Measurement and Payment

**R-1.2. GENERAL REQUIREMENTS FOR SUBMITTALS**

- A. Except where otherwise specified, the Contractor for each Contract shall submit the following Final Record Documents according to the requirements of Table #1 and as specified herein:
  - 1. As-Built Drawings
  - 2. Final Copy Shop Drawings

3. Approved Working Drawings
4. Key Documents
5. Job Photographs
6. Job Videos
7. Additional Documents

B. Submittal of these documents shall be a condition precedent to obtaining the final payment under Article 45 of the Standard Construction Contract. The Contract Drawings will be provided to the Contractor as Work Orders.

#### R-1.3. DEFINITIONS

- A. Archive. In this Section, to "archive" shall mean to furnish as a final record document.
- B. As-Built Drawings. The "As-Built Drawings" reflect the "as constructed" final product. These drawings shall use the same title blocks and sheet numbers as the original "Work Order Drawings" also referred to as "Contract Drawings", with the exception that an "AB" is prefixed onto the original drawing number.
- C. Final Copy Shop Drawing (FCSD). The "Final Copy Shop Drawing" shall be the approved copy (FAS or FAC) of the Shop Drawing corrected to reflect any deviations made for the installed condition showing the actual construction.
- D. Bid Set Specifications (including Addenda). The "Bid Set Specifications" shall be the set of original Contract Specifications Text issued by NYCDDC for the solicitation of contract bids including any "Addenda" issued during the Bid Period.
- E. Change Orders. The "Change Orders" shall include registered "Change Order Forms" and the complete sets of attached text and/or drawings for all Design and Field Change Orders.
- F. Job Photographs and Videos. "Job Photographs and Videos" shall be prepared by the Contractor specified in Subsection R-1.17 and shall conform to the requirements of that Subsection.
- G. Key Documents. Key Documents shall include, but not be limited, to the following items:
1. Signed portions of the Standard Construction Contract (including Bonds)
  2. Signed and submitted Bid Schedule of Prices
  3. Award Folder Contents
  4. Contract Award Letter

5. Order To Commence Work Letter
6. Approved Detailed Estimate Breakdown
7. Article 43/44 Substantial Completion of the Standard Construction Contract
8. Substantial Completion Payment
9. Final Evaluation
10. Final Extension of Time (if applicable)
11. Final Payment
12. Claim Settlements (if applicable)
13. Certificate of Occupancy (if possible)
14. Warranties
15. Survey

H. Additional Documents. These shall be any "Additional Documents" that the Engineer directs to be furnished as a "Final Record Document" in accordance with the requirements of this Section.

#### R-1.4. PAPER

A. All records in paper formats shall be produced in conformity with Subsection R-1.17 – Records in Paper Formats.

#### R-1.5. ELECTRONIC

A. All records in electronic format shall be produced in conformity with Subsection R-1.18 – Records in Electronic Formats.

#### R-1.6. FORMATS

A. The "Final Record Documents" shall be furnished in paper, microfilm and electronic formats in the quantities shown on Table 1 at the end of this Section".

#### R-1.7. AS-BUILT DRAWINGS

A. The Contractor is to create an As-Built Drawing Set by revising the Work Order contract drawings electronically using AutoCAD. The Contractor shall independently confirm that the changes made by the Addenda to the original specifications or Work Order Drawings are correctly reflected in the As-Built Drawing Set. Files submitted in AutoCAD format will be bound to include all related matter (e.g. base files, font files and shapes). Each file shall be viewable and printable in its entirety without recourse to external files.

When a Contractor states he cannot provide AutoCAD versions of the As-Builts due to limited resources, the Engineer may approve hard copy submittal.

B. The Contractor shall use the information compiled during construction to create an As-Built Drawing Set. The Contractor shall document any deviations, changes, etc. from the configurations shown on the original Contract Drawings or revised drawings issued during the course of executing the work including Change Orders, Design During Construction (DSDC) memorandums, Requests for Information (RFIs), Requests for Clarification (RFCs), etc. These deviations, changes, etc. shall generally relate to topographic features, relocation of structures, or locations of underground items such as pipelines, duct banks, manholes or footings. Survey distances, coordinates and/or elevations shall be included to accurately locate all such items. All deviations, changes, etc. shown shall be field verified.

C. Contractor should have the electronic files of the contract drawings. However, should the Contractor require an additional copy, the Engineer will supply the Contract Drawings AutoCAD electronic files on DVD-Rs upon written request, if such copies are available. The AutoCAD files will consist of a bound set of drawings.

D. Drawing Size – The As-Built drawings are to be the same size as the full size Contract Drawings.

E. Generate the new As-Built drawing number as per the following steps:

1. The As-Built drawing number is the original contract drawing number prefixed by an "AB" for As-Built.

- a) Example: If the drawing number for a contract drawing is 36G-02S-14, the As-Built drawing number will be "AB-36G-02S-14".

2. If a new drawing is produced, its number can be added to the end of the series. (i.e., if 14 is the last drawing in the series, then the first new drawing becomes 15; the second new one becomes 16, etc.)

3. If a new drawing is inserted into the middle of a series, it is to have a letter suffix starting with A (i.e., 02A, 02B, etc.)

- a) Example: If the drawing number for a contract drawing is 36G-02S-02, the new, additional As-Built drawing will be numbered "AB-36G-02S-02A".

F. Designation – The designation "As-Built Drawing" is to be added to the drawing. Using AutoCAD, insert the words "As-Built Drawing" above the title box in the right hand corner of the drawing. (Do not include the quotation marks in "As-Built Drawing" when marking the drawing.)

G. Modifying the Contract Drawings – Prior to submitting an As-Built drawing made from a Contract Drawing for review and acceptance, the Contractor is to create a "clean" finished copy of the drawing by undertaking the following:

1. Remove all signatures and certifications from the Contract Drawing



2. Remove all previous revisions and references from the revision boxes
  3. Remove the Professional Engineers seal, Engineer's company names, and any initials from the drawing title block
  4. Modify all of the original title boxes to show the Contractor information including the name of the Contractor and the date.
  5. Remove all previous markings – notes, revision indicators, balloons, submittal stamps, etc. – from the drawing.
- H. Contractor's Information – The Contractor's name, address, contact information and date (month and year) the project is completed is to be added to the drawing. Place this information in the title block in the space previously utilized for the Engineer's name.
- I. Adding Revisions – Items/areas changed are to be enclosed within a cloud line. The revision cloud layer is to be a 0.024-inch line thickness.
- J. The Contractor shall submit copies of the As-Built Drawings for review and approval by the Engineer. These submittals shall show the deviations and changes from the original design drawings by using red-line mark-ups. The Contractor shall make modifications to the submitted As-Built drawings as required by the Engineer. In the final, approved set of As-Built drawings, the red lines shall be converted to black.
- K. The final approved set of As-Built drawings shall have the following statement on the cover sheet:
- "These As-Built Drawings for Contract ###, as prepared by XYZ Company, have been prepared as Record Copy Drawings."
- The above statement shall be signed by the representative of the Contractor. The signer shall be identified along with the Contractor.

#### R-1.8. FINAL COPY SHOP DRAWINGS (FCSD)

- A. Contractor shall furnish all "Final Copy Shop Drawings" in the NYC Department of Environmental Protection (DEP) format to the Engineer. The required NYCDEP format will be provided by the Engineer to the Contractor. The "Final Copy Shop Drawing" shall be the approved copy of the Shop Drawing corrected to reflect any deviations made for the installed condition showing the actual construction.
- B. In addition to submitting the "Final Copy Shop Drawings" as a final item at the end of construction, each Contractor shall prepare and submit "Final Copy Shop Drawings" for approval on a continual basis during the performance of the project when the particular item of work for a "Final Copy Shop Drawing" has been completed. The Contractor shall submit the FCSD within 30 days after the completion of the work item.
- C. The drawing revision boxes shall have all previous revisions and references removed from the drawings. The revision boxes shall indicate "Final Copy Shop Drawing".

D. Each drawing shall bear the original submittal file number, without the revision number, which shall be written in the lower right hand corner of a drawing above the title box. The file number shall also have a prefix, which identifies it a FCSD. Additionally, the Contract Name shall be added, if it doesn't appear in the original file number.

For example, if the file number for an approved Shop Drawing is 16221-002, the FCSD will be numbered "FCSD-NC-36G-16221-002", where NC-36G represents the specific Contract Number.

E. Supporting Documentation: Supporting documentation shall bear the correlating Final Copy Shop Drawing file number so as to identify it. All supporting documentation (e.g. catalog cuts, test results, calculations, etc.) shall be submitted, together with the related FCSD so as to maintain a complete set of all documents submitted with each FCSD.

F. Submittal for Approval. Two full size paper prints of each drawing shall be submitted for approval. The drawing shall be checked by the Resident Engineer against the field records and a copy shall either be stamped "Approved" or returned with comments for correction and re-submittal by the Contractor. The Contractor shall retain one approved set of the FCSDs for use in submitting the entire set in paper, microfilm and electronic copies.

#### R-1.9. BID SET - SPECIFICATIONS

A. If the Contractor does not have a complete set of the original Bid Set of Specifications and Addenda in the original PDF format (non-scanned), he may request a set from the Engineer. Upon request, the Bid Set Specifications and Addenda will be provided to the contractor in PDF format, if possible. If a PDF format is not available, then a paper hard copy set may be utilized. This may also be requested from the Engineer if required and shall be provided if possible.

In addition to the Bid Set, the conformed set of Specifications shall also be archived by the Contractor for a single contract project.

#### R-1.10. CONFORMED DRAWINGS

A. If the Contractor does not have a complete set of the Conformed Set of Drawings in the AutoCAD format, he may request a set from the Engineer. If possible, the Conformed Set of Contract Drawings will be provided to the Contractor in AutoCAD format, bound with their respective data sets.

#### R-1.11. CHANGE ORDERS

A. All change orders (both field and design) produced during the construction of the projects shall be archived.

#### R-1.12. JOB PHOTOGRAPHS

A. Job Photographs shall be produced and submitted by the Contractor as specified in Subsection R-1.18.

## R-1.13. KEY DOCUMENTS

A. Key Documents produced during the construction of the projects shall be archived. They shall consist generally of the items defined hereinbefore.

## R-1.14. ADDITIONAL DOCUMENTS

A. Any additional Documents such as Soil Classification Reports, Environmental Impact Statements, Site Assessments, Geotechnical Reports, permits, RFI's, etc. shall also be archived when directed by the DEP. If the Contractor does not have copies of any documents, they will be provided by the Engineer in electronic or paper format, where possible.

## R-1.15. QUANTITIES

A. The quantities to be furnished for each Final Record Document shall be as shown in Table 1 - Summary of Final Record Documents to Be Furnished

Table 1 Summary of Final Record Documents To Be Furnished						
Final Record Document Type	Paper	Electronic (DVD-R sets)	Mylar	Microfilm (35mm second generation diazo)	Microfilm (16mm first generation silver-gelatin)	Microfilm (16mm second generation diazo)
As-Built Drawings	3 sets per Work Order	4 sets (PDF/A & AutoCAD) per Work Order	1 set per Work Order	NA	NA	NA
Final Copy Shop Drawings	1 set	4 sets (PDF/A & AutoCAD)	NA	NA	NA	NA
Approved Working Drawings	2 sets per Work Order	4 sets (PDF/A & AutoCAD) per Work Order	NA	NA	NA	NA
Key Documents	1 set	4 sets (PDF/A)	NA	NA	NA	NA
Additional Documents	1 set	4 sets (PDF/A)	NA	NA	NA	NA
Job Photographs	1 set per bioswale or ROWSGS	3 sets (TIFF or JPEG)	NA	NA	NA	NA

## R-1.16. RECORDS IN PAPER FORMATS

## R-1.16.1. Section Includes

- A. R-1.16.2 General
- B. R-1.16.3 Reference Standards
- C. R-1.16.4 Definitions
- D. R-1.16.5 Quality Assurance
- E. R-1.16.6 Products
- F. R-1.16.7 Printing Processes
- G. R-1.16.8 Testing
- H. R-1.16.9 Inspections

R-1.16.2. General

- A. This specification establishes criteria for paper documents that will last several hundred years without significant deterioration under normal use and storage conditions in the archives of the New York City Department of Environmental Protection.
- B. This specification identifies the properties of the paper and of the printing processes, and the tests required to demonstrate these properties.
- C. The specification applies to documents printed on paper which have a records retention and disposition schedule rating in excess of 25 years. Such documents are created by the consultants and contractors to the Department of Environmental Protection.
- D. These documents are specified in Section 1.19 - Final Record Documents.

R-1.16.3. Reference Standards

- A. This specification is intended to be used in conjunction with following standards and guidelines. When these standards and guidelines are superseded by revisions, the revisions shall apply:
  - 1. ANSI/NISO Z39.48, Permanence of Paper for Publications and Documents in Libraries and Archives. This Standard may be obtained in electronic format from [HTTP://WWW.NISO.ORG](http://www.niso.org).
  - 2. Library of Congress - Preservation Photocopying. This publication may be obtained in electronic format from the Department of Environmental Protection.
  - 3. National Archives and Records Administration Technical Information Paper No. 5, Tape Pull Test. This publication may be obtained in electronic format from the Department of Environmental Protection.

4. National Archives and Records Administration - Peel Test target. This publication may be obtained in electronic format from the Department of Environmental Protection.

R-1.16.4 Definitions

- A. Small-Format Documents: documents sized 11 by 17 inches or smaller.
- B. Large-Format Documents: documents sized larger than 11 by 17 inches.

R-1.16.5 Quality Assurance

- A. Paper Certification: All documents covered by this specification shall be accompanied by a Certification from the manufacturer of the paper that it complies with ANSI/NISO Z39.48.
- B. Printing Test Certification: The organization that operates the printing processes and materials used to produce the documents covered by this specification shall submit the following documentation as proof that the tests have been carried out:
  1. An affidavit, signed by the supervisor responsible for the production area, certifying that the tests have been performed in accordance with the procedures described in the National Archives and Records Administration Technical Information Paper No. 5, Tape Pull Test.
  2. All of the Peel Test Targets actually used to perform the tests.

R-1.16.6 Products

A. Paper

1. All paper used for documents covered by this specification shall comply with the requirements of ANSI/NISO Z39.48, Permanence of Paper for Publications and Documents in Libraries and Archives, except as amended by this specification. The ANSI/NISO Z39.48 Standard specifies the pH, tear resistance, alkaline reserves and paper stock required.

B. Paper Stock

1. Coated or uncoated paper may be used.
2. Uncoated paper shall not be less than 24 pounds basis weight.
3. Coated paper shall not be less than 28 pounds basis weight.

R-1.16.7. Printing Processes

- A. Small Format Documents, With Color Images and With Black and White Images

Only electrophotographic printing shall be used. When color electrophotographic printing is used, the process shall be certified by the manufacturer of the printer as not soluble in water, chemically stable, and resistant to fading, for a period of not less than 50 years. All documents printed using a color electrophotographic printer shall be accompanied by a certification from the manufacturer of the printer that the process is in compliance with this requirement.

B. Large-Format Documents, With Black and White Images

Only electrophotographic printing shall be used. The Department of Environmental Protection expects that most large-format documents shall be printed in black and white. Only documents where color is an essential information component of the document may be printed in color, under the provisions of Paragraph C. below. An example of documents where color may be an essential information component is a topographic drawing produced from data in a Geographic Information System.

C. Large-Format Documents, With Color Images and With Black and White Images

Either electrophotographic or inkjet printing shall be used. When inkjet printing is used, a formulation of ink shall be used that is certified by the manufacturer of the printer as not soluble in water, chemically stable, and resistant to fading, for a period of not less than 50 years. All documents printed using an inkjet printer shall be accompanied by a certification from the manufacturer of the inks that the inks are in compliance with this requirement.

R-1.16.8. Testing

A. Test Method: All printing processes and materials used to produce the documents covered by this specification shall be tested periodically to ensure proper function, using the National Archives and Records Administration Technical Information Paper No. 5, Tape Pull Test, and Peel Test Target.

B. Test Frequency: All printing processes and materials used to produce the documents covered by this specification shall be tested not less than twice a day, once at the beginning of the work day, and once at the end of the work day.

R-1.16.9. Inspections

A. The Department of Environmental Protection reserves the right to carry out inspections of the production facilities without notice.

R-1.17. RECORDS IN ELECTRONIC FORMATS

R-1.17.1. Section Includes

- A. R-1.17.2 General
- B. R-1.17.3 Related Specifications
- C. R-1.17.4 Reference Standards

- D. R-1.17.5 Definitions
  - E. R-1.17.6 Source of Electronic Records
  - F. R-1.17.7 File Compression, File Formats, and Quality Control
  - G. R-1.17.8 Tagged Image File Formats (TIFF)
  - H. R-1.17.9 Vector Drawings
  - I. R-1.17.10 Text Files
  - J. R-1.17.11 Digital Photographs
  - K. R-1.17.12 File Transfer Media
  - L. R-1.17.13 Execution
- R-1.17.2. General
- A. This Specification describes the requirements for the electronic records for the items specified in Section 1.19 - Final Record Documents.
  - B. This Specification does not cover digital objects which include a time base correction code (e.g., analogue or digital video recordings, analogue or digital audio recordings, instrumentation data feeds, etc.), or geo-coded objects (produced by Geographic Information Systems-GIS).
- R-1.17.3. Related Specifications
- A. Section R-1 – Final Record Documents
  - B. Section R-1.17 – Records in Paper Formats
- R-1.17.4. Reference Standards
- A. Adobe Reference Specification for Tagged Image File Format (TIFF), revision 6.0 (1992).
  - B. ANSI/AIIM MS44 – Recommended Practice for Quality Control of Image Scanners
  - C. ANSI/AIIM MS52 – Recommended Practice for the Requirements and Characteristics of Original Documents Intended for Optical Scanning
  - D. ANSI/AIIM TR34 – Sampling Procedures for Inspection by Attributes of Images in Electronic Image Management and Micrographic Systems
  - E. ISO/19005-1 - Document management -- Electronic document file format for long-term preservation -- Part 1: Use of PDF 1.4 (PDF/A-1)

R-1.17.5. Definitions

- A. Archive. In this Section, to "archive" shall mean to furnish as a final record document.
- B. Metadata - Metadata is commonly defined as "data about data." For the purposes of this specification metadata refers to the "descriptive metadata" that describes the content and form of the construction records known as "final record documents" (i.e. contract name, document date, construction phase, engineer of record, etc.) and supports the discovery (searching) and identification of the resources. See Metadata Table.
- C. Portable Document Format-Archival (PDF/A) - A standard that identifies a "profile" for electronic documents that ensures the documents can be reproduced the exact same way in years to come. A key element to this reproducibility is the requirement for PDF/A documents to be 100% self-contained. All of the information necessary for displaying the document in the same manner every time is embedded in the file. This includes, but is not limited to, all content (text, raster images and vector graphics), fonts, and color information. A PDF/A document is not permitted to be reliant on information from external sources (e.g. font programs and hyperlinks).

R-1.17.6. Source Of Electronic Records

- A. In preparing the electronic records, the Contractor shall make every reasonable effort to obtain, from the originator (e.g., the manufacturer, the designer, etc.), documents in their original electronic format and incorporate these in the records. Subject to the approval of the Engineer, electronic records may be scanned from a paper version only when the Contractor cannot obtain the electronic version from the originator (e.g., the manufacturer, the designer, etc.).

R-1.17.7. File Compression, File Formats, And Quality Control

- A. File compression is not permitted for any of the files in any format.
- B. File formats acceptable to DEP are ISO 19005-1 Portable Document Format-Archival (PDF/A); Tagged Image File Format (TIFF), version 6.0 ("II" format); and AutoCAD. All files shall be delivered to DEP with file names that use the default file extension for each of the above formats.
- C. Portable Document Format-Archival (PDF/A)
  - 1. Security Settings: records converted to PDF/A must have all security settings deactivated (e.g., encryption, master passwords, and/or permissions) prior to transfer to DEP. Deactivating security settings ensures DEP's ability to support long term migration and preservation of the records.
  - 2. Review of Special Features: Because of the complexities associated with certain PDF/A features, DEP may review PDF/A records containing special features on a case-by-case basis when the records are scheduled. Examples of special features include but are not limited to: digital signatures; links to other documents,



files or sites; embedded files (including multimedia objects); form data; comments and/or annotations.

3. Fonts: electronic records that have been converted to PDF/A from their native electronic formats must have all fonts referenced in the record embedded within the PDF/A file to guarantee the visual reproduction of all text as created. This requirement is met by having, as a minimum, subsets of all referenced fonts embedded within the PDF/A file. All fonts embedded in PDF/A records must be publicly identified as legally embeddable (i.e., font license permits embedding) in a file for unlimited, universal viewing and printing.

4. Scanning Production Requirements: records converted from scanned images also must adhere to the production requirements described in section Error! Reference source not found..

R-1.17.8. Tagged Image File Format (TIFF)

A. In the 'II' format (i.e., little-endian), byte order is always from the least significant byte to the most significant byte.

B. The reference specifications for TIFF 6.0 can be found at <http://partners.adobe.com/public/developer/tiff/index.html> (as of 08/2005).

R-1.17.9. Vector Drawings

A. Each vector drawing (produced by a Computer-Assisted Design system—AutoCAD) shall be delivered to DEP in two different file formats: native AutoCAD format and Portable Document Format (PDF/A). The AutoCAD format will support future revisions and alterations related to operations, repairs and rehab work. The PDF/A will ensure that the drawing information can be viewed and printed by a wide spectrum of users working without the AutoCAD program or viewer. The PDF/A format is also intended to provide a stable preservation record copy of the original drawings. (Why not specify Application format in this spec?)

B. Drawings will be "bound" to include all related matter, such as base files, font files, and shapes. Each file shall be viewable and printable, in its entirety, without recourse to external matter.

C. When reproduced in Computer Output Microfilm—COM (see Specification 01334: Records in Microfilm Formats), drawings must be converted to a raster image file format. This conversion shall be performed from the PDF/A version of the drawing.

R-1.17.10. Text Files

A. The file format for all text files, whether converted from word processing applications or scanned, is Portable Document Format-Archival (PDF/A).

B. The quality of documents to be scanned shall be governed by ANSI/AIIM MS52 "Recommended Practice for the Requirements and Characteristics of Original Documents Intended for Optical Scanning".

C. Quality control in the scanning process shall follow the practices established in ANSI/AIIM MS44 "Recommended Practice for Quality Control of Image Scanning" and ANSI/AIIM TR34 "Sampling Procedures for Inspection by Attributes of Images in Electronic Image Management and Micrographic Systems". The sampling rates for each type of quality control (visual and printed) shall be established by written agreement with DEP. e production subcontractor shall supply a description of the quality control inspection performed as part of the scanning process and a report on the results of the last inspection performed on the images and the date of that inspection.

D. Documents shall be scanned using equipment and scanning parameters sufficient to ensure full reproduction of all significant detail in the documents, such as (but not limited to) curved lines and fill in drawings, color and tonal gradations in photographic images, the smallest printed text, handwritten notes, and signatures. Records may be scanned in bitonal (1-bit) mode and 300 pixels per inch (ppi) or better only when the records consist exclusively of clean printed type possessing high inherent contrast (e.g., laser printed or typeset on a white background). Records shall be scanned in gray scale (8-bit) and 300 pixels per inch (ppi) or better when the records consist of textual documents of poor legibility because of low inherent contrast, staining or fading (e.g., carbon copies, thermofax, or documents with handwritten annotations or other markings), or that contain halftone illustrations or photographs. Records shall be scanned in color (24-bit RGB) and 300 pixels per inch (ppi) or better when the records contain color information important to interpretation or content.

#### R-1.17.11. Digital Photographs

A. The file format for digital photographs is Tagged Image File Format (TIF).

B. Photographic (raster) images may be produced directly by digital cameras or indirectly by scanning silver-gelatin images (film or prints). If the digital photographic images are produced indirectly by scanning silver-gelatin images, the preferred source is the silver-gelatin film image (whether negative or reversal) rather than prints made from that film image.

C. Digital cameras and scanners shall produce records with true optical resolution. Images shall not be resized or interpolated to a higher resolution from a lower resolution.

D. Photographic images shall be provided as continuous-tone (8-bit) gray scale or color (24-bit or 48-bit RGB) raster images.

E. Digital camera files shall be captured as 6 megapixel files or greater with a minimum pixel array of 3,000 pixels by 2,000 pixels. Photographic images produced at this resolution and size is comparable in quality to 35-mm film photographs.

F. Scanned photographs shall be produced as minimum 3,000 line files to approximate a 6 megapixel file according to the following image size and resolution guidelines. Photographic images conforming to these guidelines will be comparable in quality to 35-mm

film photographs. Scan an 8" x 10" original (print, slide or negative) at 300 dpi to produce a file that is 2,400 x 3,000 pixels. Scan a 4" x 5" original (print, slide or negative) at 600 dpi to produce a file that is 2,400 x 3,000 pixels. Scan a 35-mm original (print, slide or negative) at 2100 dpi to produce a file that is 2,000 x 3,000 pixels.

G. Quality control in the scanning process shall follow the practices established in ANSI/AIIM MS44 "Recommended Practice for Quality Control of Image Scanning" and ANSI/AIIM TR34 "Sampling Procedures for Inspection by Attributes of Images in Electronic Image Management and Micrographic Systems". The sampling rates for each type of quality control (visual and printed) shall be established by written agreement with DEP. The production contractor shall supply a description of the quality control inspection performed as part of the scanning process and a report on the results of the last inspection performed on the images and the date of that inspection.

R-1.17.12. File Transfer Media

A. The current file transfer medium is a DVD-R. Alternative file transfer media may be used, at the discretion of Engineer. The DVD-Rs used for producing the electronic archives shall be:

1. MAM-A Mitsui Gold DVD-R with White Inkjet Printable Surface,
2. Or approved equal.

R-1.17.13. Execution

A. General

1. When creating DVD-Rs, the Contractor should organize the information in separate DVD-R's as presented below. For each Final Record Item, use as many disks as needed to accommodate the materials. The multiple disks will be further labeled to read "1 of x". So, if three (3) DVD-Rs are needed to accommodate the material for a specific Final Record Item, the DVD-Rs will be labeled Disk 1 of 3, etc.
2. Separate DVD-R's shall generally be prepared for the following items:
  - a) As-Built Drawings
  - b) Final Copy Shop Drawings
  - c) Bid Set Drawings (aka Design Drawings)
  - d) Conformed Drawings
  - e) Bid Set - Specifications (including Addenda) - with Conformed Set of Specifications

- f) Key Documents
- g) Change Orders
- h) O&M Manuals
- i) Job Photographs
- j) Additional Documents

3. For projects with smaller amount of Final Record Document files, the above volumes can be combined.

4. In those cases where the Contractor is not required to furnish a specific Final Record Document(s), as specified in OGI Standard Specification Section 1.19 - Final Record Documents, the transmittal letter for the set of DVD-Rs should state "Prepared by Others" for the volume(s) which are not the responsibility of the Contractor.

5. DVD-R's should be used as efficiently as possible but efforts should be made to avoid splitting a type of document onto multiple disks. Example: for the Bid Specifications, if the Information for Bidders, Standard Construction Contract, General Conditions, General Specifications and part of the Detailed Specifications fit on one DVD-R, but the Detailed Specifications could fit on a single DVD-R in entirety, include the Agreement, General Conditions and General Specifications on one DVD-R. Then add the Detailed Specifications to a second DVD-R. The first DVD-R will include empty space but adding hyperlinks can be more efficiently done and viewers can locate information more easily by keeping information together as much as possible.

6. The DVD-R label shall include:

- a) The Project by number and name
- b) Location of the site
- c) Volume number and title(s) of the volume
- d) The total number of DVD-Rs for the Volume
- e) The date (month and year) of when the materials were archived
- f) The preparer of the Final Record Document (i.e. Contractor or Consultant CM)
- g) For O&M Manuals, include the Equipment item, the Manufacturer, and the related Specification Section number.
- h) Example of a label is located at the end of this Section as guidance.

7. Files submitted in AutoCAD format shall be bound to include all related matter (e.g. base files, font files and shapes) so that each file is viewable and printable in its entirety without recourse to external files.

8. PDF/A files shall be 1200 dpi print quality.

B. Metadata

1. For each type of Final Record Document listed below, a metadata table shall be prepared in Excel which will furnish the specified data for each type of document. The data elements to be furnished shall comprise the column headings in the Excel table. The data elements shall be furnished by the DEP prior to production of the Final Record Documents DVD-Rs.

2. The Metadata Excel Table shall appear at the beginning of related Final Record Document type specified above and shall serve as an index for those items in that Volume. Each file indexed in the Metadata table shall be hyperlinked so that clicking on the file name opens that file.

3. The Metadata Excel tables may be utilized as the Final Document Log. Templates for the Metadata Excel table for each Final Record Document shall be provided by the DEP.

4. Folder Structure

a) Each DVD-R shall have a folder structure that correlates to the major components of the Record Document, as specified below.

b) The first folder for each Record Document shall always be the Metadata Table.

C. Preparation of DVD-Rs for Final Record Documents. The DVD-Rs shall be prepared with the following folder structures:

1. As-Built Drawings (when required)

a) The first folder shall always be the Metadata Table. The other folders shall contain the entire set of As-Built Drawings in PDF/A and AutoCAD formats. Numbers shall be used in the names for the folders so that they appear in the correct sequence. For example, the folders for a set of contract "G" drawings would look like this:

1 - Metadata – Contract WI-79G– As-Built Drawings

MetadataTable-ContractWI-79G– As-Built Drawings.xls

2 - Contract WI-79G – As-Built Drawings (AutoCAD)

3 - Contract WI-79G – As-Built Drawings (PDF/A)"

2. In the Metadata Table and on the DVD-R, the file numbers for each drawing shall be:

"AB-Contract Number-####"

where "AB" = As-Built Drawings

and "Contract Number" = the specific contract number

and "####" = original sequential sheet number of the drawings (if the title sheet does not have a sheet number, it shall be '0000')

3. Similar folders shall be created in the DVD-Rs for the E, P, and H contracts

D. Bid Set - Drawings (aka Design Drawings)

1. The first folder shall always be the Metadata Table. The other folders shall contain the entire set of original Design Drawings in bound AutoCAD and PDF/A formats. Numbers shall be used in the names for the folders so that they appear in the correct sequence. For example, the folders for a set of contract "G" drawings would look like this:

1 - Metadata – Contract WI-79G – Design Drawings

Metadata Table – ContractWI-79G– Design Drawings.xls

2 - Contract WI-79G – Design Drawings (AutoCAD)

3 - Contract WI-79G – Design Drawings (PDF/A)

2. In the Metadata Table and on the DVD-R, the file numbers for each drawing shall be:

"DES-Contract Number-####"

where "DES" = Design Drawings

and "Contract Number" = the specific contract number

and "####" = the original sheet number of the drawings (if the title sheet is unnumbered, it shall be '0000')

3. Similar folders shall be created in the DVD-R's for the E, P, and H contracts.

E. Conformed Drawings

1. The first folder shall always be the Metadata Table. The other folders shall contain the entire set of Conformed Drawings in PDF/A and AutoCAD formats.

Numbers shall be used in the names for the folders so that they appear in the correct sequence. For example, the folders for a set of contract "G" drawings would look like this:

1 - Metadata – Contract WI-79G – Conformed Drawings

Metadata Table - ContractWI-79G– Conformed Drawings.xls

2 - Contract WI-79G– Design Drawings (AutoCAD)

3 - Contract WI-79G– Design Drawings (PDF/A)

2. In the Metadata Table and on the DVD-R, the file numbers for each drawing shall be:

"CONF-Contract Number-####"

where "CONF" = Conformed Drawings

and "Contract Number" = the specific contract number

and "####" = original sequential sheet number of the drawings (the title sheet shall be '0000')

3. Similar folders shall be created in the DVD-R's for the E, P, and H contracts

F. Final Copy Shop Drawings (FCSD)

1. The first folder shall always be the Metadata Table. The other folders shall contain the entire set of Final Copy Shop Drawings in PDF/A and AutoCAD formats. In the PDF/A file for each FCSD, all supporting documentation shall be included as part of the file. Numbers shall be used in the names for the folders so that they appear in the correct sequence. For example, the folders for a set of contract "G" drawings would look like this:

1 - Metadata – Contract WI-79G– Final Copy Shop Drawings

Metadata Table - ContractWI-79G– Final Copy Shop Drawings.xls

2 - Contract WI-79G– Final Copy Shop Drawings (PDF/A)

3 - Contract WI-79G– Final Copy Shop Drawings (AutoCAD)"

2. In the Metadata Table and on the DVD-R, the file numbers for each drawing shall be:

"FCSD-Contract Number-XXXXX-####"

where "FCSD" = Final Copy Shop Drawing

and "Contract Number" shall be the specific contract number

and "XXXXX" = the Specification Section Number that correlates to the FCSD (i.e. 16221)

and "#####" = the sequential number of the drawing submitted for that specific Section.

3. Similar folders shall be created in the DVD-R's for the E, P, and H contracts

G. Bid Set - Specifications (Including Addenda)

1. For a multi-contract project, the "G" Contractor shall archive the entire set of Bid Set of Contract Specifications (including the Detailed Specifications for the "G", "E", "H", and "P" contracts) and including all Addenda. The "E", "P", and "H" Contractors are only required to archive their respective Detailed Specifications.

2. For a project with a single contract, The Contractor shall conform to the requirements for a "G" contractor and the requirements for "E", "P", and "H" Contractors will not be applicable.

3. The Specifications and Addendum shall be archived in PDF/A format as follows:

a) The preferred method of archiving is to use the original PDF files distributed as part of the Bid Set. If the Contractor does not have them, he should request them from Engineer.

b) If for some reason the original PDF files are not available, the paper copies shall be scanned in as PDF files.

4. The first folder shall always be the Metadata Table.

5. For the "G" Contract:

a) The other folders shall contain the entire set of original Bid Specifications and Addenda. The Conformed set of Specifications should also be included. Numbers shall be used in the names for the folders so that they appear in the correct sequence. For example, the folders and subfolders for a set of contract "G" Bid Specifications would look like the following:

1 - Metadata – Contract WI-79G– Bid Specifications & Addenda

Metadata Table – Contract WI-79G– Bid Specifications and Addenda.xls

2 - Contract WI-79G– Bid Specifications (PDF/A)

a. BidSpec-WI-79G-V1of3.pdf



b. BidSpec-WI-79G-V2of3.pdf

c. BidSpec-WI-79G-V3of3.pdf

3 - Contract WI-79G– Addenda (PDF/A)

a. Addend-WI-79G-1of2.pdf

b. Addend-WI-79G-2of2.pdf

4 - Contract WI-79G– Conformed Specifications (PDF/A)

a. ConformedSpec-WI-79G-V1of3.pdf

b. ConformedSpec-WI-79G-V2of3.pdf

c. ConformedSpec-WI-79G-V3of3.pdf

b) Each subfolder (i.e. in this example the subfolders are 2a, 2b, 2c, 3a, and 3b shall contain a single PDF/A file with the all the material for that category. If possible, the PDF/A file shall be bookmarked in such manner that the bookmarks are linked to the major chapters of each Volume.

c) In the Metadata Table and on the DVD-R, the file numbers for these files shall be:

Bid Spec-Contract Number-V#of#” or

Addend-Contract Number-#of#”

where "Bid Spec" = Bid Specifications or

"Addend" = Addendum

and "Contract Number" = the specific contract number

and V#of# = the volume number of the Contract Specification book or

#of# = the number of the Addendum issued

6. For the "E" "P", and "H" Contracts

a) The other folders shall contain only the Detailed Specifications for that Contract. Numbers shall be used in the folder names so that they appear in the correct sequence. For example, the folders and subfolders for a set of contract "E" Bid Specifications would look like this:

1 - Metadata – Contract WI-79E – Detailed Specifications

2 - Contract WI-79E– Detailed Specifications (PDF/A)"

b) In the Metadata Table and on the DVD-R, For example, the folders and subfolders for a set of contract "E" Bid Specifications would look like the following:

1 - Metadata – Contract WI-79E– Bid Set - Detailed Specifications

Metadata Table - ContractWI-79E– Bid Set Detailed Specifications.xls

2 - Contract WI-79E – Bid Set -Detailed Specifications (PDF/A)

a. BidSpec- WI-79E-001.pdf

H. O&M Manuals

1. Electronic copies of each O&M Manual shall be furnished in PDF/A format on DVD-Rs which shall be inserted in a sleeve inside the binder for each copy of an O&M Manual. Two additional copies the DVD-Rs for each O&M Manual shall also be furnished. In addition, a compilation DVD-R Volume including all the O&M Manuals furnished shall be provided as specified below.

2. The first folder shall always be the Metadata Table. The other folder shall contain the O&M Manuals. There shall be a subdirectory for each O&M Manual. The subdirectories shall include the name of the O&M Manual. Each O&M Manual shall be a single complete PDF/A file. The PDF/A File should be bookmarked for the major chapters so that each bookmark is linked to the start of that chapter. Numbers shall be used in the names for the folders so that they appear in the correct sequence. For example, the folder structure for a set of contract "G" O&M Manuals would look like this:

1 - Metadata – Contract WI-79G– O&M Manuals

MetadataTable-ContractWI-79G– O&M Manuals.xls

2 - Contract WI-79G– O&M Manuals (PDF/A)

O&M Manual No. 1 - Diesel Generator Set

O&M01- WI-79G-16442.pdf

O&M Manual No. 2 – Slide Gates

O&M02- WI-79G-11245.pdf

3. In the Metadata Table and on the DVD-R, the file numbers for O&M files shall be :

"O&M#-Contract Number-#####"

where "O&M#" = the sequential number of the specific O&M Manual starting with 01.

and "Contract Number" = the specific contract number

and "####" = the number of the Specification Section that correlates to the O&M Manual.

4. The Metadata Table shall list all the O&M Manuals furnished for the Contract.

5. Similar folders shall be created in the DVD-Rs for the E, P, and H contracts

I. Key Documents

1. The first folder shall always be the Metadata Table. The other folder shall contain all the Key Documents. There shall be a subdirectory for each Key Document. The subdirectory shall include the name or description of the Key document. Each Key Document shall be a single complete PDF/A file. For example, the folders for a set of contract "G" Key Documents would look like this:

1 - Metadata – Contract WI-79G– Key Documents

MetadataTable-ContractWI-79G– Key Documents.xls

2 - Contract WI-79G– Key Documents (PDF/A)

Key Documents 1 – Signed Pages from Standard Construction Contract

Key Doc- WI-79G-001.pdf

Key Documents 2 – Award Folder Contents

KeyDoc- WI-79G-002.pdf

2. In the Metadata Table and on the DVD-R, the file numbers for the Key Documents files shall be :

"KeyDoc-Contract Number-###"

where "KeyDoc" = Key Document

and "Contract Number" = the specific contract number

and "###" = the sequential number of the specific Key Document starting with 01

3. Similar folders shall be created in the DVD-Rs for the E, P, and H contracts

J. Job Photographs (when required)

1. Digital photographs should be in TIFF or JPEG format.
2. The first folder shall always be the Metadata Table. The other folders shall be organized as shown below. For example, the folders for a set of contract "G" Job Photographs would look like this:

1- Metadata – Contract WI-79G– Job Photographs

MetadataTable-ContractWI-79G– Job Photographs.xls

2- Contract WI-79G– Job Photographs – Pre-Construction (TIFF)

3- Contract WI-79G– Job Photographs – Construction (TIFF)

4- Contract WI-79G– Job Photographs – Post-Construction (TIFF)"

3. In the Metadata Table and on the DVD-R, the file numbers for Job Photographs files shall be :

"JobPhoto- PreCon-Contract Number-#####"

"JobPhoto- Con-Contract Number-#####"

"JobPhoto- PostCon-Contract Number-#####"

where "JobPhoto" = Job Photograph

and "Contract Number" = the specific contract number

and "PreCon" = Pre-Construction

and "Con" = Construction

and "PostCon" = Post-Construction

and "#####" = the sequential file number of all photos

K. Job Videos (when required)

1. Digital videos should be in MPEG2 format as specified in Detailed Specification 01323 - Job Photographs and Videos.
2. The first folder shall always be the Metadata Table. The other folders shall be organized as shown below. For example, the folders for a set of contract "G" Job Photographs would look like this:

1- Metadata – Contract WI-79G– Job Videos

MetadataTable-ContractWI-79G– Job Videos.xls

2- Contract WI-79G– Job Videos – Pre-Construction (MPEG 2)

3- Contract WI-79G– Job Videos – Construction (MPEG 2)

4- Contract WI-79G– Job Videos – Post-Construction (MPEG 2)

5- Contract WI-79G – Job Videos – Informational (MPEG 2)

3. In the Metadata Table and on the DVD-R, the file numbers for Job Photographs files shall be :

“JobVideo- PreCon-Contract Number-#####”

“JobVideo- Con-Contract Number-#####”

“JobVideo- PostCon-Contract Number-#####”

“JobVideo- Informational-Contract Number-#####”

where “JobVideo” = Job Video

and “Contract Number” = the specific contract number

and “PreCon” = Pre-Construction

and “Con” = Construction

and “PostCon” = Post-Construction

and “Informational” = Information

and “#####” = the sequential file number of the Video

L. Additional Documents

1. The first folder shall always be the Metadata Table. The other folders, shall be containing each individual set of Additional Documents as a single PDF/A file. The PDF/A File shall be bookmarked for the major chapters so that each bookmark is linked to the start of that chapter. For example, the folders for a set of contract “G” Additional Documents would look like this:

1 - Metadata – Contract WI-79G– Additional Documents

MetadataTable-ContractWI-79G– Additional Documents.xls

2 - Contract WI-79G– Additional Documents (PDF/A)

Additional Document 1 – Soil Classification Reports

AddDoc-WI-79G-001.pdf

Additional Document 2 – Environmental Impact Study

AddDoc- WI-79G-002.pdf

2. In the Metadata Table and on the DVD-R, the file numbers for Additional Documents files shall be :

"AddDoc-Contract Number-###"

where "AddDoc" = Additional Document.

and "Contract Number" = the specific contract number

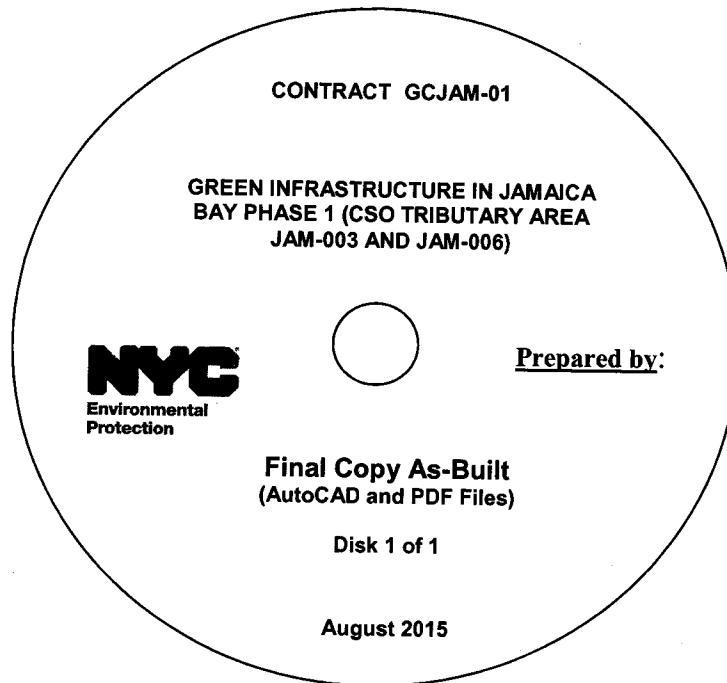
and "###" = the sequential number of the specific Additional Document starting with 01

**R-1.18. MEASUREMENT AND PAYMENT**

Payment for this work shall be deemed to be included in the unit price bid for all scheduled items.

(NO FUTHER TEXT ON THIS PAGE)

SAMPLE DVD-R LABEL



(NO TEXT ON 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 January 5, 2009), 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 SEWER AND WATER MAIN SPECIFICATIONS
- C. 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 1<sup>st</sup>, April 1<sup>st</sup>, July 1<sup>st</sup> and September 1<sup>st</sup>) 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 is advised that at some locations, there presently exists sewers, manholes, water mains, etc. which are to remain undisturbed and are in close proximity to the line of the proposed work. The Contractor shall exercise extreme care, minimize the trench width to the proposed sewers and take all necessary precautions in placing sheeting and during excavation of the trenches to prevent any damage to the existing structures that are to remain while working adjacent to them. The Contractor shall repair any damage to any portion of the existing structures that are to remain due to the Contractor's operations as directed by the Engineer. The cost of such repair shall be borne by the Contractor solely at the Contractor's own expense.
- (12) The Contractor is advised that at some locations indicated on the contract plans, new water mains are to be installed over new storm sewers. Should the cover of the new water main to be installed be less than two (2) feet, the Contractor shall install the new water main with shallow cover provisions in compliance with Water Main Standard Drawing No. 46464-Z. The cost for any additional work required in order to install the water main in accordance with shallow cover provisions shall be made under appropriate bid items as directed by the Engineer.
- (13) The Contractor shall install new 8-inch and 12-inch water mains crossing under or over the new and existing sewers at the locations indicated on the contract plans. The Contractor shall perform all the work required and necessary in compliance with the details shown on the contract plan Sheet No. 21 and with Standard Water Main Specifications. Payment for all work required to perform this work shall be made under the appropriate water main (WM) item of the contract. (The cost for any work required to complete this work for which there is no contract item(s) shall be deemed included in the prices bid for all items of the contract.)
- (14) The Contractor is advised that no additional or separate payment shall be made for the removal of existing pile caps in the project area. The cost of such work shall be deemed included in the prices bid for all contract items of work.
- (15) The Contractor is advised that a Memorandum Of Understanding (MOU) between Parks and DEP for BLOCK 13714, LOTS 50, 53, 55 and 60 (park area) is under process. A finalized MOU will be available for the contractor during construction. The contractor shall obtain all necessary permits and MOU requirements to work in this area.
- (16) All fences, gates, shrubbery, lawn areas, pipes, retaining walls, paved entrances and exits, and all other encroachments, encumbrances, or obstructions above or below ground surface, and the related foundations and appurtenances which are affected by the installation of water mains and sewers shall be removed by the Contractor to the extent directed by the Engineer, and shall be replaced and/or rebuilt to the satisfaction of the Engineer and the property owner. The Contractor shall remove or restore all affected encumbrances and/or encroachments to at least the same condition in which they were prior to the start of construction. The Contractor shall furnish all new materials required or necessary to perform the above work to the satisfaction of the Engineer. The Contractor shall maintain access to the buildings and parking lot at all times. The Contractor shall maintain all the existing services at all times. The cost of all labor, materials, plant, insurance, and equipment necessary and required to remove, replace, and/or rebuild such encumbrances shall be deemed included in the prices bid for all items of work.
- (17) The Contractor is advised that the Department of Design and Construction is in the process of filing permit application for Dewatering and Wetland Permit with the New York State Department of Conservation (NYSDEC) under the Environmental Conservation Law, Article 15 for Temporary Well Point Permit Application and Article 25 for Tidal Wetlands. No work shall commence until such permit

has been obtained for this project by the Contractor. No additional or separate payment shall be made for the work of complying with NYSDEC requirements; for the required updating of permits and obtaining of permits. The cost of such work shall be deemed included in the prices bid for all contract items of work.

- (18) The Contractor is advised that the Department of Design and Construction is in the process of filing permit application with the New York State Department of State (NYSDOS); Coastal Management Program Consistency Determination. No work shall commence until such permit has been obtained for this project by the Contractor. No additional or separate payment shall be made for the work in order to comply with the requirements, for the required updating of permits and obtaining the permits. The cost of such work shall be deemed included in the prices bid for all contract items of work.
- (19) The Contractor is advised that the prior to bulkheading/abandoning/removing any section of the existing 84" Storm Sewer on 147th Avenue, Chamber No. 7 shall be fully operational as well as all downstream storm sewers up to Chamber No. 2.
- (20) The Contractor is advised that Chamber 15, "Regulator Chamber", requires a Sluice Gate as per specifications on Sheet 29 of the contract plans. The sluice gate shall be of the size indicated on the plans and shall be designed for installation in the structure as shown on plans. The sluice gate equipment and appurtenances shall be installed in accordance with the Installation Manual furnished by the gate manufacturer. Extreme care shall be used in the handling, storage, and installation of this equipment to prevent damage or distortion of the equipment and to insure proper performance. The Contractor shall submit manufacturers drawings, specifications for approval to NYC DEP and Engineer.

**B. REVISIONS TO THE STANDARD SEWER AND WATER MAIN SPECIFICATIONS**

- (1) **Refer to Subsection 10.15 - Notice To Utility Companies, Etc., To Remove Structures Occupying Place Of Sewers, Water Mains Or Appurtenances, Page 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) 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. David Reid at (718) 977-8138.

(4) TIME WARNER CABLE OF NEW YORK CITY

There are TIME WARNER CABLE facilities in the area of construction. The Contractor shall notify TIME WARNER CABLE at least seventy-two (72) hours prior to the start of construction by contacting Mr. Mark Larm at (917) 335-9181.

- (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 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. James Cruickshank at (718) 965-7739.

(5) N.Y.C. TRANSIT AUTHORITY

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.

Arrangements shall be made through:

Ms. Sarah Wyss  
Director Of Short Range, Bus Service Planning (SRB)  
New York City Transit  
2 Broadway, 17<sup>th</sup> Floor  
New York, N.Y. 10004  
Telephone No. (646) 252-5517  
sarah.wyss@nyct.com

**(4) 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 (seven (7) pages) that are attached to the end of this section, and as directed by the Engineer.

**(5) 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.

(6) 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.
- (6) Groundwater Analysis - The Environmental Scientist shall develop and submit a sampling and analysis program subject to NYSDEC Approval (a minimum of one groundwater sample from a site well shall be collected and analyzed). A laboratory certified by the New York State Health Department shall analyze the samples. The sampling and analysis program must include but is not limited to the following:

**NYSDEC REGION 2 - DEWATERING PROJECTS SAMPLING INFORMATION**

NO.	PARAMETERS	TYPE	EPA METHOD	DETECTION
1	pH	Grab	150.1	EPA min
2	Temperature	°F	After Pumping	EPA min
3	Fecal Coliform	Grab	5-Tubes/3-Dilutions	2-MPN/100-ml
4	Oil & Grease	Grab	413.1	EPA min
5	BOD <sub>5</sub>	Grab	405.1	EPA min
6	Total Suspended Solids	Grab	160.2	EPA min
7	Settleable Solids	Grab	160.5	EPA min
8	Chlorides	Grab	325.1-325.3	EPA min
9	Benzene	Grab	602	EPA min
10	Toluene	Grab	602	EPA min
11	Xylenes	Grab	602	EPA min
12	Ethylbenzene	Grab	602	EPA min
13	PCB's	Grab	608	(See Note 1)
14	Pesticides	Grab	608	EPA min
15	13 Priority Metals	Grab	200 series	EPA min
16	Acids Base/Neutrals	Grab	625-GC/MS	EPA min
17	Halogenated Volatiles	Grab	601-GC	EPA min
18	Nitrate/Nitrite	Grab	300 or 353.3	EPA min
19	Aromatic Volatiles	Grab	602-GC	EPA min
20	Cyanide (total or amenable)	Grab	335.1/335.2	EPA min

**NOTE:**

- (1) List each individual aroclor found and report the concentration of each aroclor tested. Use the N.Y.S. detection limit, which is 0.065-µg/l.

Small dewatering projects with a total estimated pumped volume up to 15-Million Gallons (MG) require sampling analysis for parameters No.'s 1 through 12.

Medium dewatering projects with a total estimated pumped volume between 15-MG and 60-MG require sampling analysis for parameters No.'s 1 through 14.

Large dewatering projects with a total estimated pumped volume greater than 60-MG require sampling analysis for parameters No.'s 1 through 20.

Samples are to be collected after development of the well by a licensed well driller.

A laboratory certified by the NYS Department of Health must conduct all testing.

Irrespective of the aforementioned sampling requirements based on total estimated pumped volumes, the Department may require sampling of additional parameters if the proposed dewatering site is suspected of being contaminated.

**40.14.4 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.

- (7) **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) In 229th Street starting fifty (50) feet north of the intersection with 147th Avenue to 145th Avenue, including intersections; 145th Avenue between 226th Street and 230th Place, including intersections; 230th Place south of the intersection with 147th Avenue to 148th Avenue; the restoration shall be as follows:

The permanent restoration shall consist of a minimum of nine (9) inches Asphaltic Macadam Pavement, from **curb to curb or from edge to edge of existing roadway**, to match the existing grade as directed by the Engineer.

- (2) In 148th Avenue starting fifty (50) feet east of 227th Street to fifty (50) feet west of 229th Street, including intersection; 230th Place starting fifty (50) feet south of 145th Avenue to fifty (50) feet north of 147th Avenue, including intersections; the restoration shall be as follows:

(a) The permanent restoration over the trench width and cutbacks only shall consist of a top course of a one and one-half (1 ½) inches of binder mixture on a base course of a minimum of four and a half (4 ½) inches of binder mixture to match the existing pavement as directed by the engineer.

(a) 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.

- (3) In **148<sup>th</sup> Avenue** between 226<sup>th</sup> Street and 225<sup>th</sup> Street, excluding intersections;  
**230<sup>th</sup> Street** between 147<sup>th</sup> Avenue and 148<sup>th</sup> Avenue, excluding intersections; the restoration shall be as follows:

The permanent restoration over the **trench width and cutbacks only** shall consist of a top course of one and one-half (1 ½) inches of asphaltic wearing course on a minimum of four and one-half (4 ½) inches of binder mixture as directed by the Engineer.

- (4) In **147<sup>th</sup> Avenue** from 227<sup>th</sup> Street to 229<sup>th</sup> Street, including intersections;  
**Intersection of 147<sup>th</sup> Avenue and 230<sup>th</sup> Street**; ; the restoration shall be as follows:

The entire width of roadway 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 minimum of six (6) inches of concrete base and three (3) inches of asphaltic concrete wearing course to match the existing grade as directed by the Engineer.

- (5) In **227<sup>th</sup> Street** between 148<sup>th</sup> Avenue and 147<sup>th</sup> Avenue, including intersection with 148<sup>th</sup> Avenue; **147<sup>th</sup> Avenue** starting fifty (50) feet east of 227<sup>th</sup> Street to fifty (50) feet west of 230<sup>th</sup> Street, including **Intersection of 147<sup>th</sup> Avenue and 230<sup>th</sup> Street**;

- a. The permanent restoration over the **trench width and cutbacks only** shall consist of three (3) inches of binder mixture over six (6) to nine (9) inches of concrete base as encountered to match 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.

- (6) 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>
4.01 RAJ	Asphaltic Macadam Pavement, 9" Thick	(For curb to curb or edge to edge.)
4.02 AB-R	Asphaltic Concrete Wearing Course, 1-1/2" Thick	(For top wearing course when no overlay is required.)
4.02 AF-R	Asphaltic Concrete Pavement, 2" Thick	(For curb to curb or edge to edge.)
4.02 AG	Asphaltic Concrete Pavement, 3" Thick	(For curb to curb or edge to edge.)
4.02 CA	Binder Mixture	(For asphaltic concrete base course over trenches and cutbacks; top filler course under wearing course when no overlay is required; top course when overlay is required; and to fill in roadway depressions and to provide a leveling course prior to overlay where ordered.)
4.04 AC	Concrete Base For Pavement, 6" Thick	(For curb to curb or edge to edge.)
4.04 H	Concrete Base for Pavement, Variable Thickness for Trench Restoration, (High-Early Strength)	(For concrete base course over trenches and cutbacks.)
4.05 AX	High-Early Strength Reinforced Concrete Pavement (Bus Stop)	(For reinforced concrete pavement at bus stops.)

**C. REVISIONS TO THE SPECIFICATIONS FOR TRUNK MAIN WORK**

- 1) **Refer** to Part 1 – Furnishing And Delivering Steel Pipes And Appurtenances 30 Inches In Diameter And Larger, Section 11. 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 except for fabrication of tees and reducers.

- 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 ten (12) pages plus seven (7) pages of attachments.**



# Department of Transportation

POLLY TROTTERBERG, Commissioner

## OCMC TRAFFIC STIPULATIONS

4-26-2016

**OCMC FILE NO:** QEC-16-153  
**CONTRACT NO:** SE-823  
**PROJECT:** CONSTRUCTION OF STORM AND SANITARY SEWERS AND APPURTENANCES IN QUEENS COMMUNITY BOARD 13  
**LOCATION(S):** VARIOUS LOCATIONS IN SOUTH JAMAICA (QUEENS)

PERMISSION IS HEREBY GRANTED TO THE **NYCDDC** 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:

### I. SPECIAL STIPULATIONS

- A. **EMBARGOES** – A CONSTRUCTION EMBARGO WILL APPLY TO THOSE LOCATIONS BELOW WHICH FALL WITHIN THE **HOLIDAY EMBARGO** OR ANY OTHER SPECIAL EVENT EMBARGOES PUBLISHED BY THE BUREAU OF PERMIT MANAGEMENT AND CONSTRUCTION CONTROL.
- B. **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". SUCH SIGNS SHALL BE ORANGE, 3' X 3', DIAMOND-SHAPED WITH 4" BLACK LETTERING. SIGNS SHALL BE POSTED IN ACCORDANCE WITH THE FEDERAL MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
- C. **BIKE SHARE STATIONS**: THE PERMITTEE SHALL NOT REMOVE, RELOCATE, DAMAGE OR DISRUPT THE OPERATION OF EXISTING BIKE SHARE STATIONS WITHOUT FIRST CONTACTING NYC BIKE SHARE AT 123 ST 855-245-3311 FOR THEIR REQUIREMENTS PRIOR TO COMMENCING WORK.
- D. **CITYBENCH**: THE PERMITTEE SHALL NOT REMOVE, RELOCATE, DAMAGE OR DISRUPT AN EXISTING CITYBENCH WITHOUT FIRST CONTACTING NYC DOT AT 212-839-6569, OR VIA EMAIL AT [CITYBENCH@DOT.NYC.GOV](mailto:CITYBENCH@DOT.NYC.GOV) PRIOR TO COMMENCING WORK.
- E. **PROTECTION OF NYC DEP GREEN INFRASTRUCTURE**: THE PERMITTEE SHALL TAKE PRECAUTION OF NYC DEP GREEN INFRASTRUCTURE IN THE RIGHT-OF-WAY. THE PERMITTEE MUST PROTECT NYC DEP GREEN INFRASTRUCTURE DOWNSTREAM OF THE WORK OR WITHIN FIVE (5) FEET OF THE WORK AREA. THE PERMITTEE MUST EMAIL NYC DEP AT [SUSTAINABILITY@DEP.NYC.GOV](mailto:SUSTAINABILITY@DEP.NYC.GOV) FOR PROTECTION REQUIREMENTS PRIOR TO COMMENCING WORK. THE PERMITTEE IS RESPONSIBLE FOR RESTORATION OF DAMAGED NYC DEP INFRASTRUCTURE AS DIRECTED BY NYC DEP.
- F. **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.
- G. **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.
- H. **TRAFFIC CAMERAS, DETECTION/COMMUNICATION EQUIPMENT**: IF AT ANY TIME DURING THE APPROVED WORK, THE PERMITTEE ENCOUNTERS TRAFFIC SURVEILLANCE CAMERAS, DETECTION EQUIPMENT OR ANY TYPE OF COMMUNICATION EQUIPMENT (WIRELESS OR HARD-WIRED) ON ANY NYC DOT FACILITY, THAT IS NOT INCLUDED ON THE DESIGN/BUILD DRAWINGS, THE PERMITTEE SHALL IMMEDIATELY NOTIFY NYC DOT TRAFFIC MANAGEMENT BY PHONE AT 718-433-3390 OR 718-433-3340 AND VIA EMAIL AT [TMC@DOT.NYC.GOV](mailto:TMC@DOT.NYC.GOV) AND AWAIT DIRECTION PRIOR TO CONTINUING WORK.
- I. **METERS** – THE PERMITTEE SHALL NOT REMOVE OR RELOCATE PARKING METERS WITHOUT FIRST OBTAINING APPROVAL FROM NYCDOT PARKING METER DIVISION AT 718-894-8651.
- J. **TEST PITS** – THE BELOW TRAFFIC STIPULATIONS DO NOT APPLY TO TEST PIT WORK RELATED TO THIS CONTRACT. WORK HOURS AND OTHER REQUIREMENTS FOR TEST PIT OPERATIONS MAY DIFFER FROM THE STIPULATIONS IDENTIFIED BELOW. THE PERMITTEE SHALL BE REQUIRED TO OBTAIN SEPARATE PERMITS RELATED TO TEST PITS.
- K. **TEMPORARY PARKING REGULATIONS/PAVEMENT MARKINGS** – THE PERMITTEE IS REQUIRED TO INSTALL, MAINTAIN AND REMOVE ALL NECESSARY TEMPORARY PARKING AND REGULATORY SIGNS AND PAVEMENT MARKINGS, AND RESTORE THEIR ORIGINAL CONDITION PER NYC DOT STANDARDS, PRIOR TO EXPIRATION OF THEIR PERMITS. THE PERMITTEE OR AGENCY PERFORMING PUBLIC OUTREACH SHALL POST AND MAINTAIN ADVISORY SIGNS A MINIMUM OF 48 HOURS PRIOR TO CHANGING EXISTING PARKING REGULATION SIGNS TO APPROVED TEMPORARY CONSTRUCTION PARKING REGULATION SIGNS. THE ADVISORY SIGNS SHOULD BE POSTED ON ALL POLES AND DRIVE RAILS ON THE SEGMENT AFFECTED, INDICATING THE DATE OF THE CHANGE, THE NEW REGULATIONS AND A TELEPHONE NUMBER TO OBTAIN MORE INFORMATION.
- L. **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.

NYC Department of Transportation  
Bureau of Permit Management and Construction Control  
55 Water Street - 7<sup>th</sup> Floor, New York, NY 10041  
T: 212.839.9621 F: 212.839.8970  
[www.nyc.gov/dot](http://www.nyc.gov/dot)

page 1 of 7

- M. **AUTHORIZED PARKING** – PRIOR TO PERFORMING WORK WHICH IMPACTS AUTHORIZED PARKING, THE PERMITTEE SHALL SUBMIT IN WRITING, AND COPY OCMC-STREETS, A REQUEST TO OCCUPY SPACE CURRENTLY USED BY AUTHORIZED VEHICLES. APPROVAL MUST BE RECEIVED FROM AUTHORIZED PARKING PRIOR TO OCCUPYING THESE AREAS.
- N. **NOTIFICATION** – THE PERMITTEE MUST AT LEAST TWO (2) WORKING DAYS BEFORE THE START OF CONSTRUCTION NOTIFY THE NYC FIRE DEPARTMENT, NYC POLICE DEPARTMENT, NYCEMS, LOCAL COMMUNITY BOARD, BOROUGH PRESIDENT'S OFFICE-CHIEF ENGINEER, NYCDOT OCMC OFFICE, AND ALL ADJUTING PROPERTY OWNERS.
- O. **CONSTRUCTION INFORMATIONAL SIGNS** – THIS PROJECT REQUIRES A CONSTRUCTION PROJECT INFORMATIONAL SIGN (CPIS) IN ACCORDANCE WITH NYCDOT HIGHWAY RULE SECTION 2-02 (4) AND (5). CRITERIA AND A PROTOTYPE FOR THIS SIGN MAY BE FOUND ON THE NYCDOT WEBSITE AT:

[HTTP://WWW.NYC.GOV/HIML/DOT/DOWNLOADS/PDF/DOT\\_CPIS\\_DIRECTIONS.PDF](http://www.nyc.gov/himl/dot/downloads/pdf/dot_cpis_directions.pdf)

P. **ENHANCED MITIGATIONS**

- o **ENHANCED MITIGATIONS FOR PEDESTRIAN FLOW**, INCLUDING METAL FENCING, SHALL BE PROVIDED TO ENSURE PEDESTRIANS STAY WITHIN THEIR DESIGNATED PATH/ROUTE. PEDESTRIAN MANAGERS SHALL BE PROVIDED TO ASSIST WITH PEDESTRIANS AT THE DESIGNATED CROSSWALK AREAS.
- 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. ALL TEMPORARY SIGNS AND PAVEMENT MARKINGS SHALL BE REMOVED UPON COMPLETION OF THE PROJECT.
- o **COMMUNITY OUTREACH** SHALL BE PROVIDED FOR THE DURATION OF THE PROJECT.

I. **MAINTENANCE AND PROTECTION OF TRAFFIC -- NEW STORM AND SANITARY SEWERS AND APPURTENANCES**

1. **147 AVENUE BETWEEN 227 STREET AND 229 STREET**

1. Work hours shall be as follows: 9am to 4pm Monday through Friday.
2. During work hours, the permittee shall maintain one 11 foot lane for two-way traffic with flaggers at both ends of the work zone.
3. After working hours the permittee shall restore all travel lanes to traffic. The permittee may contain 25 linear feet, 8 feet adjacent to the curb during non-work hours. Containment is only to restrict parking and for storage of excavated material/fill.
4. The permittee shall maintain a minimum of 5 feet wide sidewalk or 5 feet wide protected pedestrian walkway in the roadway at all times.
5. The permittee shall not block buses from loading and unloading.
6. The permittee must coordinate with the businesses in the area prior to mobilizing.

2. **147 AVENUE BETWEEN 229 STREET AND 230 PLACE**

1. Work hours shall be as follows: 9am to 4pm Monday through Friday.
2. During work hours, the permittee shall maintain two 11 foot travel lanes for traffic.
3. After working hours the permittee shall restore all travel lanes to traffic. The permittee may contain 25 linear feet, 8 feet adjacent to the curb during non-work hours. Containment is only to restrict parking and for storage of excavated material/fill.
4. The permittee shall maintain a minimum of 5 feet wide sidewalk or 5 feet wide protected pedestrian walkway in the roadway at all times.
5. The permittee shall not block buses from loading and unloading.
6. The permittee must coordinate with the businesses in the area prior to mobilizing.

3. **145 AVENUE BETWEEN 226 STREET AND 230 PLACE**

4. **226 STREET BETWEEN 148 AVENUE AND DEAD END**

5. **227 STREET BETWEEN 148 AVENUE AND 146 AVENUE**

6. **228 STREET BETWEEN 148 AVENUE AND 147 AVENUE**

7. **229 STREET BETWEEN 148 AVENUE AND 145 AVENUE**

1. Work hours shall be as follows: 7am to 6pm Monday through Friday.
2. During work hours, the permittee shall maintain one 12 foot lane for local and emergency access.
3. After sewer work hours:
  - a. The Permittee shall maintain one (1) 12-foot lane for local and emergency traffic. In areas where the roadway is not wide enough to allow for local and emergency traffic, the Permittee's work shall not



exceed one hundred (100) linear feet, so that the NYC Fire Department/EMS and the NYC Police Department can have access to the local residents on the affected street segment. The work area shall include the excavated trench, equipment and stored materials necessary for the work.

- b. It will be the Permittee's responsibility to inform the NYC Fire Department/EMS, NYC Police Department and local Community Board daily, in writing, including the location of the work area and the layout of the emergency access from either side of the work area. This notification shall be specific by the house number where possible. Representatives of the local NY Fire Battalion, NYC Police Department and the local Community Board shall sign such notice daily.
4. The permittee shall maintain a minimum of 5 feet wide sidewalk or 5 feet wide protected pedestrian walkway in the roadway at all times.

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**8. 148 AVENUE BETWEEN 226 STREET AND 227 STREET**

1. **Work is permitted only when the school is in recess.**
2. Work hours shall be as follows: 7am to 6pm Monday through Friday.
3. During work hours, the permittee shall maintain one 11 foot lane for two-way traffic with flaggers at both ends of the work zone.
4. Full width of roadway shall be opened to traffic when site is unattended.
5. The permittee shall maintain a minimum of 5 feet wide sidewalk or 5 feet wide protected pedestrian walkway in the roadway at all times.

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**9. 230 PLACE BETWEEN 148 AVENUE AND 144 AVENUE**

1. Work hours shall be as follows: 7am to 6pm Monday through Friday.
2. During work hours, the permittee shall maintain one 11 foot lane for two-way traffic with flaggers at both ends of the work zone.
3. Full width of roadway shall be opened to traffic when site is unattended.
4. The permittee shall maintain a minimum of 5 feet wide sidewalk or 5 feet wide protected pedestrian walkway in the roadway at all times.

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**10. 147 AVENUE AND 227 STREET**

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**11. 147 AVENUE AND 228 STREET**

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**12. 147 AVENUE AND 229 STREET**

1. Work hours shall be as follows: 9am to 4pm Monday through Friday.
2. During work hours the permittee shall maintain one 11 foot lane for two-way traffic with flaggers at both ends of the work zone on 147 Avenue and one 12 foot lane for local and emergency access on cross-streets.
3. Full width of roadway shall be opened to traffic when site is unattended.

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**13. 147 AVENUE AND 230 PLACE**

1. Work hours shall be as follows: 9am to 4pm Monday through Friday.
2. During work hours the permittee shall maintain two 11 foot lanes for traffic on 147 Avenue and one 11 foot lane for two-way traffic with flaggers at both ends of the work zone on 230 Place
3. Full width of roadway shall be opened to traffic when site is unattended.

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**14. 147 AVENUE AND 230 STREET**

1. Work hours shall be as follows: 9am to 4pm Monday through Friday.
2. During work hours the permittee shall maintain two 11 foot lanes for traffic on 147 Avenue and one 11 foot lane for two-way traffic with flaggers at both ends of the work zone on 230 Street.
3. Full width of roadway shall be opened to traffic when site is unattended.

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**15. 148 AVENUE AND 226 STREET**

1. Work hours shall be as follows: 9am to 4pm Monday through Friday.
2. During work hours the permittee shall maintain one 11 foot lane for traffic for two-way traffic on both roadways.
3. Full width of roadway shall be opened to traffic when site is unattended.

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**16. 148 AVENUE AND 227 STREET**

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1. Work hours shall be as follows: 9am to 4pm Monday through Friday.
2. During work hours the permittee shall maintain one 11 foot lane for traffic for two-way traffic on both roadways.
3. Full width of roadway shall be opened to traffic when site is unattended.

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**17. 229 STREET AND 146 AVENUE**

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1. Work hours shall be as follows: 9am to 4pm Monday through Friday.
2. During work hours the permittee shall maintain one 11 foot lane for two-way traffic on both roadways.
3. Full width of roadway shall be opened to traffic when site is unattended.

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**18. 230 PLACE AND 146 AVENUE**

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1. Work hours shall be as follows: 9am to 4pm Monday through Friday.
2. During work hours the permittee shall maintain two 11 foot lanes for traffic on 230 Place and maintain one 11 foot lane for two-way traffic with flaggers at both ends of the work zone on 146 Avenue.
3. Full width of roadway shall be opened to traffic when site is unattended.

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**19. 145 AVENUE AND 227 STREET****20. 145 AVENUE AND 228 STREET****21. 145 AVENUE AND 229 STREET**

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**22. 145 AVENUE AND 230 STREET**

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1. Work hours shall be as follows: 9am to 4pm Monday through Friday.
2. During work hours the permittee shall maintain one 12 foot lane for local and emergency access on both roadways.
3. Full width of roadway shall be opened to traffic when site is unattended.

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**23. 145 AVENUE AND 230 PLACE**

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1. Work hours shall be as follows: 9am to 4pm Monday through Friday.
2. During work hours the permittee shall maintain one 12 foot lane for local and emergency access on 145 Avenue and maintain one 11 foot lane for two-way traffic with flaggers at both ends of the work zone on 230 Place.
3. Full width of roadway shall be opened to traffic when site is unattended.

**II. GENERAL NOTES**

- A. **THIS IS NOT A PERMIT.** THIS STIPULATION SHEET MUST BE SUBMITTED WITH ALL REQUESTS FOR PERMITS PERTAINING TO THE ABOVE CONTRACT AND PRESENT AT THE WORK SITE ALONG WITH ALL ACTIVE CONSTRUCTION PERMITS WHEN THE APPROVED WORK IS BEING PERFORMED.
- B. THE PERMITTEE MUST COMPLY WITH ALL CONSTRUCTION EMBARGOS ISSUED BY THE NYCDOT INCLUDING THE HOLIDAY EMBARGO.
- C. THE PERMITTEE SHALL COMPLY WITH ALL REQUIREMENTS OF THE NYCDOT SPECIAL EVENTS UNIT AS IDENTIFIED BELOW:

**1. STREET FAIRS / FESTIVALS**

- ALL EXCAVATIONS MUST BE PLATED WITH SKID RESISTANT PLATES.
- PLATES MUST BE RECESSED AND FLUSH WITH PAVEMENT.
- ALL PAVEMENT DEFECTS MUST BE CORRECTED WITHIN OR ADJACENT TO THE WORK ZONE.
- THE CONTRACTOR IS RESPONSIBLE FOR ANY DEFECTS WITHIN THE IMMEDIATE VICINITY IF NYCDOT STREET & ARTERIAL MAINTENANCE CANNOT MAKE REPAIRS DUE TO PROJECT INTERFERENCE (AS DETERMINED BY NYCDOT).
- ALL EQUIPMENT, TRAILERS AND MATERIAL STORAGE MUST BE REMOVED.

**2. RUNNING / WALKING / BIKING EVENTS**

- ALL EXCAVATIONS MUST BE BACKFILLED AND PAVED OR PLATES MUST BE RECESSED AND PAVED OVER FLUSH WITH PAVEMENT.
- ALL PAVEMENT DEFECTS MUST BE CORRECTED WITHIN OR ADJACENT TO THE WORK ZONE.

OCMC FILE NO: QEC-16-153

CONTRACT NO: SE-823

PROJECT: CONSTRUCTION OF STORM AND SANITARY SEWERS AND APPURTENANCIES IN QUEENS COMMUNITY BOARD 13

4-26-2016

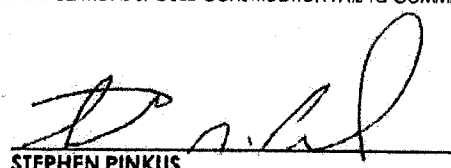
Page 5 of 5

- ALL PAVEMENT DEFECTS MUST BE CORRECTED WITHIN OR ADJACENT TO THE WORK ZONE.
- THE CONTRACTOR IS RESPONSIBLE FOR ANY DEFECTS WITHIN THE IMMEDIATE VICINITY IF NYCDOT STREET & ARTERIAL MAINTENANCE CANNOT MAKE REPAIRS DUE TO PROJECT INTERFERENCE (AS DETERMINED BY NYCDOT).
- ALL EQUIPMENT, TRAILERS AND MATERIAL STORAGE MUST BE REMOVED.

**4. MAYORAL EVENTS**

- ALL EXCAVATIONS MUST BE BACKFILLED AND PAVED OR PLATES MUST BE RECESSED AND PAVED OVER FLUSH WITH PAVEMENT.
  - ALL PAVEMENT DEFECTS MUST BE CORRECTED WITHIN OR ADJACENT TO THE WORK ZONE.
  - THE CONTRACTOR IS RESPONSIBLE FOR ANY DEFECTS WITHIN THE IMMEDIATE VICINITY IF NYCDOT STREET & ARTERIAL MAINTENANCE CANNOT MAKE REPAIRS DUE TO PROJECT INTERFERENCE (AS DETERMINED BY NYCDOT).
  - ALL EQUIPMENT, TRAILERS AND MATERIAL STORAGE MUST BE REMOVED.
- D. ALL RELOCATION WORK BY THE UTILITIES SUCH AS: CON EDISON, TELEPHONE, GAS AND CABLE COMPANIES SHALL PRECEDE THE CONTRACTORS' START OF WORK ON ALL AFFECTED ROADWAYS IN THE IMPACTED CONTRACT AREA.
- E. THE CONTRACTOR IS ADVISED THAT OTHER CONTRACTORS MAY BE WORKING IN THE GENERAL AREA DURING THE TERM OF THIS STIPULATION. IN WHICH EVENT, THE CONTRACTOR MAY REQUIRE MODIFICATIONS BY THE OCMC-STREETS.
- F. THE PERMITTEE IS NOT AUTHORIZED TO ENTER, OCCUPY OR USE ANY PUBLICLY-OWNED OR PRIVATELY OWNED, NON-PAVED, LANDSCAPE OR NON-LANDSCAPED LOCATION WITHOUT SPECIFIC WRITTEN PERMISSION. WHEN THE LOCATION IS WITHIN THE RIGHT-OF-WAY OF A LIMITED-ACCESS ARTERIAL HIGHWAY, WRITTEN APPROVAL FROM THE NYCDOT OCMC-HIGHWAYS IS REQUIRED. WHEN THE LOCATION IS WITHIN THE RIGHT-OF-WAY OF A PUBLIC STREET OR PUBLIC PARK, WRITTEN APPROVAL FROM THE NEW YORK CITY DEPARTMENT OF TRANSPORTATION OR NEW YORK CITY DEPARTMENT OF PARKS AND RECREATION IS REQUIRED. WHEN THE LOCATION IS WITHIN THE RIGHT-OF-WAY OF ANY OTHER JURISDICTION SUCH AS PRIVATE PROPERTY, STATE, FEDERAL ETC., IT IS THE PERMITTEE'S RESPONSIBILITY TO DETERMINE THE PROPERTY OWNER AND OBTAIN THE WRITTEN APPROVAL.
- G. THE PERMITTEE SHALL ADHERE TO THE NYCDOT BUREAU OF BRIDGES' SPECIAL PROVISIONS FOR LANDSCAPE PROTECTION, MAINTENANCE AND RESTORATION, ITEMS 1.18.15 THROUGH 1.18.19, WHENEVER AND WHEREVER ANY OF THE PERMITTEE'S ACTIVITIES OCCUR WITHIN A LIMITED ACCESS ARTERIAL HIGHWAY RIGHT-OF-WAY.
- H. NO DEVIATION OR DEPARTURE FROM THESE STIPULATIONS WILL BE PERMITTED WITHOUT THE PRIOR WRITTEN APPROVAL FROM THE OCMC-STREETS. REQUEST FOR SUCH MODIFICATIONS SHALL BE SUBMITTED TO THE OFFICE OF THE OCMC-STREETS, NEW YORK CITY DEPARTMENT OF TRANSPORTATION, A MINIMUM OF TWENTY (20) DAYS IN ADVANCE FOR CONSIDERATION.
- I. FOR ANY CONSTRUCTION ACTIVITY RESULTING IN THE FULL CLOSURE OF A ROADWAY FOR MORE THAN 180 CONSECUTIVE CALENDAR DAYS, THE CONTRACTOR MUST PRODUCE AND SUBMIT A COMMUNITY REASSESSMENT, IMPACT AND AMELIORATION (CRIA) STATEMENT TO NYCDOT PLANNING AND OBTAIN THEIR APPROVAL BEFORE APPLYING FOR PERMITS, IN COMPLIANCE WITH THE PROVISIONS OF **LOCAL LAW 24 STREET CLOSURE LAW**.
- J. FOR THIS PROJECT THE CONTRACTOR SHALL FURNISH, INSTALL AND MAINTAIN ALL NECESSARY ADVANCE WARNING AND DETOUR SIGNS, TEMPORARY CONTROL DEVICES, BARRICADES, LIGHTS AND FLASHING ARROW BOARDS IN ACCORDANCE WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES," THE TYPICAL SCHEMES INCLUDED IN THIS SPECIFICATION; AND AS ORDERED BY THE ENGINEER-IN-CHARGE AND THE OCMC-STREETS.
- K. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING HIS CONSTRUCTION SIGNAGE. THE IDENTIFICATION SHALL INCLUDE THE CONTRACTOR'S NAME, SPONSORING AGENCY NAME AND THE CONTRACT NUMBER. THE IDENTIFICATION SHALL BE PLACED ON THE BACK OF THE SIGN. THE LETTERING SHALL BE THREE (3) INCHES HIGH.
- L. THE OCMC-STREETS RESERVES THE RIGHT TO VOID OR MODIFY THESE STIPULATIONS SHOULD CONSTRUCTION FAIL TO COMMENCE WITHIN TWO (2) YEARS OF THE SIGNED DATE OF THESE STIPULATIONS.

  
DUANE BARRA  
DIRECTOR  
OCMC-STREETS

  
STEPHEN PINKUS  
PROJECT MANAGER  
OCMC-STREETS



# Department of Transportation

POLLY TROTTERBERG, Commissioner

## OCMC TRAFFIC STIPULATIONS - AMENDMENT #1

NOVEMBER 2, 2016

OCMC FILE NO: QEC-16-153  
CONTRACT NO: SE-823  
PROJECT: CONSTRUCTION OF STORM AND SANITARY SEWERS AND APPURTENANCES IN QUEENS  
COMMUNITY BOARD 13

LOCATION(S): VARIOUS LOCATIONS IN SOUTH JAMAICA (QUEENS)

STIPULATIONS ORIGINALLY DATED **APRIL 26, 2016** 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 LOCATION(S) BELOW FOR THE PURPOSE OF CARRYING OUT THE ABOVE NOTED PROJECT, IS HEREBY AMENDED **TO ALLOW WORK HOURS AT THE LOCATIONS BELOW AS FOLLOWS:**

### **I. MAINTENANCE AND PROTECTION OF TRAFFIC - NEW STORM AND SANITARY SEWERS AND APPURTENANCES**

#### **1. 230 PLACE BETWEEN 147 AVENUE AND 149 AVENUE**

1. Work hours shall be as follows: 7am to 6pm Monday through Friday.
2. During work hours, the permittee shall maintain one 11 foot lane for two-way traffic with flaggers at both ends of the work zone.
3. Full width of roadway shall be opened to traffic when site is unattended.
4. The permittee shall maintain a minimum of 5 feet wide sidewalk or 5 feet wide protected pedestrian walkway in the roadway at all times.

#### **2. 148 AVENUE BETWEEN 225 STREET AND 230 STREET**

1. Work hours shall be as follows: 7am to 6pm Monday through Friday.
2. During work hours, the permittee shall maintain one 11 foot lane for two-way traffic with flaggers at both ends of the work zone.
3. Full width of roadway shall be opened to traffic when site is unattended.
4. The permittee shall maintain a minimum of 5 feet wide sidewalk or 5 feet wide protected pedestrian walkway in the roadway at all times.

#### **3. 148 AVENUE BETWEEN 230 STREET AND 230 PLACE**

1. Work hours shall be as follows: 9am to 2pm Monday through Friday and 8am to 4pm Saturday when school is in session and 7am to 6pm Monday through Friday when school is in recess.
2. During work hours, the permittee shall maintain one 11 foot lane for two-way traffic with flaggers at both ends of the work zone.
3. Full width of roadway shall be opened to traffic when site is unattended.
4. The permittee shall maintain a minimum of 5 feet wide sidewalk or 5 feet wide protected pedestrian walkway in the roadway at all times.

#### **4. 147 AVENUE AND 230 PLACE**

1. Work hours shall be as follows: 9am to 4pm Monday through Friday.
2. During work hours the permittee shall maintain two 11 foot lanes for traffic with one lane in each direction on 147 Avenue and one 11 foot lane for two-way traffic with flaggers at both ends of the work zone on 230 Place.
3. Full width of roadway shall be opened to traffic when site is unattended.

#### **5. 148 AVENUE AND 230 PLACE**

1. Work hours shall be as follows: 9am to 2pm Monday through Friday and 8am to 4pm Saturday when school is in session and 9am to 4pm Monday through Friday when school is in recess.
2. During work hours the permittee shall maintain two 11 foot lanes for traffic with one lane in each direction on 148 Avenue east of 230 Place and maintain and one 11 foot lane for two-way traffic with flaggers at both ends of the work zone on 148 Avenue west of 230 Place and on 230 Place.
3. Full width of roadway shall be opened to traffic when site is unattended.

NYC Department of Transportation

Bureau of Permit Management and Construction Control

55 Water Street - 7<sup>th</sup> Floor, New York, NY 10041

T: 212.839.9637 F: 212.839.8970

www.nyc.gov/dot

**6. 148 AVENUE AND 230 STREET**

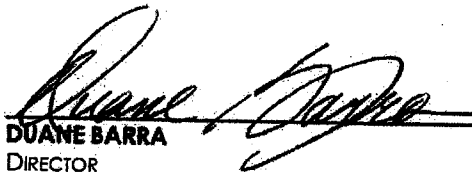
1. Work hours shall be as follows: 9am to 2pm Monday through Friday and 8am to 4pm Saturday when school is in session and 9am to 4pm Monday through Friday when school is in recess.
2. During work hours the permittee shall maintain one 11 foot lane for two-way traffic on both roadways.
3. Full width of roadway shall be opened to traffic when site is unattended.

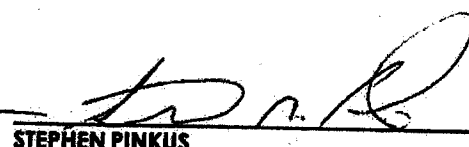
**7. 148 AVENUE AND 229 STREET****8. 148 AVENUE AND 228 STREET****9. 148 AVENUE AND 227 STREET****10. 148 AVENUE AND 226 STREET****11. 148 AVENUE AND 225 STREET**

1. Work hours shall be as follows: 9am to 4pm Monday through Friday.
2. During work hours the permittee shall maintain one 11 foot lane for two-way traffic on both roadways.
3. Full width of roadway shall be opened to traffic when site is unattended.

**II. GENERAL NOTES**

- A. **THIS IS NOT A PERMIT.** THIS STIPULATION SHEET MUST BE SUBMITTED WITH ALL REQUESTS FOR PERMITS PERTAINING TO THE ABOVE CONTRACT AND PRESENT AT THE WORK SITE ALONG WITH ALL ACTIVE CONSTRUCTION PERMITS WHEN THE APPROVED WORK IS BEING PERFORMED.
- B. **ALL OTHER STIPULATIONS UNDER ORIGINAL NYCDOT STIPULATIONS SHEET QEC-16-153 DATED APRIL 26, 2016, WHICH HAVE NOT BEEN CHANGED BY THIS AMENDMENT, REMAIN IN EFFECT.**
- C. THE PERMITTEE IS ADVISED THAT OTHER CONTRACTORS MAY BE WORKING IN THE GENERAL AREA DURING THE TERM OF THIS STIPULATION. IN WHICH EVENT, THE PERMITTEE MAY REQUIRE MODIFICATIONS BY THE OCMC-STREETS.
- D. 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.
- E. 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.
- F. THE PERMITTEE MUST COMPLY WITH ALL CONSTRUCTION EMBARGOS ISSUED BY THE NYCDOT INCLUDING THE HOLIDAY EMBARGO.

  
**DUANE BARRA**  
DIRECTOR  
OCMC-STREETS

  
**STEPHEN PINKUS**  
PROJECT MANAGER  
OCMC-STREETS

**NO TEXT ON THIS PAGE**

**EP7 - PAGES**

## **GAS COST SHARING (EP-7) STANDARD SPECIFICATIONS**

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### **NOTICE**

THE PAGES CONTAINED IN THIS SECTION (EP7-PAGES) REPRESENT THE GAS COST SHARING WORK THAT SHALL APPLY TO AND BECOME A PART OF THE CONTRACT.

(NO TEXT ON THIS PAGE)



TABLE OF CONTENT**I - NOTICE TO ALL BIDDERS; GAS COST SHARING WORK****II - GENERAL PROVISIONS; GAS COST SHARING WORK**

1. General
2. Gas Interferences And Accommodations
  - 2a. Water Main Accommodations
  - 2b. Sewer Accommodations
3. Quantity Overruns, EP-7 Funded Bid Items
4. Changes And Extra Work
5. Excavation
6. Backfilling And Street Restoration
7. Non-Responsive Bids
8. Minimum Clearances
9. Work By Facility Operator
10. Materials Furnished By Facility Operator
11. Liability And Insurance
12. Width And Depth Of Excavation
13. Depth And Crossing Angles Of Gas Facilities
14. Maintenance Of Traffic For Gas Work
15. Relocated Gas And Temporary Systems Installation
16. Role Of Company Inspector
17. Coordination With Gas Company

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- SECTION 6.01 - Trench Crossings; Support And Protection Of Gas Facilities And Services.
- SECTION 6.02 - Extra Excavation For The Installation Of Catch Basin Sewer Drain Pipes With Gas Interferences.
- SECTION 6.02.1 - Extra Excavation For The Installation Of Catch Basin Sewer Drain Pipes With Upstream Inverts Greater Than Six (6) Feet.
- SECTION 6.03 - Removal Of Abandoned Gas Facilities. All Sizes.
- SECTION 6.03.1 - Removal Of Abandoned Gas Facilities With Possible Coal Tar Wrap. All Sizes. (For National Grid Work Only)
- SECTION 6.03.1a - Removal Of Abandoned Gas Facilities With Possible Coal Tar Wrap. All Sizes. (For Con Edison Work Only)
- SECTION 6.04 - Adjust Hardware To Grade Using Spacer Rings/Adaptors. (Street Repaving.)
- SECTION 6.05 - Adjust Hardware To Grade By Resetting. (Road Reconstruction.)
- SECTION 6.06 - Special Care Excavation And Backfilling.
- SECTION 6.07 - Test Pits For Gas Facilities.
- SECTION 6.09 - Trench Excavation and Backfill for New Gas Mains and Services (For National Grid Work Only)
- SECTION 6.09a - Trench Excavation and Backfill for New Gas Mains and Services (For Con Edison Work Only)

**IV - STANDARD SKETCHES; GAS COST SHARING WORK**

- NO. 1 - Support Requirements For Gas Mains And Services Crossing Excavation Greater Than 4'-0" Wide At Any Angle
- NO. 1A - Support Requirements For Gas Mains Over 16" Diameter Up To And Including 48" Diameter Crossing Excavation At Any Angle
- NO. 2 - Typical Methods Of Measurement For Gas Crossings
- NO. 3 - Utility Crossings During Catch Basin Chute Connection Pipe Installation
- NO. 4 - Utility Crossings During Catch Basin Chute Connection Pipe Installation (Extra Depth)
- NO. 5 - Gas Main Encroachment On And/Or Parallel To Excavation Of Unsheeted Trench

**V - PRELIMINARY GAS WORK TO BE PERFORMED BY FACILITY OPERATOR**

**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 Warp 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 it's 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 6.07 - 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 6.09 - 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 |

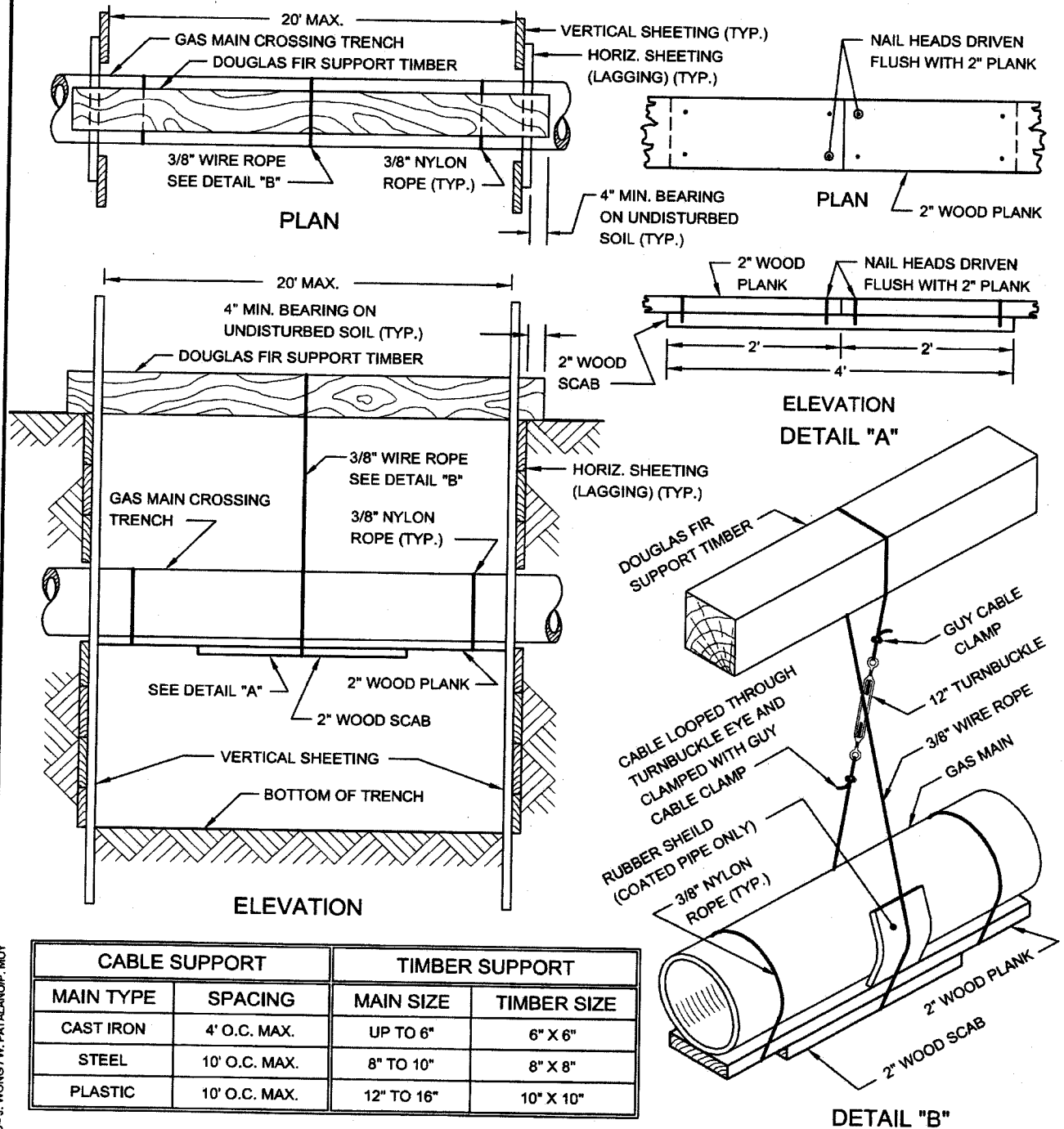
#### **IV - STANDARD SKETCHES; GAS COST SHARING WORK**

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)

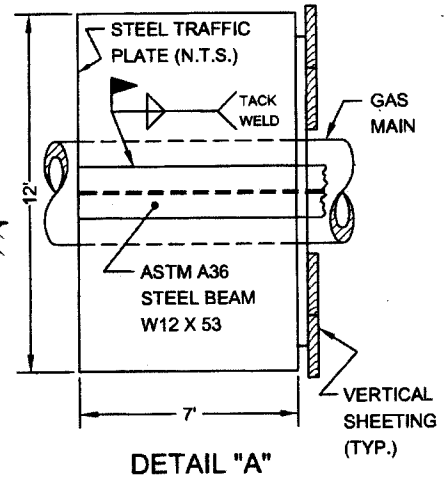
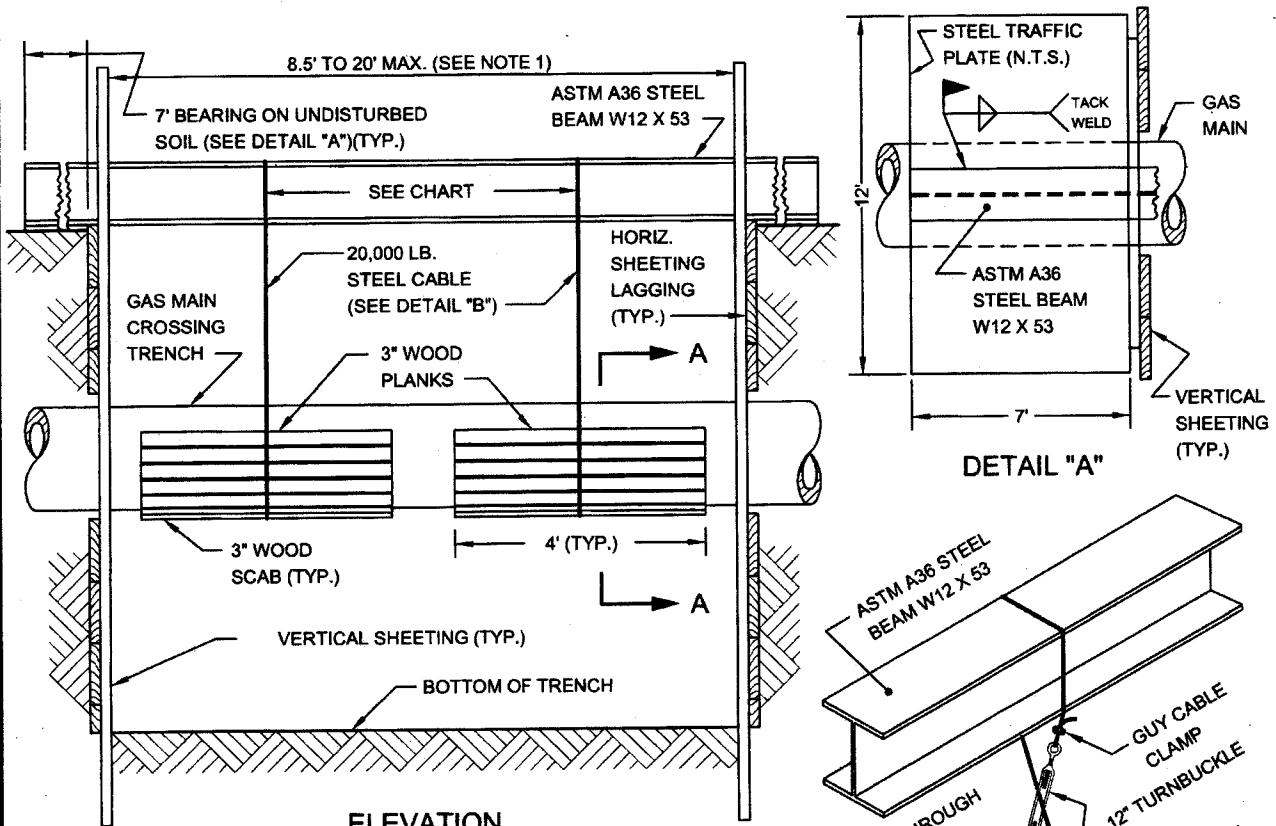
## SUPPORT REQUIREMENTS FOR GAS MAINS AND SERVICES CROSSING EXCAVATION GREATER THAN 4'-0" WIDE AT ANY ANGLE



REVISED OCT. 2004 - L. ADRIEN  
REVISED JUNE 1988 - J. WONG / W. PATALANOP, 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

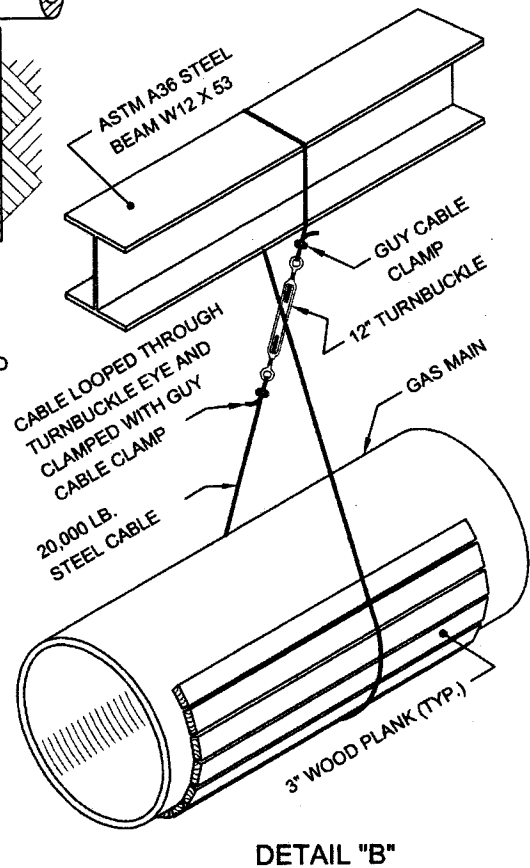
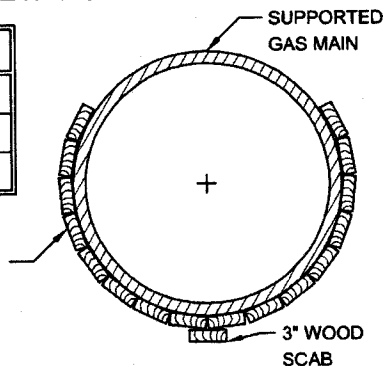


CABLE SUPPORT	
MAIN TYPE	SPACING
CAST IRON	4' O.C. MAX.
STEEL	10' O.C. MAX.

### NOTES:

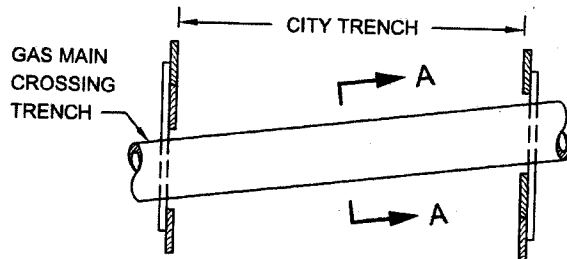
- (1) NO SUPPORT IS REQUIRED FOR GAS MAINS OVER 16" DIA. UP TO AND INCLUDING 48" DIA. CROSSING TRENCHES LESS THAN 8.5' WIDE.
- (2) UNDERMINE A MAXIMUM OF 8.5 L.F. OF CAST IRON GAS MAIN AT A TIME.
- (3) SET STEEL CABLE OVER 3" WOOD PROTECTIVE PLANKS AND PLACE AN ADDITIONAL 3" SCAB ON THE BOTTOM OF THE 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.

### SECTION A-A

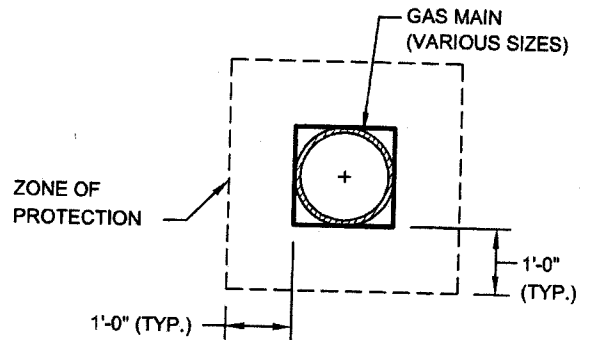


# GAS COST SHARING WORK (SKETCH NO. 2)

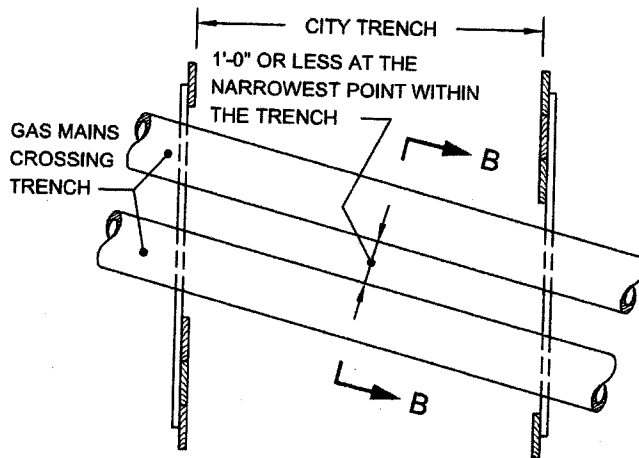
## TYPICAL METHODS OF MEASUREMENT FOR GAS CROSSINGS



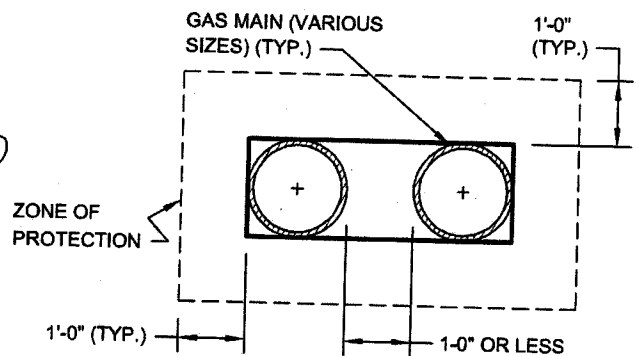
**SINGLE FACILITY CROSSING**



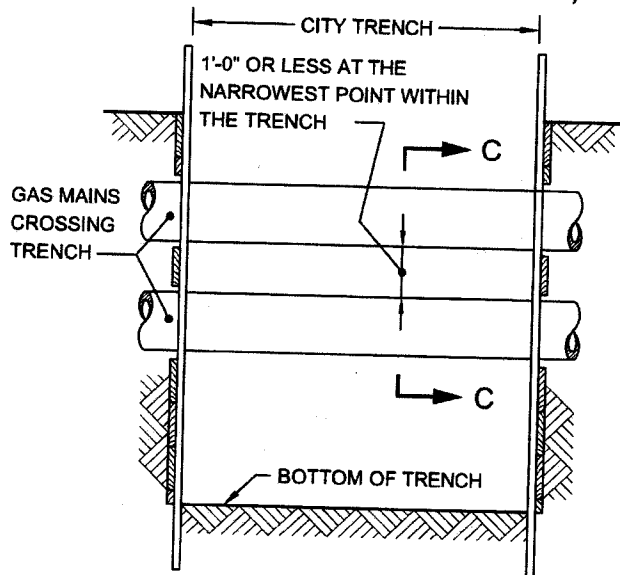
**SECTION A-A**



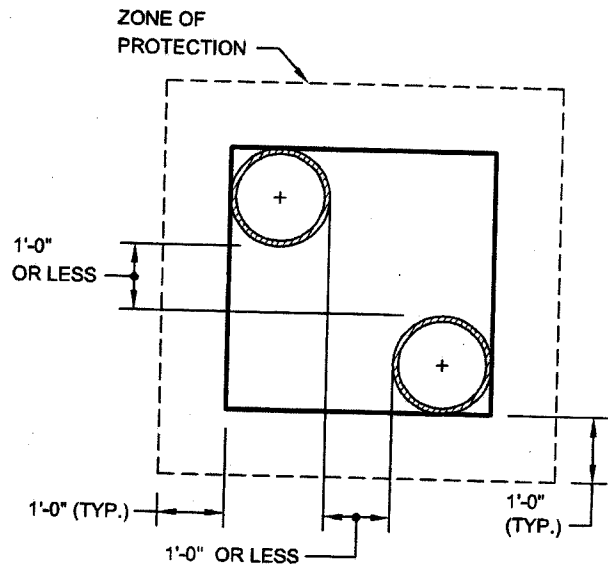
**MULTIPLE FACILITIES  
(GAS MAINS AT SAME ELEVATION)**



**SECTION B-B**



**MULTIPLE FACILITIES  
(ONE CROSSING AT DIFFERENT ELEVATIONS)**

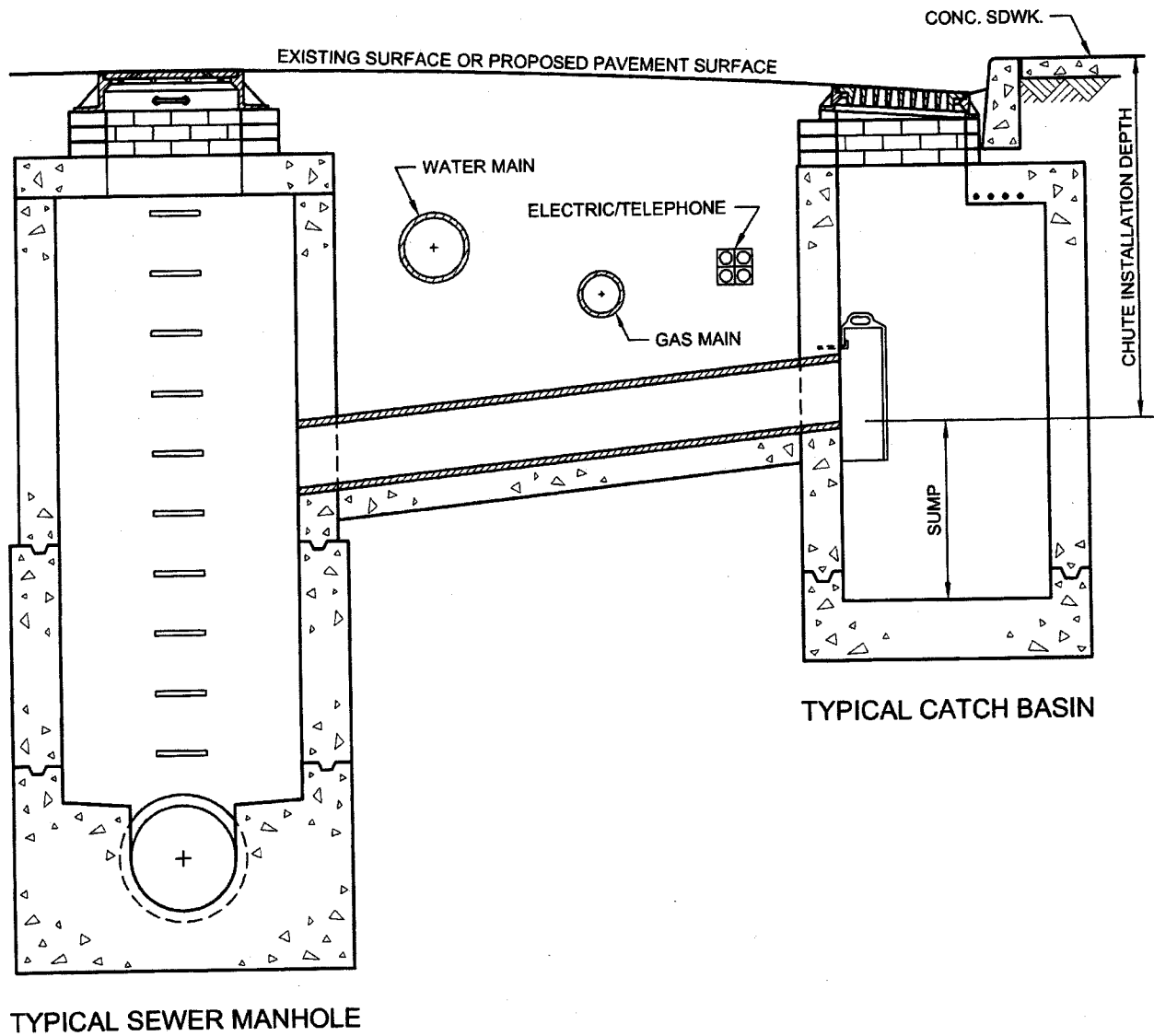


**SECTION C-C**

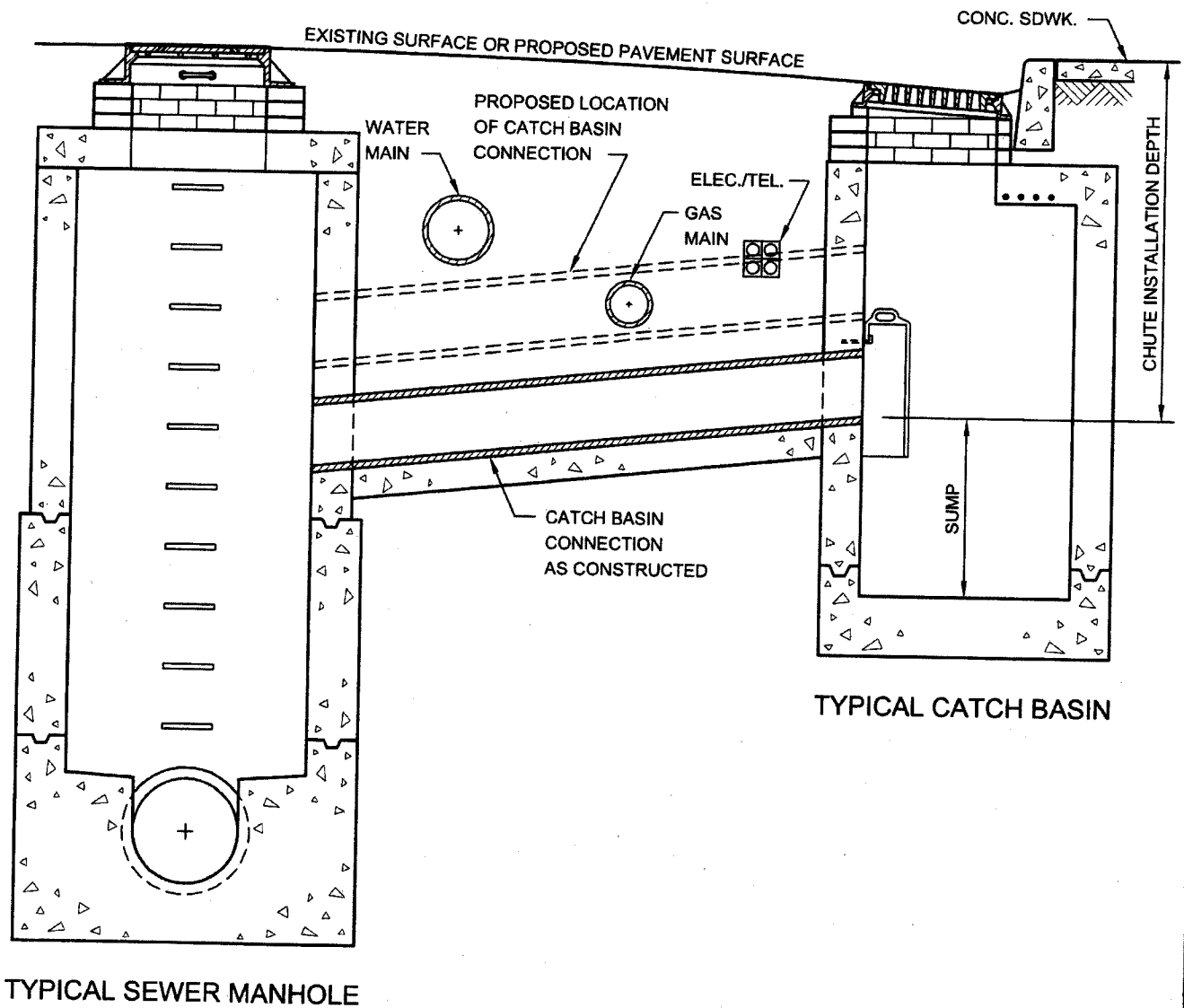
**NOTE:**

GAS MAINS MAY OR MAY NOT BE PARALLEL TO EACH OTHER.

**GAS COST SHARING WORK (SKETCH NO. 3)**  
**UTILITY CROSSINGS DURING CATCH BASIN CHUTE**  
**CONNECTION PIPE INSTALLATION**



# GAS COST SHARING WORK (SKETCH NO. 4) UTILITY CROSSINGS DURING CATCH BASIN CHUTE CONNECTION PIPE INSTALLATION (EXTRA DEPTH)



REVISED OCT. 2004 - L. ADRIEN  
 REVISED OCT. 1998 - J. WONGW. PATALANOP. 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 TO BE PERFORMED BY CITY CONTRACTOR
- IF ADDITIONAL INFORMATION IS NEEDED REGARDING THE FACILITY OPERATOR'S RELOCATION WORK, THE CONTRACTOR IS ADVISED TO CONTACT THE GAS COMPANY REPRESENTATIVE:

Neville Jacobs Jr.  
NationalGrid Energy Delivery  
287 Maspeth Avenue  
Brooklyn, NY 11211  
718-963-5612

(NO TEXT IN THIS AREA, TURN PAGE)

CONTRACT # SE-823  
 ORACLE# CNCC307  
 ENGINEER JAMES HALL  
 DATE 6/22/2016

COVER SHEET 1 OF 3

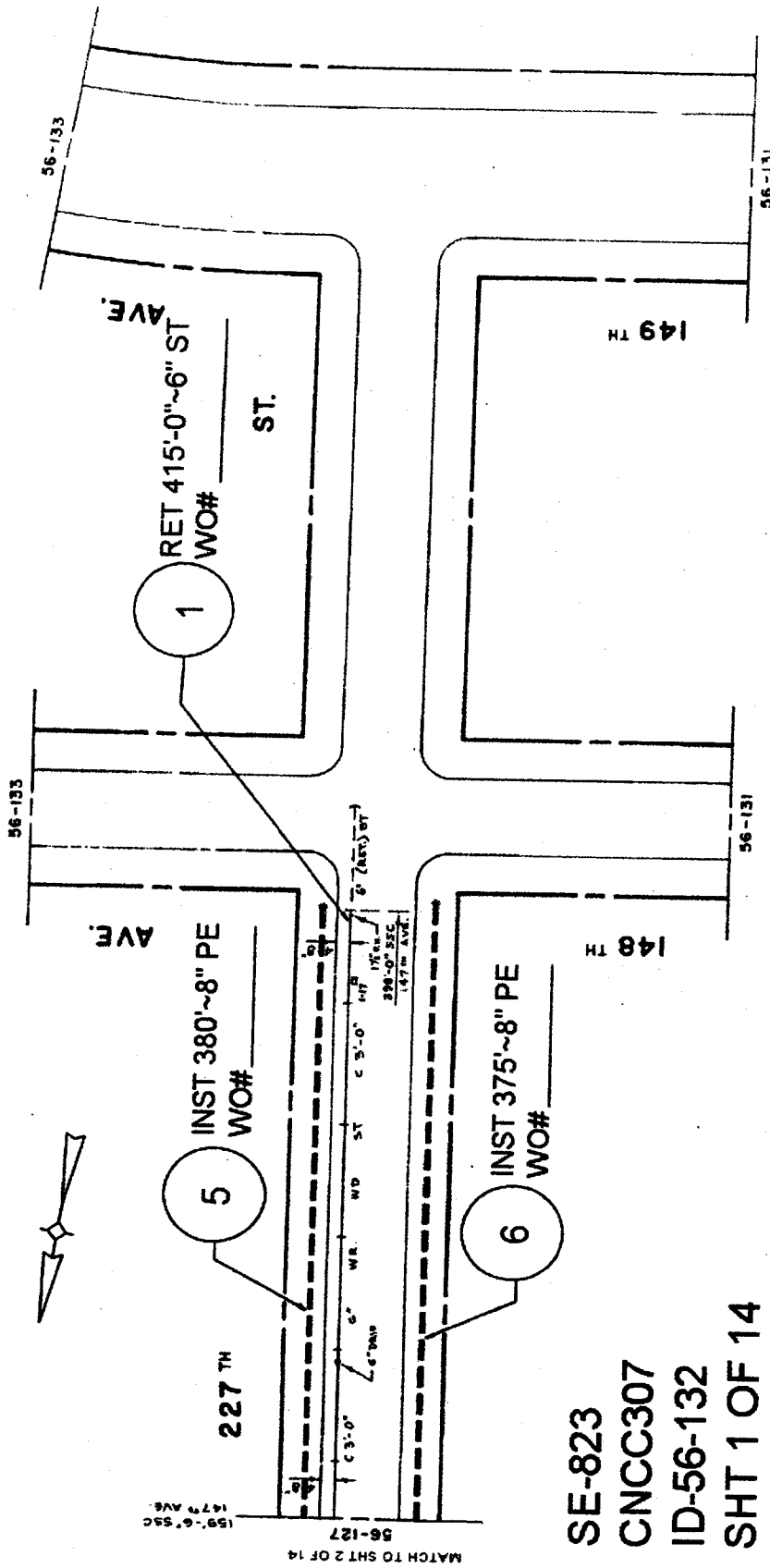
ITEM#	SHEET	ON STREET	ACTIVITY	SIZE	PRESSURE	MATERIAL	LENGTH IN FT	REIM / NON-REIM
1	1, 2	227 ST	RET	6"	6WC	ST	415'	REIM
2	2	227 ST	RET	6"	6WC	CI	60'	REIM
3	2	227 ST	RET	6"	6WC	ST	20'	REIM
4	2	227 ST	RET	6"	6WC	CI	55'	REIM
5	1, 2	227 ST	INST	8"	6WC	PE	380'	REIM
6	1, 2	227 ST	INST	8"	6WC	PE	375'	REIM
7	2	147 AVE	INST	8"	6WC	PE	95'	REIM
8	2, 3	147 AVE	RET	12"	6WC	CI	340'	REIM
9	2, 3	147 AVE	INST	12"	6WC	PE	640'	REIM
10	3	148 AVE	RET	6"	6WC	PE	300'	REIM
11	3	228 ST	RET	6"	6WC	ST	15'	REIM
12	3	228 ST	INST	6"	6WC	PE	45'	REIM
13	3, 4	147 AVE	RET	12"	6WC	CI	170'	REIM
14	4	147 AVE	RET	12"	6WC	ST	140'	REIM
15	4	229 ST	RET	4"	6WC	ST	110'	REIM
16	4	229 ST	RET	6"	6WC	ST	105'	REIM
17	4, 7	229 ST	RET	6"	6WC	CI	320'	REIM
18	7, 8	229 ST	RET	6"	6WC	ST	430'	REIM
19	8	229 ST	RET	6"	6WC	PE	70'	REIM
20	8, 9	229 ST	RET	6"	6WC	CI	275'	REIM
21	9	229 ST	RET	6"	6WC	PE	105'	REIM
22	9	229 ST	RET	6"	6WC	CI	130'	REIM
23	9	229 ST	RET	6"	6WC	PE	50'	REIM
24	4, 7 - 9	229 ST	INST	8"	6WC	PE	1,490'	REIM
25	8	146 AVE	RET	6"	6WC	CI	45'	REIM
26	8	146 AVE	RET	6"	6WC	ST	100'	REIM
27	8	146 AVE	RET	6"	6WC	CI	35'	REIM
28	4, 7, 8	229 ST	INST	8"	6WC	PE	830'	REIM
29	4, 5	147 AVE	RET	12"	6WC	CI	190'	REIM
30	5	147 AVE	RET	12"	6WC	ST	12'	REIM

## COVER SHEET 2 OF 3

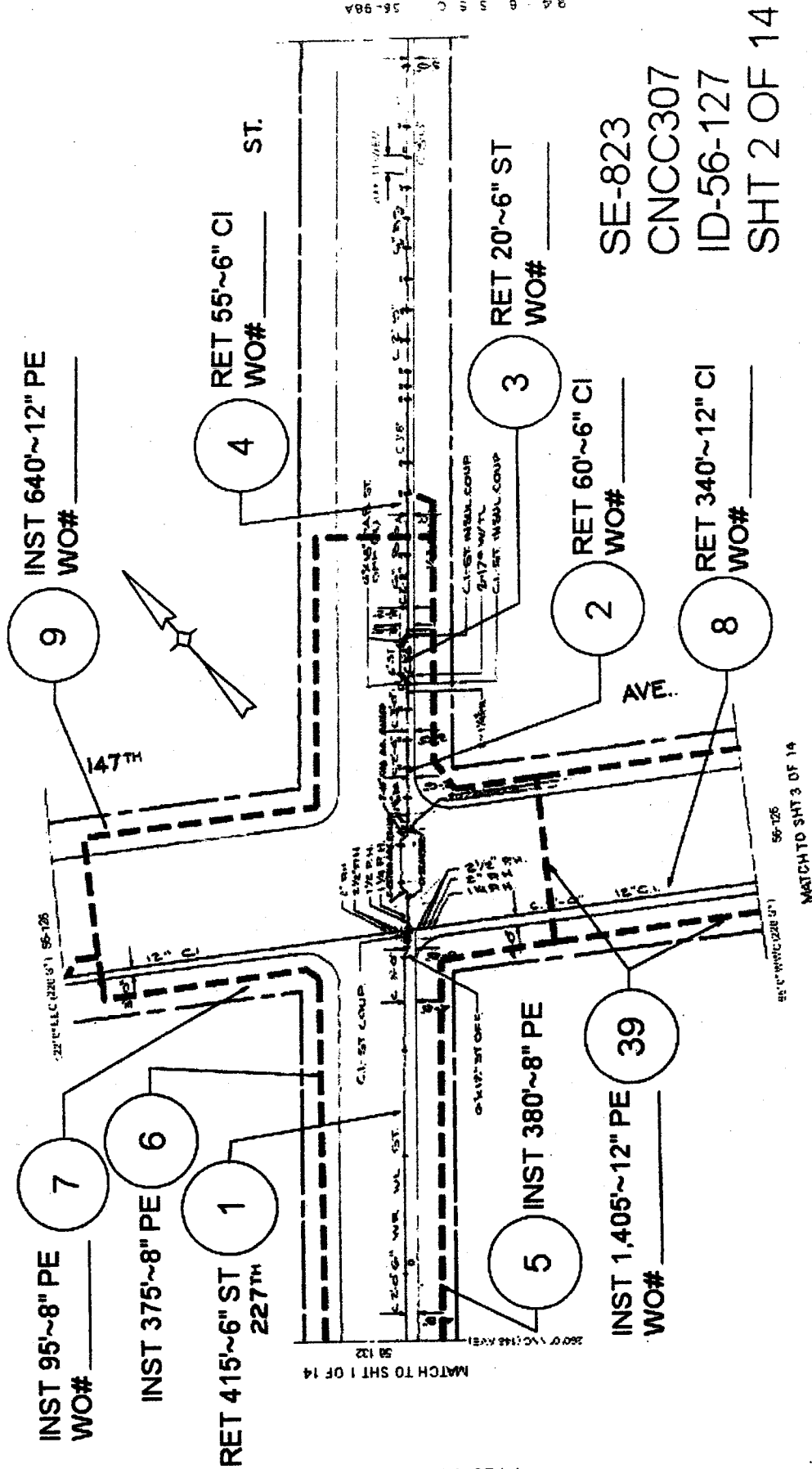
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31	5	147 AVE	INST	8"	6WC	PE	220'	REIM
32	5	147 AVE	RET	12"	6WC	CI	35'	REIM
33	5	230 ST	RET	6"	6WC	ST	75'	REIM
34	5	147 AVE	RET	12"	6WC	ST	40'	REIM
35	5, 6	147 AVE	RET	12"	6WC	CI	45'	REIM
36	6	147 AVE	RET	12"	6WC	PE	25'	REIM
37	6	230 PL	RET	6"	6WC	ST	150'	REIM
38	6	230 PL	INST	8"	6WC	PE	145'	REIM
39	2 thru 6	147 AVE	INST	12"	6WC	PE	1,405'	REIM
40	9 thru 11	145 AVE	RET	6"	6WC	ST	660'	REIM
41	11, 12	145 AVE	RET	6"	6WC	PE	30'	REIM
42	12	145 AVE	RET	6"	6WC	ST	20'	REIM
43	12	145 AVE	RET	6"	6WC	PE	85'	REIM
44	9 thru 12	145 AVE	INST	8"	6WC	PE	915'	REIM
45	12	226 ST	RET	8"	6WC	PE	85'	REIM
46	12	226 ST	INST	8"	6WC	PE	100'	REIM
47	11	227 ST	RET	6"	6WC	PE	60'	REIM
48	11	227 ST	RET	6"	6WC	ST	75'	REIM
49	11	227 ST	INST	8"	6WC	PE	90'	REIM
50	10	228 ST	RET	6"	6WC	ST	140'	REIM
51	10	228 ST	INST	8"	6WC	PE	80'	REIM
52	9, 13	145 AVE	RET	6"	6WC	PE	260'	REIM
53	9, 13	145 AVE	INST	8"	6WC	PE	340'	REIM
54	9, 13	230 ST	RET	4"	6WC	PE	215'	REIM
55	9, 13	230 ST	INST	8"	6WC	PE	315'	REIM
56	13	230 ST	RET	6"	6WC	PE	15'	REIM
57	13	230 ST	RET	6"	6WC	CI	65'	REIM
58	13	230 ST	RET	8"	6WC	PE	80'	REIM
59	14	230 PL	RET	6"	6WC	PE	75'	REIM
60	14	230 PL	RET	6"	6WC	ST	30'	REIM

## COVER SHEET 3 OF 3

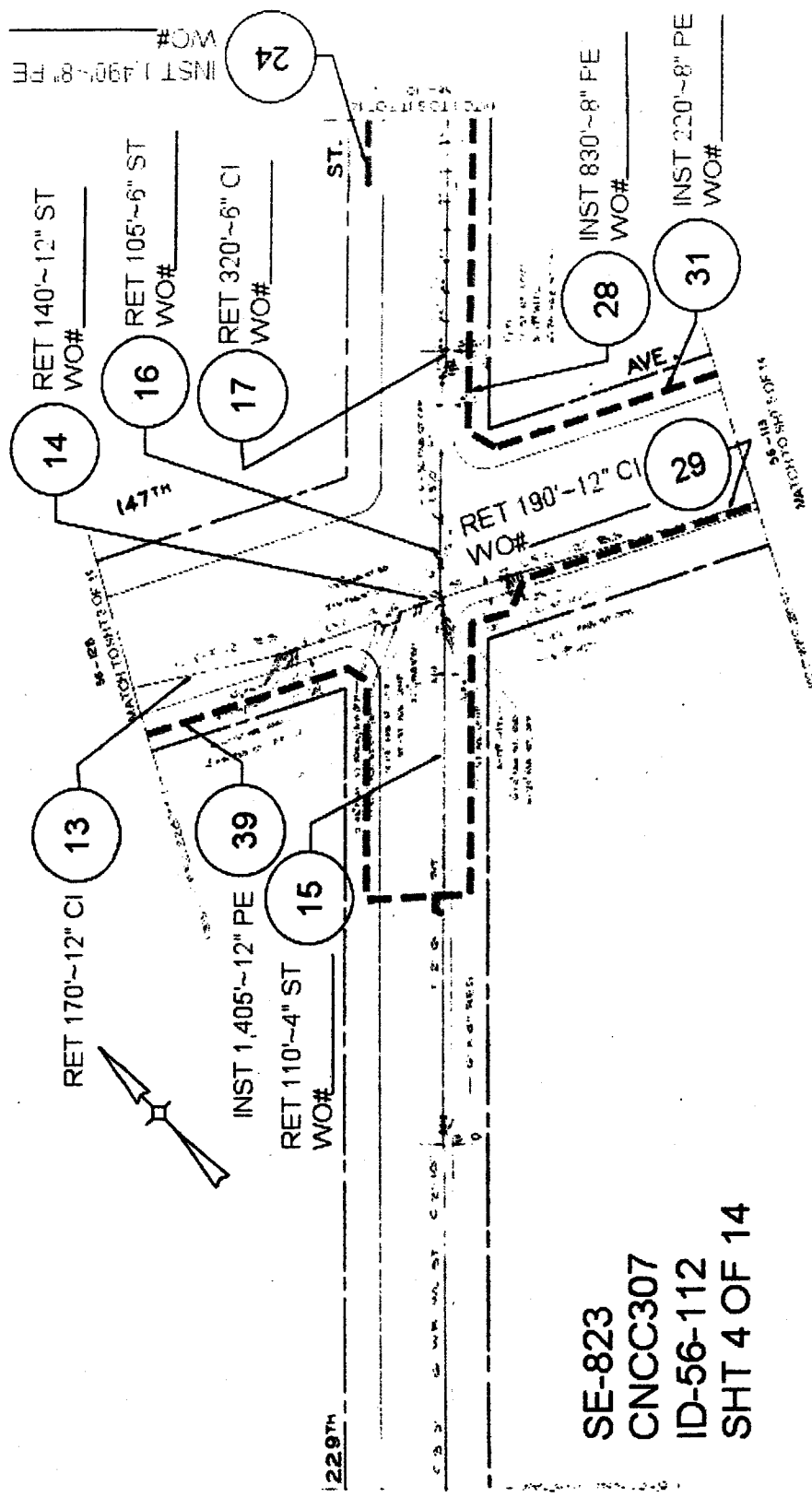
ITEM#	SHEET	ON STREET	ACTIVITY	SIZE	PRESSURE	MATERIAL	LENGTH IN FT	REIM / NON-REIM
61	14	230 PL	RET	8"	6WC	PE	55'	REIM
62	14	145 AVE	RET	6"	6WC	ST	65'	REIM
63	14	145 AVE	INST	8"	6WC	PE	175'	REIM



SE-823  
 CNCC307  
 ID-56-132  
 SHT 1 OF 14





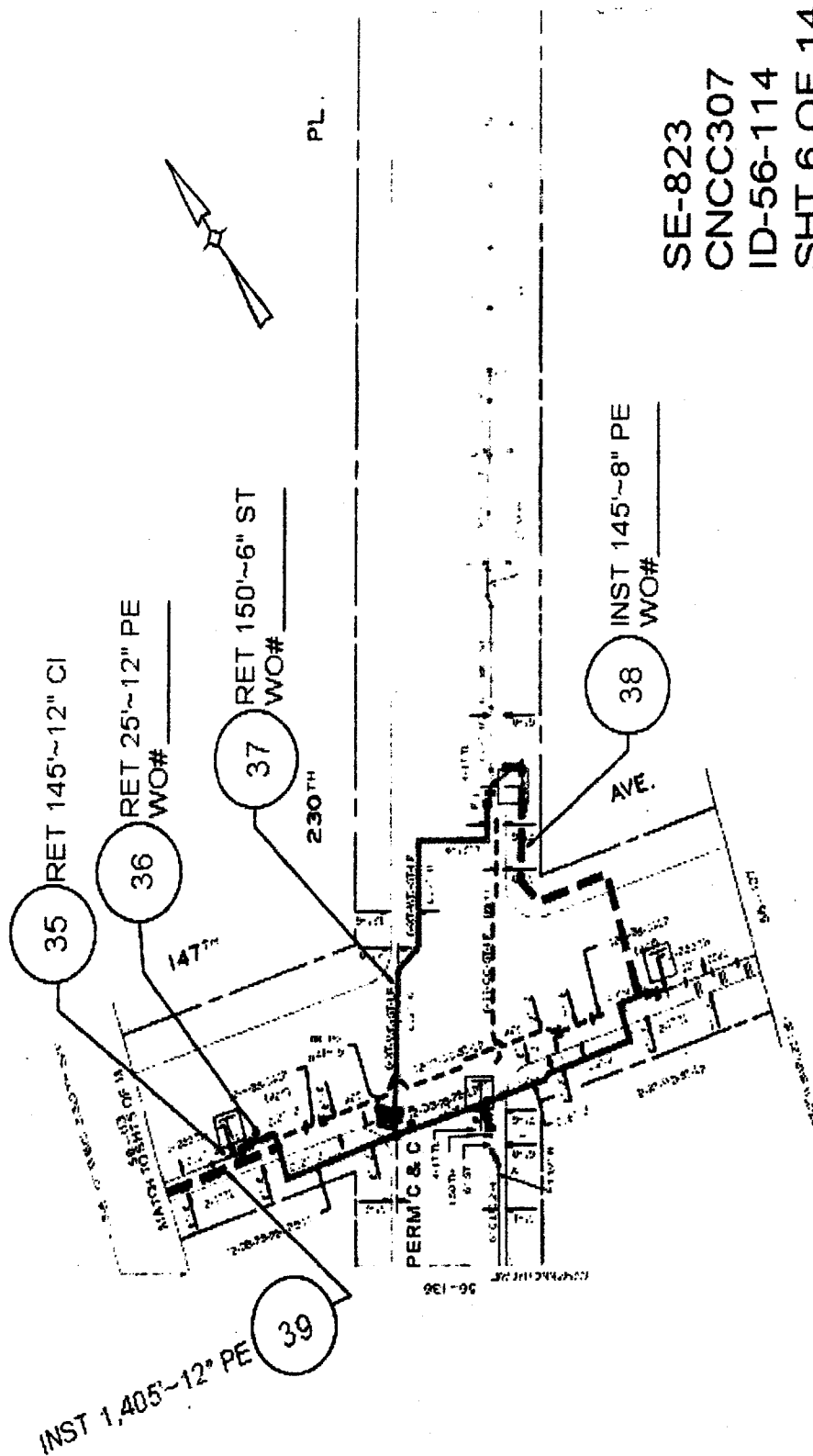


SE-823  
CNCC307  
ID-56-112  
SHT 4 OF 14

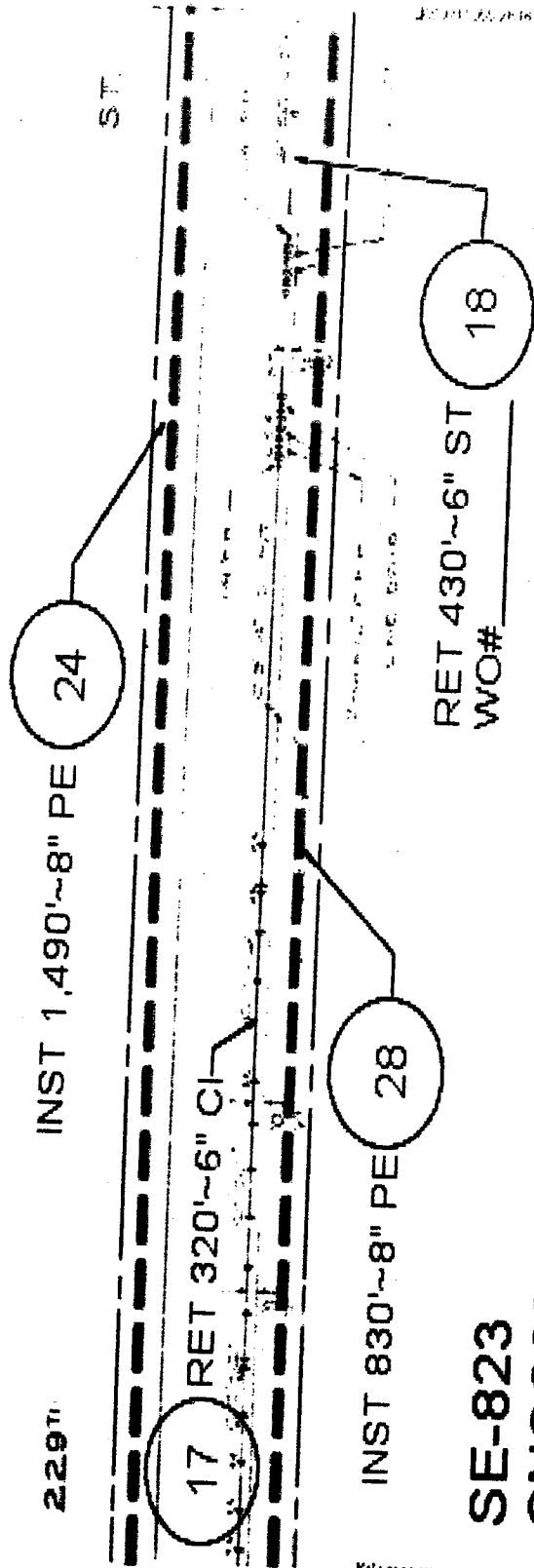
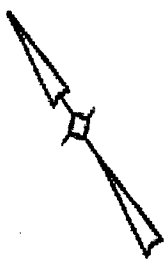
56-134







SE-823  
CNCC307  
ID-56-114  
SHT 6 OF 14



229"

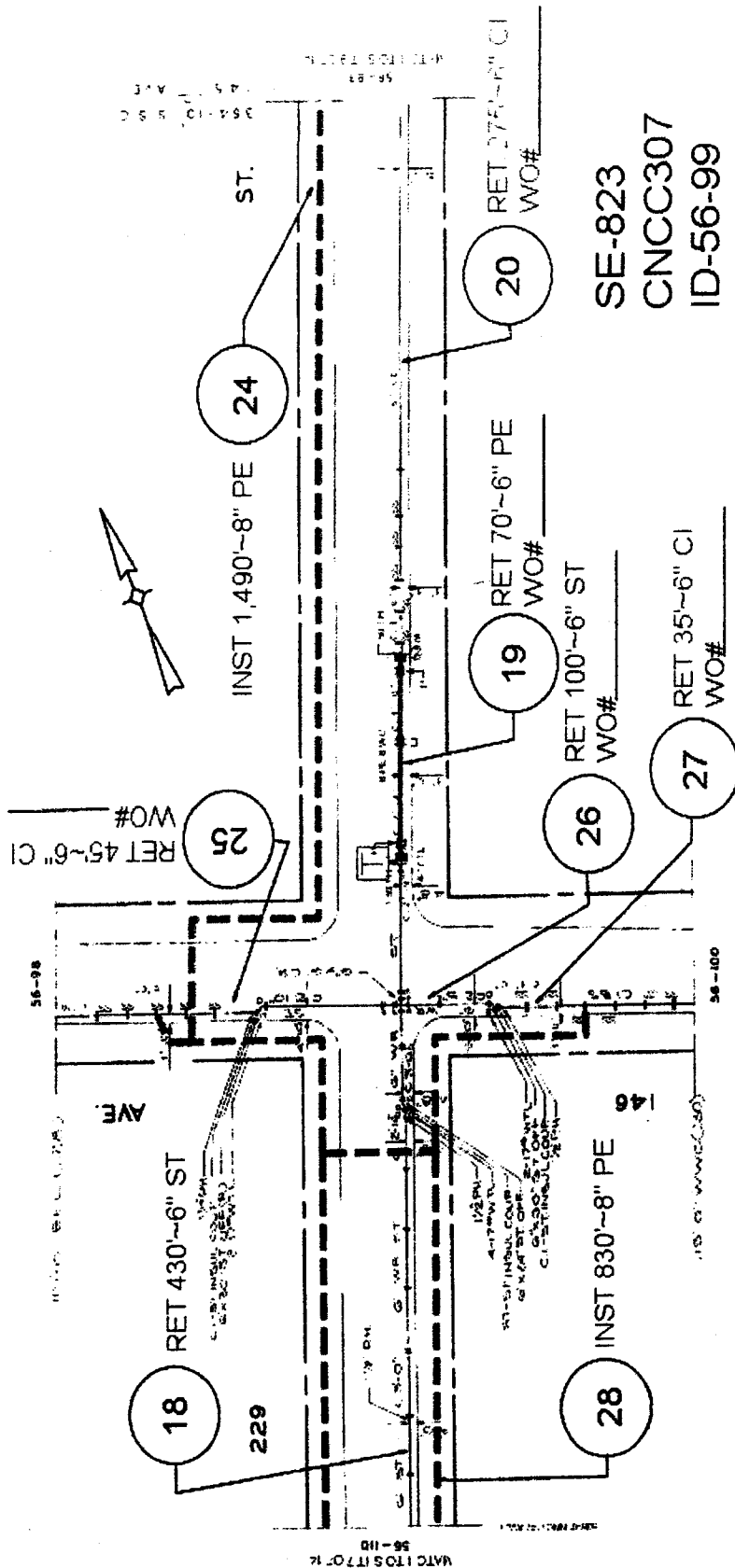
INST 1,490'~8" PE

RET 320'~6" CI

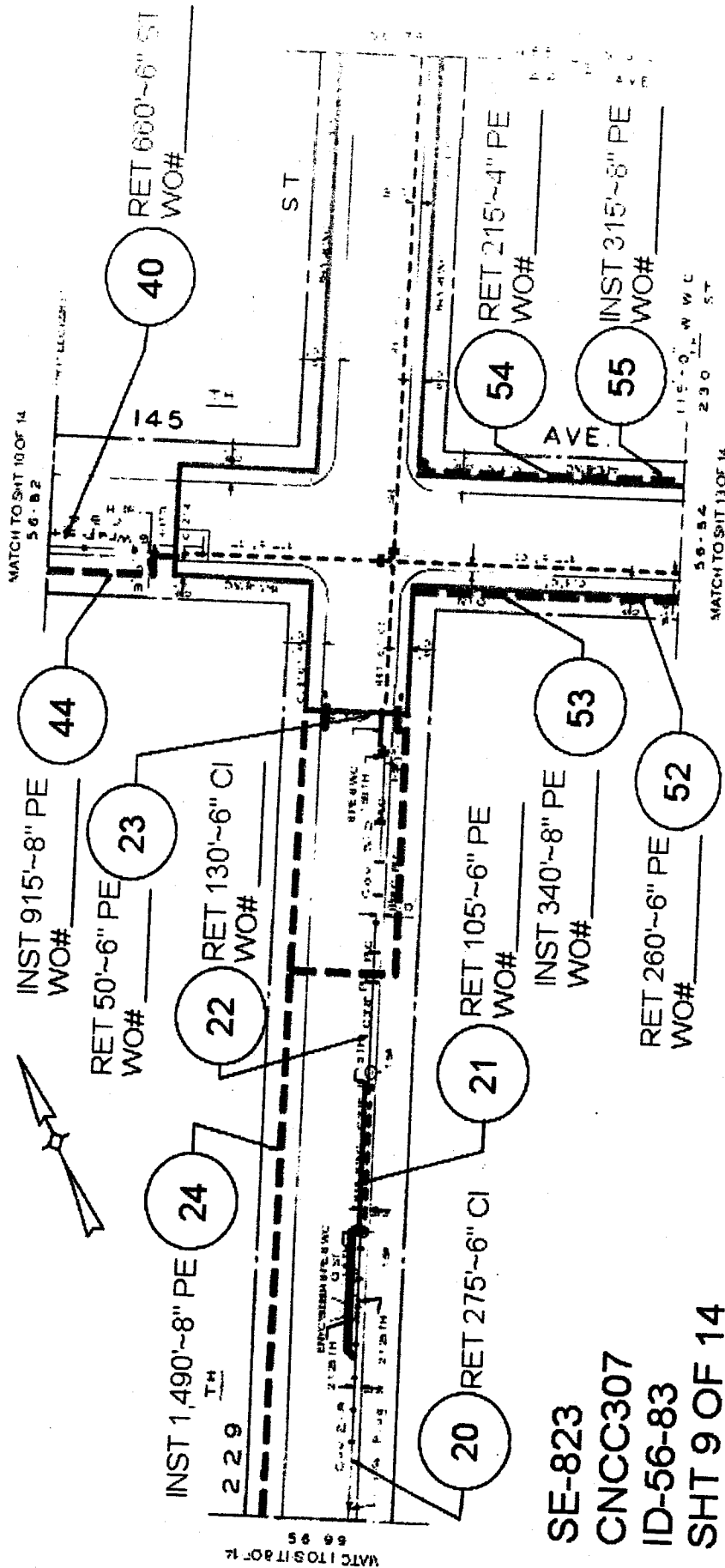
INST 830'~8" PE

RET 430'~6" ST  
WO#

SE-823  
CNCC307  
ID-56-110  
SHT 7 OF 14



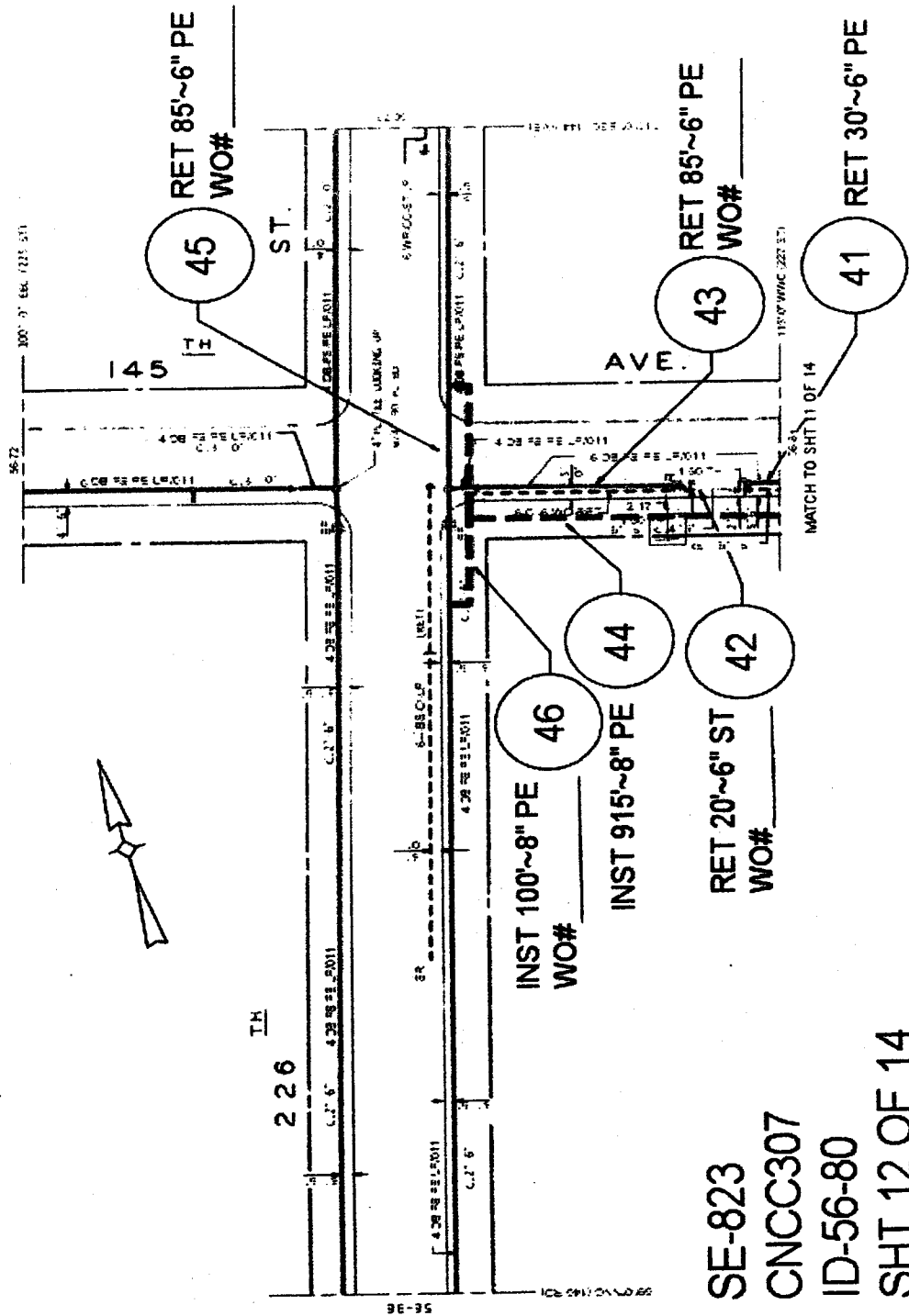
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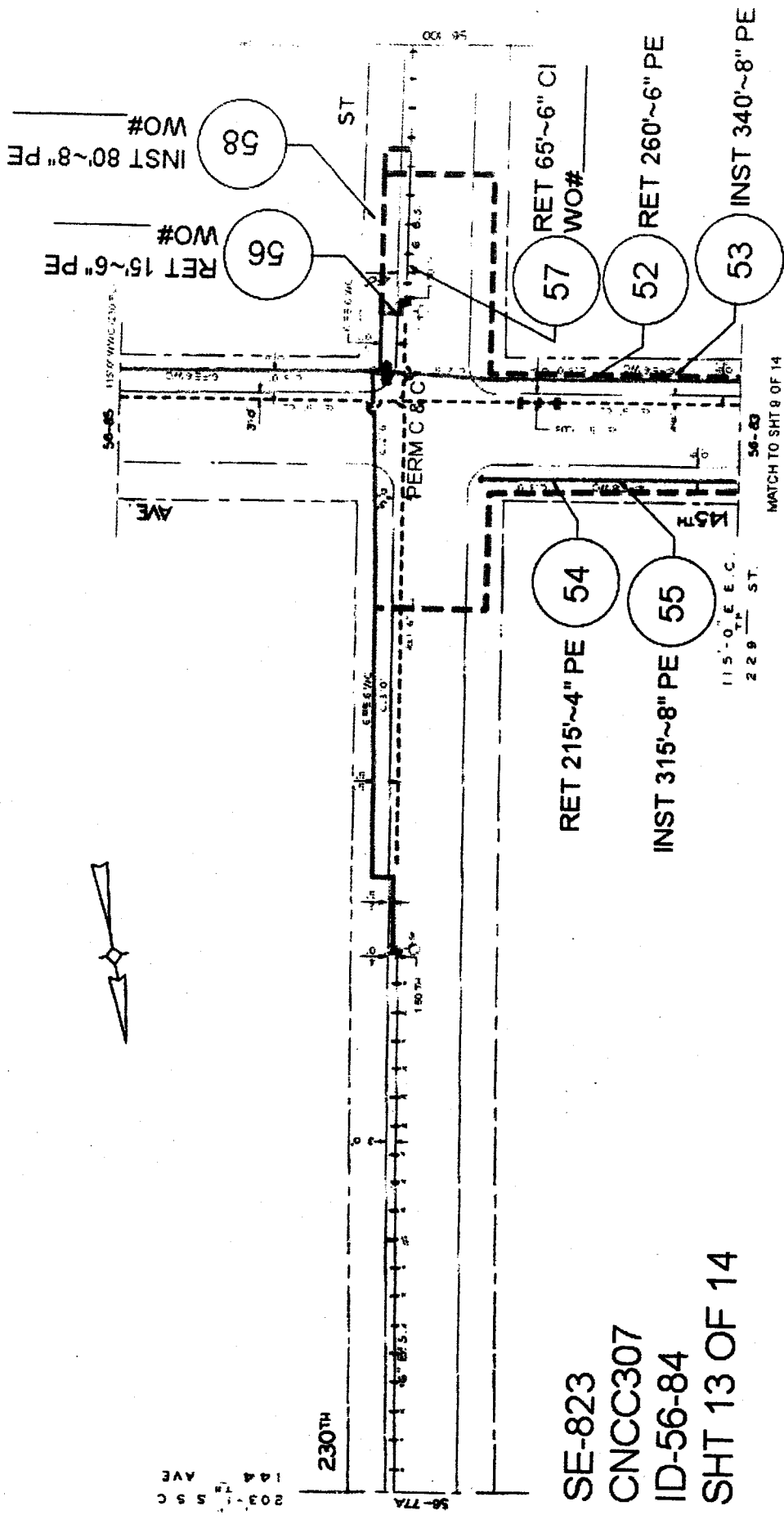
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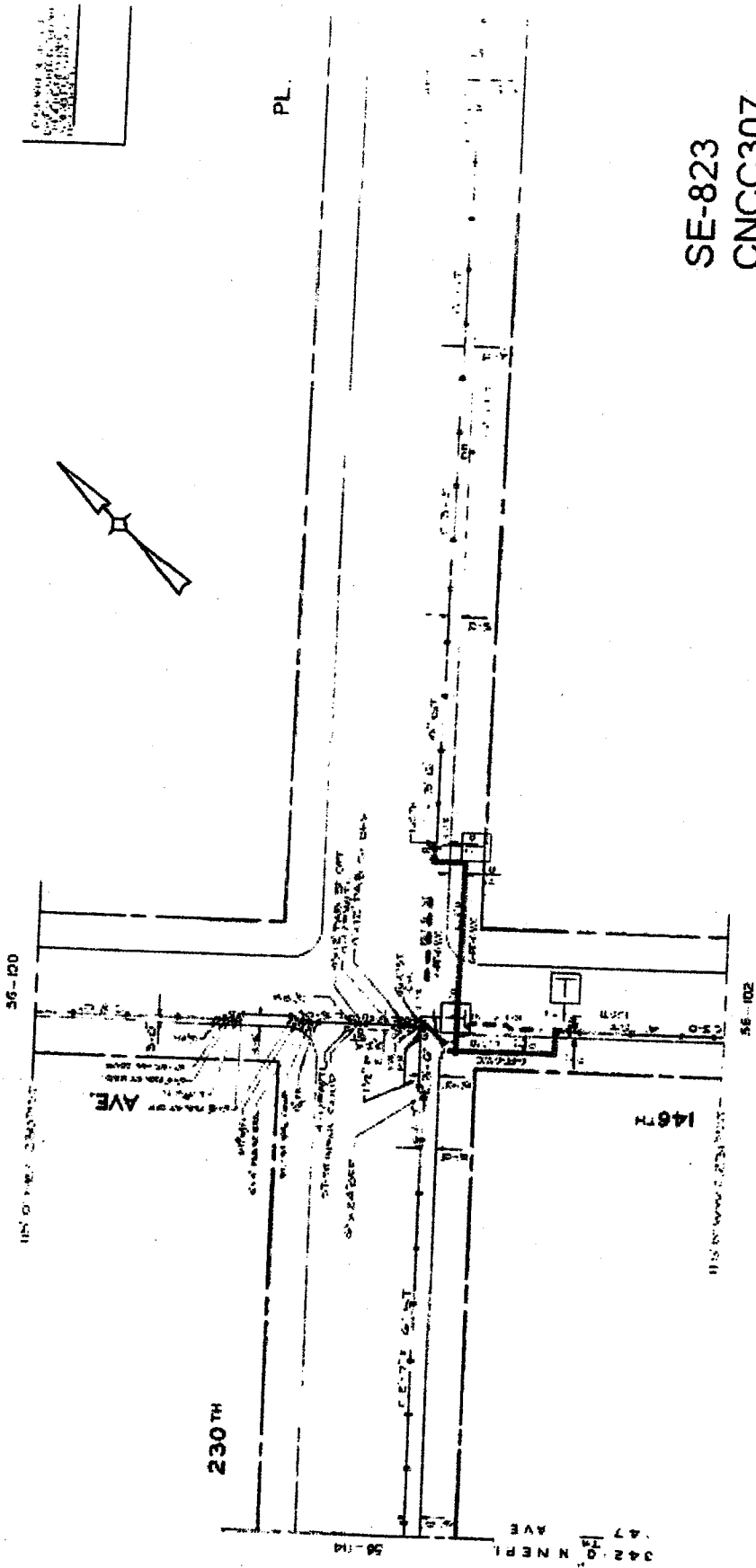












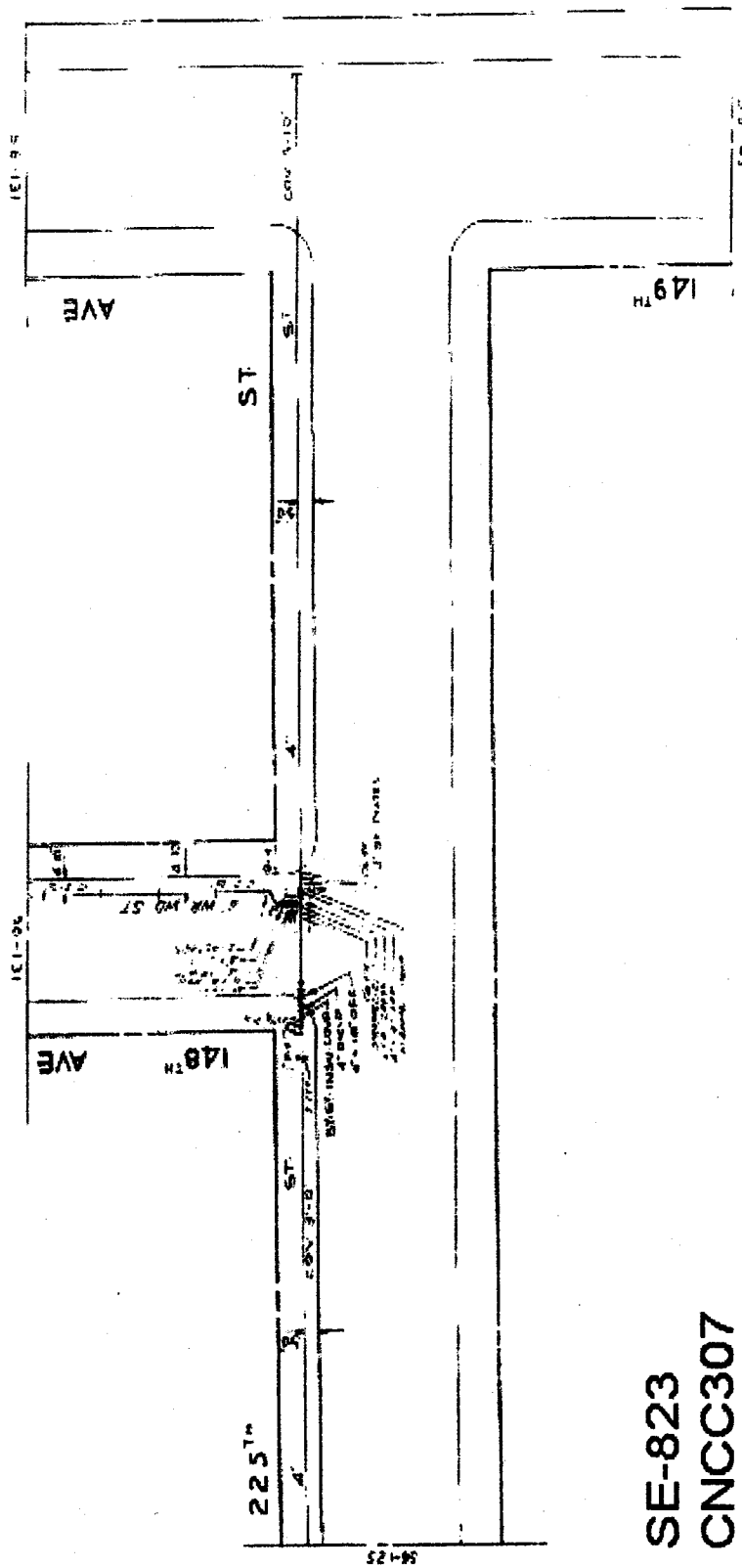
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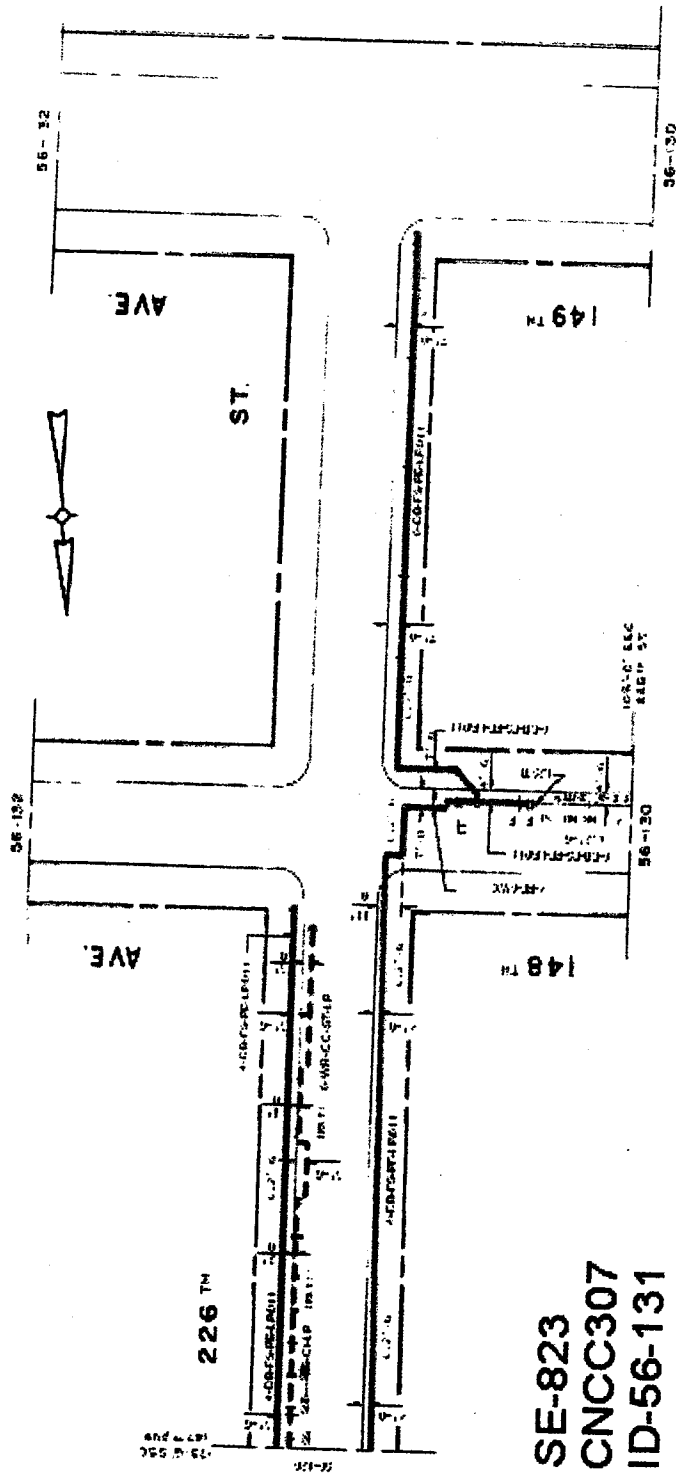
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FOR INFORMATION ONLY



SE-823  
CNCC307  
ID-56-131

Sheet 3 of 3

FOR INFORMATION ONLY

**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 SE-823**

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 - Support & Protect Gas Main Crossing Sewer Up To 24" In Diameter (Ea.)**
- 1 in 147<sup>th</sup> Ave @ 228<sup>th</sup> St
  - 1 in 147<sup>th</sup> Ave @ 230<sup>th</sup> Pl
  - 3 in 229<sup>th</sup> St @ 146<sup>th</sup> Ave
  - 1 in 229<sup>th</sup> St @ 145<sup>th</sup> Ave
  - 3 in 145<sup>th</sup> Ave @ 230<sup>th</sup> St
  - 1 in 230<sup>th</sup> Pl @ 145<sup>th</sup> Ave
  - 1 in 230<sup>th</sup> Pl @ 146<sup>th</sup> Ave
  - 1 in 148<sup>th</sup> Ave @ 229<sup>th</sup> St
  - 1 in 148<sup>th</sup> Ave @ 230<sup>th</sup> St
  - 1 in 148<sup>th</sup> Ave @ 230<sup>th</sup> Pl
- 6.01.3 - Support & Protect Gas Main Crossing Sewer 36" Thru 42" In Diameter (Ea.)**
- 2 in 147<sup>th</sup> Ave @ 227<sup>th</sup> St
  - 1 in 147<sup>th</sup> Ave @ 228<sup>th</sup> St
  - 1 in 147<sup>th</sup> Ave @ 230<sup>th</sup> St
- 6.01.4 - Support & Protect Gas Main Crossing Sewer 48" Thru 54" In Diameter (Ea.)**
- 1 in 145<sup>th</sup> Ave @ 227<sup>th</sup> St
  - 1 in 145<sup>th</sup> Ave @ 228<sup>th</sup> St
  - 2 in 145<sup>th</sup> Ave @ 229<sup>th</sup> St
  - 1 in 230<sup>th</sup> Pl @ 145<sup>th</sup> Ave
  - 1 in 230<sup>th</sup> Pl @ 146<sup>th</sup> Ave
- 6.01.5 - Support & Protect Gas Main Crossing Sewer 60" In Diameter (Ea.)**
- 1 in 145<sup>th</sup> Ave @ 226<sup>th</sup> St
- 6.01.7WW - Support & Protect Gas Main Crossing Sewer 16'- 6"W x 8'- 0"H F.T.R.C. (Ea.)**
- 1 in 147<sup>th</sup> Ave @ 227<sup>th</sup> St
  - 1 in 147<sup>th</sup> Ave @ 228<sup>th</sup> St
  - 1 in 229<sup>th</sup> @ 146<sup>th</sup> Ave
  - 1 in 229<sup>th</sup> @ 145<sup>th</sup> Ave
  - 1 in 145<sup>th</sup> Ave @ 230<sup>th</sup> St

**SCOPE OF WORK  
SUPPORT AND PROTECTION  
FOR CONTRACT NUMBER SE-823**

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.

**6.01.7YY - Support & Protect Gas Main Crossing Sewer 9'- 00"W - 5'- 00"H F.T.R.C. (Ea.)**

1 in 147<sup>th</sup> Ave @ 230<sup>th</sup> Pl  
1 in 148<sup>th</sup> Ave @ 228<sup>th</sup> St  
1 in 148<sup>th</sup> Ave @ 229<sup>th</sup> St  
1 in 148<sup>th</sup> Ave @ 230<sup>th</sup> St

**6.01.8 - Support & Protect Gas Services Crossing Trenches and/or Excavations (Ea.)**

117 in Various Locations As Required

**6.01.9 - Support & Protect Gas Main Crossing Water Main Up To 20" In Diameter (Ea.)**

2 in 147<sup>th</sup> Ave @ 227<sup>th</sup> St  
2 in 147<sup>th</sup> Ave @ 228<sup>th</sup> St  
1 in 147<sup>th</sup> Ave @ 230<sup>th</sup> St  
1 in 230<sup>th</sup> St @ 147<sup>th</sup> Ave  
1 in 147<sup>th</sup> Ave bet 229<sup>th</sup> St & 230<sup>th</sup> St  
2 in 147<sup>th</sup> Ave @ 230<sup>th</sup> Pl  
1 in 229 St @ 146 Ave  
3 in 145<sup>th</sup> Ave @ 226<sup>th</sup> St  
1 in 145<sup>th</sup> Ave @ 227<sup>th</sup> St  
1 in 227<sup>th</sup> St @ 145<sup>th</sup> Ave  
1 in 145<sup>th</sup> Ave @ 228<sup>th</sup> St  
1 in 228<sup>th</sup> St @ 145<sup>th</sup> Ave  
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2 in 230<sup>th</sup> St @ 145<sup>th</sup> Ave  
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2 in 230<sup>th</sup> Pl @ 146<sup>th</sup> Ave  
1 in 148<sup>th</sup> Ave @ 228<sup>th</sup> St  
1 in 148<sup>th</sup> Ave @ 229<sup>th</sup> St  
2 in 148<sup>th</sup> Ave @ 230<sup>th</sup> St  
2 in 148<sup>th</sup> Ave @ 230<sup>th</sup> Pl

**6.02 - Extra Excavation For the Installation of Catch Basin Sewer Drain Pipes with gas interferences (Ea.)**

4 in Various Locations As Required



**SCOPE OF WORK  
SUPPORT AND PROTECTION  
FOR CONTRACT NUMBER SE-823**

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.

- 6.03        -    **Removal Of Abandoned Gas Facilities. All Sizes (L.F.)**  
                    5200 in Various Locations As Required
- 6.03.1     -    **Removal Of Abandoned Gas facilities with Possible Coal Tar Wrap. All sizes. (L.F.)**  
                    **(For National Grid work Only)**  
                    200 in Various Locations As Required
- 6.04        -    **Adjust Hardware to Grade Using Spacer Rings/Adaptors (Street repaving) (Ea.)**  
                    20 in Various Locations As Required
- 6.05        -    **Adjust Hardware to Grade by Resetting (Road Reconstruction) (Ea.)**  
                    25 in Various Locations As Required
- 6.06        -    **Special Care Excavation & Backfilling (C.Y.)**  
                    5,000 in various locations, as required, including but not limited  
                    to all gas services crossing unsheeted water main trenches.
- 6.07        -    **Test Pits For Gas Facilities (C.Y.)**  
                    50 in Various Locations As Required

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**HAZ - PAGES**

**SPECIFICATIONS FOR HANDLING,  
TRANSPORTATION AND DISPOSAL  
OF NONHAZARDOUS AND POTENTIALLY  
HAZARDOUS CONTAMINATED MATERIALS**

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**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 NON-HAZARDOUS AND POTENTIALLY HAZARDOUS  
CONTAMINATED MATERIALS**

**FOR THE CONSTRUCTION OF STORM AND SANITARY SEWERS AND APPURTENANCES IN  
THE 229<sup>TH</sup> STREET AREA  
INCLUDING WATER MAIN, STREET LIGHTING, AND TRAFFIC WORK  
TOGETHER WITH ALL WORK INCIDENTAL THERETO**

**BOROUGH OF QUEENS  
CITY OF NEW YORK**

**Capital Project ID: SE823**

**Prepared By:**



**30-30 Thomson Avenue, 3<sup>rd</sup> Floor  
Long Island City, New York 11101**

**September 29, 2016**

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## ITEM 8.01 C1 HANDLING, TRANSPORTING, & DISPOSAL OF NON-HAZARDOUS CONTAMINATED SOILS

### 8.01 C1.1 WORK TO INCLUDE

General: This work shall consist of the handling, transportation, and disposal of non-hazardous 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 shall be defined as any material excavated below the pavement and base for pavement.

Non-hazardous contaminated soils are defined as soils exhibiting one or more of the following characteristics:

- ◆ Elevated Photo-Ionization Detector (PID) readings, subsequently confirmed by lab analysis
- ◆ Visual evidence of contamination
- ◆ Petroleum and/or chemical odors
- ◆ Soils that have been documented as contaminated in previous environmental reports

Non-hazardous contaminated soils must be stockpiled at an off-site approved location or secured on-site by the Contractor, meeting all required Federal, State and Local stipulations. Sampling and laboratory analysis must be conducted to determine if the soils are hazardous, unless the alternative procedure as defined under subsection 8.01 C1.1 A.5 has been agreed upon by treatment facilities. Contaminated soils determined to be non-hazardous shall be handled in accordance with the specifications herein for Item 8.01 C1. Contaminated soils determined to be hazardous shall be handled in accordance with the specifications for Item 8.01 H – Handling, Transporting and Disposal of Hazardous Soils.

The Contractor shall retain the services of an independent Environmental Consultant, as specified under Item 8.01 S – Health and Safety, to oversee the work required under this Item.

Non-hazardous soils shall be delivered to the disposal or treatment facility within thirty (30) calendar days after excavation.

The Contractor shall conduct sampling and analysis of the impacted soils as specified under Item 8.01 C2 – Sampling and Testing of Contaminated/Potentially Hazardous Soils for Disposal Parameters. The laboratory results shall be forwarded to DDC Program Management, Office of Environmental and Geotechnical Services (OEGS) for review to determine if the soils will be handled and disposed of as contaminated regulated soils or hazardous waste. No other soils shall be sampled or tested without the DDC's approval or direction.

The Contractor shall ensure that all operations associated with the handling, sampling, loading, transportation, and disposal of non-hazardous contaminated soils are in compliance with all applicable Federal, State, and City statutes and regulations.

The Contractor shall document the excavation, handling, transportation and disposal of non-hazardous contaminated soils. The Contractor shall supply all equipment, material and labor required to conduct the specified work of this Item.

- A. Material Handling Plan: Within forty-five (45) calendar days after award of Contract, the Contractor shall submit to the Program Management, OEGS for review, a Material Handling Plan (MHP). The MHP must be approved by the Program Management, OEGS, prior to the Contractor's commencement of work. The MHP shall, at a minimum, consist of:

1. The Contractor's procedures for identifying non-hazardous contaminated soils during excavation, including the specific model and manufacturer of intended organic vapor monitoring equipment and calibration procedures to be used. It should also include the training and experience of the personnel who will operate the equipment.
2. The Contractor's procedures for safely handling non-hazardous contaminated soils. The procedures must include personnel safety and health as well as environmental protection considerations.
3. Name, address, New York State Department of Health's (DOH) Environmental Laboratories Accreditation Program (ELAP) status and telephone number of the proposed laboratory for analysis of representative soil samples. The ELAP for the intended analysis must approve the laboratory.
4. Identification of the Contractor's proposed waste transporter(s). This information shall include:
  - a. Name and Waste Transporter Permit Number
  - b. Address
  - c. Name of responsible contact for the hauler
  - d. Telephone number for the contact
  - e. Any and all necessary permit authorizations for each type of waste transported
  - f. Previous experience in performing the type of work specified herein
5. 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 or treatment 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.
6. A backup facility should the staging/stockpile areas become unavailable, insufficient in area or not be present by some other unforeseen difficulty.
7. Identification of the Contractor's two proposed Treatment Storage or Disposal (TSD) facilities for non-hazardous contaminated soils (primary and back-up) for final disposal of the soils. The primary TSD shall be an approved soil recycling/treatment facility. The backup facility may be a recycling/treatment facility or a New York State Department of Environmental Conservation (DEC) approved lined landfill or other facility approved by DEC to accept this material. The information required for each facility shall include:
  - a. Facility name and the State identification number
    - (1) Facility location
    - (2) Name of responsible contact for the facility
    - (3) Telephone number for contact
    - (4) Signed letter of agreement to accept waste as specified in this contract
    - (5) Unit of measure utilized at 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 shall specify and describe the disposal/containment unit(s) that the proposed facility will use to manage the waste. The Contractor shall identify the capacity available in the units and the capacity reserved for the subject waste.
  - e. The Contractor shall 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 shall be provided. The source and nature of the cause of violation shall be stated, if known.
8. Description of all sampling and field/laboratory analyses that will be needed to obtain disposal facility approval.

#### **8.01 C1.2 MATERIALS**

- A. Containers shall be as required in the United State Department of Transportation (DOT) regulations.
- B. Polyethylene to be placed under (20 mil. thickness minimum) and over (10 mil. thickness minimum) soil piles.
- C. The Contractor shall assure that the waste hauler's appropriate choice of vehicles and operating practices shall prevent spillage or leakage of contaminated material from occurring en route.
- D. The Contractor shall provide, install and maintain any temporary loading facilities on site as required until completion of material handling activities. The location and design of any facilities shall be included in the MHP and be approved by the Program Management, OECS.

#### **8.01 C1.3 CONSTRUCTION DETAILS**

##### **A. Material Handling**

- 1. Immediately after excavation of non-hazardous contaminated soil the Contractor shall:
  - a. Load material directly onto trucks/tankers/roll offs for disposal off site; or
  - b. If interim stockpiling is required, place on a minimum of 20 mil. or equivalent plastic ground cloth and cover by minimum of 10 mil. polyethylene sheeting or equivalent to protect against leaching or runoff of contaminants into 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 weather. Grade surrounding surface to provide for positive drainage away from pile. Stockpile shall not exceed 100 cubic yards.
- 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 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. 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 shall 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 flame ionization detector (FID), to detect general organic vapor levels at intervals of approximately fifty (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 or Treatment Facility

1. General

- a. The Contractor shall furnish all labor, equipment, supplies and incidental costs required to transport contaminated material from the work area to the off-site disposal or treatment facility, and any other items and services required for transporting contaminated material for disposal at an off-site facility.
- b. The Contractor shall submit the name and location of the facility where an off-site scale is located. The Contractor shall also submit a plan to the DDC for review outlining procedures on controlling trucks leaving the work site and en-route to the off-site scale. The Contractor shall be responsible for tracking all material/vehicles from the site to the off-site scale.
- c. The Contractor shall provide to the DDC certified tare and gross weight slips for each load received at the accepted facility which shall be attached to each returned manifest.
- d. The Contractor shall coordinate the schedule for truck arrival and material deliveries at the job site to meet the approved project schedule.
- e. The Contractor shall 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.
- f. The Contractor shall obtain letters of commitment from the waste haulers and the treatment, disposal or recovery facility to haul and accept shipments. The letter shall 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.
- g. **The Program Management, OEGS shall review and approve waste profiles before transportation to the TSD facility.**

2. Hauling

- a. The Contractor shall coordinate manifesting, placarding of shipments, and vehicle decontamination. All quantities shall also be measured and recorded upon arrival at the disposal or treatment facility. If any deviation between the two records occurs, the matter is to be reported immediately to the DDC and to be resolved by the Contractor to the satisfaction of the DDC.
- b. The Contractor shall 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 shall ensure that trucks are protected against contamination by properly covering and lining them with compatible material (such as polyethylene) or by decontaminating them prior to and between acceptances of loads.
  - d. The Contractor shall be responsible for inspecting the access routes for road conditions, overhead clearance, and weight restrictions.
  - e. The Contractor shall only use the transporter(s) identified in the MHP for the performance of work. Any use of substitute or additional transporters must have previous written approval from the Program Management, OEGS at no additional cost to the City.
  - f. The Contractor shall develop, document, and implement a policy for accident prevention.
  - g. The Contractor shall not combine contaminated materials from other projects with material from this project.
  - h. No material shall be transported until approved by the DDC.
3. Off-Site Disposal
- a. The Contractor shall use only the facility(ies) identified in the MPH for the performance of the work. Substitutions or additions shall not be permitted without prior written approval from the Program Management, OEGS, and if approved shall be at no extra cost to the City.
  - b. The Contractor shall 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 that the facility provides the stated treatment and/or disposal services.
  - c. The DDC reserves the right to contact and visit the disposal or treatment 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 DDC in the same manner and with the same requirements as for the original facility(ies). This shall be done at no extra cost or delay to the City.
  - e. The Contractor shall 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 shall be submitted to the DDC within four (4) business days following shipment, and within three (3) business days after notification of receipt of the facility. Any manifest discrepancies shall be reported immediately to the DDC and be resolved by the Contractor to the satisfaction of the DDC.
4. Equipment and Vehicle Decontamination
- a. The Contractor shall design and construct a portable decontamination station to be used to decontaminate equipment and vehicles exiting from the exclusion zone. The cost for this work will be paid under Item 8.01 S - Health and Safety.

- b. Water generated during the decontamination process shall 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 non-hazardous contaminated soils shall be measured in tons. The tonnage will be determined by off-site truck scales, as per Subsection 8.01 C1.3.B1, that are capable of generating load tickets.

#### **8.01 C1.5 PRICE TO COVER**

- A. The unit bid price bid per ton for Item 8.01 C1 shall 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 shall be paid for under Item 8.01 H – Handling, Transporting and Disposal of Hazardous Soils. Disposal of decontamination water shall 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 shall 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 SAMPLING AND TESTING OF CONTAMINATED/ POTENTIALLY  
HAZARDOUS SOIL FOR DISPOSAL PARAMETERS**

**8.01 C2.1 WORK TO INCLUDE**

**A. Description**

The work shall consist of collecting and analyzing representative soil samples for parameters typically requested by the disposal facilities.

**B. Sampling and Laboratory Analysis**

1. At least thirty (30) days prior to the commencement of work, the Contractor's independent Environmental Consultant must submit a Soil Sampling Plan/Field Sampling Plan (SSP/FSP) and an Investigation Health and Safety Plan to the Program Management, Office of Environmental and Geotechnical Services (OEGS) for review and approval. The SSP/FSP shall include the name, address, DOH's ELAP status, and telephone numbers of the proposed laboratory. The SSP/FSP shall also include training and experience of the personnel who will collect the samples. The Investigation HASP shall identify actual and potential hazards associated with planned sampling field activities and stipulate appropriate health and safety procedures, so as to minimize field personnel exposure to physical, biological, chemical hazards that may be present in the all sampling media.
2. The Contractor shall sample and analyze representative samples of the contaminated/potentially hazardous soils. For stockpiled soils, the Contractor shall collect and analyze one (1) composite sample per 500 cubic yards or fraction thereof. Each composite sample shall consist of a minimum of five (5) grab samples collected from greater than two (2) feet below the soil surface. For drummed soil, the Contractor shall collect one (1) composite sample per (ten) 10 drums or fraction thereof. Each composite sample shall consist of a grab sample from each of the ten (10) drums or fraction thereof. Each composite sample shall be analyzed for Resource Conservation and Recovery Act (RCRA) hazardous waste characteristics (Ignitability, Reactivity, Corrosivity), Full Toxicity Characteristic Leaching Procedure (TCLP) (including RCRA metals, volatile Organic Compounds (VOCs), Semi-Volatile Organic Compounds (SVOCs), pesticides, herbicides), Total Petroleum Hydrocarbons (TPH) and Polychlorinated Biphenyls (PCBs). All samples collected should be analyzed on a five (5) calendar days turn around time and analytical results must be submitted to Program Management, OEGS upon receipt of the analytical results.
3. All sampling shall be conducted by a person trained in sampling protocols using standard accepted practices for obtaining representative samples.
4. The Contractor must also 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 shall be included in the bid price of this Item.
5. The quality of the data from the sampling program is the Contractor's responsibility. The Contractor must furnish all qualified personnel, equipment and instruments necessary to carry out the sampling. Unless directed otherwise, all sampling procedures must follow the DEC sampling guidelines and protocols.
6. All sample containers shall be marked and identified with legible sample labels which shall 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 shall be tracked from laboratory issuance of sample containers through laboratory receipt of the samples.

7. The Contractor shall maintain a bound sample logbook. The Contractor shall provide DDC access to it at all times and shall turn it over to the DDC in good condition at the completion of the work. The following information, as a minimum shall be recorded to the log:
  1. Sample identification number
  2. Sample location
  3. Field observation
  4. Sample type
  5. Analyses
  6. Date/time of collection
  7. Collector's name
  8. Sample procedures and equipment utilized
  9. Date sent to laboratory and name of laboratory
8. The City reserves the right to direct the Contractor to conduct alternative sampling in lieu of the parameters described in subsection B2, if the situation warrants. The substitute sampling parameters shall be of equal or lesser monetary value than those described in subsection B2, as determined by industry laboratory pricing standards.
9. 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.
10. Soils exceeding any of the hazardous characteristic criteria meet the legal definition of hazardous soils (rather than non-hazardous contaminated soils) and shall 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.

#### **8.01 C2.2 METHOD OF MEASUREMENT**

Quantities for samples shall be measured as the number of sets of samples that are tested. A set shall be defined as one (1) composite sample analyzed for the full range of parameters as specified in subsection B2.

#### **8.01 C2.3 PRICE TO COVER**

The unit price bid per set for Item 8.01 C2 shall 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 sampling and testing of contaminated/potentially hazardous soil.

*Payment will be made under:*

<u>ITEM NUMBER</u>	<u>ITEM</u>	<u>PAYMENT UNIT</u>
8.01 C2	Sampling and Testing of Contaminated/ Potentially Hazardous Soil for Disposal Parameters	Set

## ITEM 8.01 H HANDLING, TRANSPORTING, AND DISPOSAL OF HAZARDOUS SOILS

### 8.01 H.1 WORK TO INCLUDE

General: This work shall consist of the handling, transportation and disposal of soils or materials that are listed as hazardous wastes or 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. For the purpose of this specification, soils shall be defined as any materials excavated below the pavement and base for pavement.

Contaminated soils determined to be hazardous under Item 8.01 C2 shall be handled, transported, and disposed of under Item 8.01 H in accordance with the specifications herein.

The independent Environmental Consultant retained by the Contractor, as specified under Item 8.01 S – Health and Safety, shall conduct sampling and analysis of above soils to determine which soils are hazardous.

All work under Item 8.01 H shall be performed under the direct supervision of the Contractor's Environmental Consultant, as approved by the Program Management, Office of Environmental and Geotechnical Services (OEGS).

The Contractor shall 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 shall document the excavation, handling, sampling, and testing, transportation and disposal of hazardous soils. The City shall be listed in the disposal documents as the waste generator.

The Contractor shall supply all equipment, material and labor required to conduct the specified work of this section.

The Contractor shall ensure that all operations associated with the handling, sampling, loading, transportation and disposal of hazardous soils are conducted in a manner to protect site personnel, the public and the environment, in accordance with all applicable Federal, State, and Local laws and regulations.

The Contractor shall 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 shall be disposed of under Item 8.01 W1 – Removal, Treatment and Discharge/Disposal of Contaminated Water.

- A. Material Handling Plan: Within forty-five (45) calendar days after award of Contract, the Contractor shall submit to the Program Management, OEGS for review, a Material Handling Plan (MHP). The MHP must be approved by the Program Management, OEGS, prior to the Contractor's commencement of work. The MHP shall, at a minimum, consist of:
1. The Contractor's procedures for identifying contaminated/potentially hazardous soils during excavation, including instrumentation and calibration procedures to be used.
  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.
  3. Identification of the Contractor's proposed waste transporter(s). This information shall include:
    - a. Name and waste transporter permit number

- b. Address
  - c. Name of responsible contact for the hauler
  - d. Telephone number for the contact
  - e. Any and all necessary permit authorizations for each type of waste transported
  - f. Previous experience in performing the type of work specified herein
4. All staging/stockpiling areas (if stockpiling areas are intended and available), or alternate procedures that will be used. Alternate procedures could include, but are not limited to, agreements from the intended disposal or treatment 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 or the use of off-site stockpiling locations approved by the DEC.
  5. A backup facility, should the staging/stockpile areas become unavailable, insufficient in area or not be present by some other unforeseen difficulty.
  6. Identification of the Contractor's two proposed United State Environmental Protection Agency (EPA) or DEC approved RCRA TSD facilities for hazardous soils.
  7. The Contractor shall submit the following information prior to any transportation of soils regarding the temporary and final off-site TSD or facilities where it is proposing to take hazardous soils. The expense of furnishing all information will be included in the Contractor's bid price:
    - a. General Information
      - (1) Facility name and the EPA 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
      - (6) Signed letter of agreement with a TSD for disposal of waste that may not be land-disposed
      - (7) Unit of measure utilized at each 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 as they pertain to receipt and management of wastes derived from this Contract.
    - c. A listing of all permits, licenses, letters of approval, and other authorizations to operate which have been applied for by the proposed facility.
    - d. The Contractor shall specify and describe the disposal/containment unit(s) that the proposed facility will use to manage the waste. The Contractor shall identify the capacity available in the units and the capacity reserved for the subject waste.
    - e. The Contractor shall provide the date of the proposed facility(ies) last compliance inspection under RCRA.
    - f. A list of all active (unresolved) compliance orders, agreements, enforcement notices or notices of violations issued to the proposed facility shall be approved. The source and nature of the cause of violation shall be stated, if known.



8. Description of all sampling and analyses that will be needed to obtain disposal facility approval.

#### **8.01 H.2 MATERIALS**

- A. Containers shall be watertight as required in the DOT regulations and must meet all applicable regulations including but not limited to those in Attachment 2.
- B. Polyethylene (20 mil. thickness minimum) to be placed under and (10 mil. thickness minimum) over soil piles. If soils are placed in drums, polyethylene must be placed over the drums.

#### **8.01 H1.3 CONSTRUCTION DETAILS**

##### **A. Material Handling**

1. The Contractor shall institute procedures to protect site personnel and the public from the non-hazardous and hazardous materials as described in Section 8.01 S - Health and Safety.
2. The Contractor shall handle hazardous soil as approved in the MHP.
3. Stockpiled materials at the temporary TSD facility shall be handled according to the facility requirements but at a minimum: shall be drummed or placed on and covered with polyethylene to protect against erosion and leaching into surrounding soils, the stockpile area shall be graded for positive drainage away from the pile, and shall be labeled while being held for sampling prior to permanent disposal.
4. Provide any dewatering that is necessary to complete the work. Water shall be disposed of in accordance with Item 8.01 W1 – Removal, Treatment and Discharge/Disposal of Contaminated Water.

##### **B. Off-Site Transportation and Disposal**

1. The Contractor shall furnish all labor, equipment and supplies required to transport hazardous materials from the work area to the off-site TSD facility(ies) and to acquire any other items and services required for transporting hazardous materials for storage and/or disposal at an approved off-site facility.
2. Weight Measurement
  - a. The Contractor shall submit the name and location of the facility where an off-site scale is located. The Contractor shall also submit a plan to the DDC for review outlining procedures on controlling trucks leaving the work site and on-route to the off-site scale. The Contractor shall be responsible for tracking all materials/vehicles from the site to the off-site scale.
  - b. The Contractor shall provide to the DDC certified tare and gross weight slips for each load received at the accepted facility which shall be attached to each returned manifest.
3. General
  - a. Manifests: The Contractor shall organize and maintain the material shipment records/manifests required by law.

- b. The Contractor shall coordinate the schedule for truck arrival and material deliveries at the job site to meet the approved project schedule. The schedule shall be compatible with the availability of equipment and personnel for material handling at the job site.
  - c. The Contractor shall inspect all vehicles leaving the project site to ensure that hazardous soils adhering to the wheels or under carriage are removed prior to the vehicle leaving the site.
  - d. The Contractor shall obtain letters of commitment from the waste haulers and the TSD facility to haul and accept shipments. The letter shall 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.
4. Hauling
- a. The Contractor shall not deliver waste to any facility other than the TSD facility(ies) listed on the shipping manifest.
  - b. The Contractor shall coordinate manifesting, placarding, of shipments, and vehicle decontamination. All quantities shall also be measured and recorded upon arrival at the TSD facility. If any deviation between the two records occurs, the matter is to be reported immediately to the DDC and to be resolved by the Contractor to the satisfaction of the DDC.
  - c. The Contractor shall be held responsible, at its own expense, for any and all actions necessary to remedy situations involving material spilled in transit or mud and dust tracked off-site.
  - d. The Contractor shall ensure that trucks are protected against contamination by properly covering and lining them with compatible material (such as polyethylene) or by decontaminating them prior to any use other than hauling hazardous materials.
  - e. The Contractor shall be responsible for inspecting the access routes for road conditions, overhead clearance, and weight restrictions.
  - f. The Contractor shall only use the transporter(s) identified in the MHP for the performance of work. Only a transporter with a current Part 364 Waste Transporter Permit from the DEC may transport this material. Any use of substitute or additional transporters must have previous written approval from the DDC at no additional cost to the City.
  - g. The Contractor shall develop, document, and implement a policy for accident prevention.
  - h. The Contractor shall not combine hazardous materials from other projects with material from this project.
  - i. **The Contractor shall obtain for the City an EPA hazardous waste generator identification number and a representative of Program Management, OEGS will review and sign the manifest as the generator.**
  - j. No materials shall be transported until approved by the DDC.
5. Off-Site Disposal

- a. The Contractor shall be responsible for acceptance of the materials at an approved TSD facility, for ensuring that the facility is properly permitted to accept the stated materials, and that the facility provides the stated storage and/or disposal services.
  - b. 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 DDC in the same manner and with the same requirements as for the original facility(ies). This shall be done with no extra cost or delay to the City.
  - c. The Contractor shall submit all results and weights to the DDC.
  - d. **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 New York State DEC annual hazardous waste regulatory fee program. The Contractor shall submit a copy of proof of payment to the DDC and Program Management, OECS.**
6. **Equipment and Vehicle Decontamination**
- The Contractor shall design and construct a portable decontamination station to be used to decontaminate equipment and vehicles exiting from the exclusion zone. The cost for this work shall be paid under Item 8.01 S - Health and Safety. Disposal of decontamination liquids is described under Item 8.01 W1 - Removal, Treatment and Discharge/Disposal of Contaminated Water.
7. **Record Keeping**
- The Contractor shall 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 shall be submitted to the DDC within four (4) business days following shipment, and within three (3) business days after notification of receipt of the facility. Any manifest discrepancies shall be reported immediately to the DDC and be resolved by the Contractor to the satisfaction of the DDC.

#### **8.01 H.4 METHOD MEASUREMENT**

Quantities for hazardous soil shall be measured in tons satisfactorily delivered to the treatment, storage or disposal facility. The tonnage will be determined by off-site truck scales, as per subsection 8.01 H1.3.B.2, that are capable of generating load tickets.

#### **8.01 H.5 PRICE TO COVER**

- A. The unit price bid per ton for Item 8.01 H shall include the cost of furnishing all labor, materials, equipment, plan, and insurance for excavation, handling, transportation, disposal, documentation, permits, fees, taxes, stockpiling, hauling, and any other incidentals necessary to complete the work as specified herein for handling, transporting and disposal of hazardous soils.
- B. Final disposal of non-hazardous materials shall be paid for under Item 8.01 C1 - Handling, Transporting and Disposal of Non-Hazardous Soils. Disposal of decontamination water shall

be paid under Item 8.01 W1 – Removal, Treatment and Discharge/Disposal of Contaminated Water.

- C The independent Environmental Consultant shall be paid under Item 8.01 S – Health and Safety.
- D. Backfill will be paid for under its respective item.

*Payment will be made under:*

ITEM NUMBER	ITEM	PAYMENT UNIT
8.01 H	Handling, Transporting, and Disposal of Hazardous Soils	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 his work in a safe manner. The Contractor shall implement a Health and Safety Plan (HASP) for contaminated/hazardous soil intrusive activities as set forth in Occupational Safety and Health Administration (OSHA) Standards 1910.120 and 1926.650-652. The Contractor shall ensure that all workers have at a minimum hazard awareness training. The Contractor shall segregate contaminated work area in secured exclusion zones. These zones shall limit access to Contractor personnel specifically trained to enter the work area. The exclusion zone shall be set up to secure the area from the public and untrained personnel. The project health and safety program shall apply to all construction personnel including persons entering the work area. In addition, the Contractor shall protect the public from on-site hazards, including subsurface contaminants associated with on-site activities. The HASP shall be signed off by a Certified Industrial Hygienist and reviewed by Program Management, Office of Environmental and Geotechnical Services (OEGS).

Work shall 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 shall retain an independent Environmental Consultant to obtain all permits and perform all field screening, air monitoring, community air monitoring, soil sampling, and health and safety services. The independent Environmental Consultant shall at a minimum provide documentation to the Program Management, OEGS demonstrating the minimum requirements as set forth below:

1. The independent Environmental Consultant project supervisor on site and other designated key personnel shall have a minimum of three (3) years experience in the environmental field dealing with issues associated with contaminated soils. Such experience shall include oversight on environmental, specifically volatile organic compound and dust monitoring services as a routine part of its daily operations.
2. The independent Environmental Consultant must be experienced in work of this nature, size, and complexity and must have previous experience in working with the DEC.
3. The independent Environmental Consultant shall 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.
4. If conditions within the exclusion zone are deemed hazardous, then the Contractor and its independent Environmental Consultant shall 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 shall 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 shall be conducted by a qualified safety instructor. If conditions in the exclusion zone are deemed to be non-hazardous, the independent Environmental Consultant shall provide site specific training.
5. The Contractor shall ensure that on-site management and supervisors directly responsible for or who supervise employees engaged in hazardous waste operations shall 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 shall submit, a written HASP, as specified herein, to Program Management, OEGS for review and comment. The written HASP shall 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 shall make all necessary revisions required by Program Management, OEGS and resubmit the HASP to the Program Management, OEGS for acceptance. Start-up

work for the project will not be permitted until written acceptance has been issued by the Program Management, OEGS.

2. Daily safety logs shall be maintained by the Contractor and shall be submitted to the DDC either on request or on completion of the work. Training logs shall be maintained by the Contractor and submitted to the DDC either on request or on completion of the work. Daily logs on air monitoring during excavation activities shall be prepared and maintained by the Contractor and submitted to the DDC either on request or upon completion of the work.
3. A closeout report shall be submitted by the Contractor to the DDC upon completion of the work within the defined exclusion zones. This report shall summarize the daily safety and monitoring logs and provides an overview of the Contractor's performance regarding environmental and safety issues. The report shall carefully document all areas where contamination has been found including pictures, addresses of locations, and potential sources.
4. Medical Surveillance Examinations: The Contractor shall submit to the DDC 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) shall be provided to the DDC for all construction personnel who are to enter the exclusion zones.
5. Accident Reports: All accidents, spills, or other health and safety incidents shall be reported to the DDC.

**D. Health and Safety Plan**

The HASP shall comply with OSHA regulations 29 CFR 1910.120/1926.65. This document shall 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 control, dust control, vapor/odor suppression procedures
14. Identification of the nearest hospital and route
15. Confined space procedures
16. 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 shall include all labor, materials, equipment, and insurance necessary to complete the work in accordance with these specifications. The price bid shall 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 shall be included in the price of this item. Disposal of decontamination fluid shall be paid for under Item 8.01 W1 – Removal, Treatment and Discharge/Disposal of Contaminated Water.
- E. **Spill Control**
  - 1. Payment shall 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 shall 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 shall 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 DOH Community Air Monitoring Plan (CAMP) may be used as guidance.

G. Vapor/Odor Suppression

Payment shall 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 shall include 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 shall 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 shall consist of the proper removal and disposal of all contaminated groundwater and decontamination water generated during construction operations. The Contractor shall 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 combined sanitary/storm sewer system or removing contaminated water for off-site disposal. The Contractor shall be responsible to choose a method compatible to the construction work and shall 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 shall 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 shall at a minimum provide documentation to the Program Management, Office of Environmental and Geotechnical Services (OEGS) demonstrating the minimum requirements as set forth below:

1. The Specialist shall 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 shall 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 DEC.
3. The Specialist shall 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 shall 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 shall 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 shall be conducted by a qualified safety instructor. If conditions in the exclusion zone are deemed to be non-hazardous, the Specialist shall be responsible to provide site-specific training to its employees and other affected personnel.
5. The Contractor shall ensure that on-site management and supervisors directly responsible for or who supervise employees engaged in hazardous waste operations shall 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 shall 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 shall 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 combined sanitary/storm sewer system, the Contractor shall ensure the Specialist treats the water to comply with the New York City Department of Environmental Protection (DEP) Sanitary/Combined and Storm Sewer Effluent Limit concentrations prior to discharge. The Contractor is responsible for providing settling or filtering tanks and any other apparatus required by DEP. 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 shall submit to the Program Management, OEGS for review, a Water Handling Plan (WHP). The WHP must be approved by the Program Management, 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 combined sanitary/storm sewer or off-site disposal). The Contractor shall 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 combined sanitary/storm sewer or off-site disposal), the WHP shall include the information required in paragraphs A and B below, as appropriate.

##### **A. On-site treatment and discharge into New York City combined sanitary/storm sewers.**

1. Regulations: The Contractor shall comply with all applicable regulations. This includes but may not be limited to:

Title 15-New DEP 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 (DEP Division of Sewer Regulation and Control), if discharge to sewer exceeds 10,000 gallons per day.
- c. The Contractor shall comply with DEC State Pollutant Discharge Elimination System (SPDES) Permit Number GP-0-10-001, General Permit for Stormwater Discharges.
- d. Long Island well point permit for Brooklyn and Queens sites, if well points are used for dewatering.
- e. Wastewater quality control application, DEP.

3. The WHP for this portion of the work shall include at a minimum:

- a. Identification and design of Contractor's proposed treatment to assure that the water meets the DEP 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 shall supply all settling or filtering tanks, pumps, filters, treatment devices and other appurtenances for treatment, temporary storage and disposal of contaminated water. All equipment shall 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 DEP Sanitary/Combined and Storm sewer Effluent Limit concentrations. The quality of the data is the Contractor's responsibility. Any sampling and testing shall be conducted and paid in accordance with Item 8.01 W2 – Sampling and Testing of Contaminated Water.
- e. The Contractor shall 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 DEC.
- f. Disposal of Treatment Media
  - (1) The Contractor shall be responsible for disposal or recycling of treatment media in accordance with all Federal, State and Local regulations.

- (2) The Contractor shall provide the DDC 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 shall not be considered as a separate pay item; instead it shall be considered as incidental work thereto and included in the unit price bid.**

B. Off-Site Disposal

1. Regulations: The Contractor shall 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 shall be submitted to the DDC prior to initiating any off-site disposal:
  - a.
    - (1) Name and waste transporter permit number
    - (2) Address
    - (3) Name of responsible contact for the hauler
    - (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 EPA 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 shall also be noted.
  - e. The Contractor shall 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 shall identify the capacity available in the units and the capacity reserved for the subject waste.

- f. The Contractor shall 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 shall be submitted. The source and nature of the cause of violation shall be stated, if known. If groundwater contamination is noted, details of the facility's groundwater monitoring program shall 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 shall be as required in DOT regulations.
- 4. Execution
  - a. General
    - (1) The Contractor shall organize and maintain the material shipment records/manifests required by Federal, State and Local law. The Contractor shall include all bills of lading, certificates of destruction, recycling or treatment and other applicable documents.
    - (2) The Contractor shall coordinate the schedule for truck arrival and material deliveries at the job site to meet the approved project schedule. The schedule shall be compatible with the availability of equipment and personnel for material handling at the job site.
    - (3) The Contractor shall inspect all vehicles leaving the project site to ensure that contaminated liquids are not spilling and are contained for transport.
    - (4) The Contractor shall obtain letters of commitment from the waste haulers and the treatment, disposal or recovery facility to haul and accept shipment. The letter shall 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 shall 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 shall be conducted and paid in accordance with Item 8.01 W2 – Sampling and Testing of Contaminated Water.
    - (7) The Contractor shall be 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 shall not deliver waste to any facility other than the TSD facility(ies) listed on the shipping manifest.
- (2) The Contractor shall coordinate manifesting, placarding of shipments, and vehicle decontamination. All quantities shall 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 DDC and shall be resolved by the Contractor to the satisfaction of the DDC.
- (3) The Contractor shall be held responsible for any and all actions necessary to remedy situations involving material spilled in transit or mud and dust tracked off-site. This cleanup shall be accomplished at the Contractor's expense.
- (4) The Contractor shall be responsible for inspecting the access routes for road conditions, overhead clearance and weight restrictions.
- (5) The Contractor shall 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 DEC may transport this material. Any use of substitute or additional transporters must have previous written approval from the DDC at no additional cost to the City.
- (6) The Contractor shall develop, document, and implement a policy for accident prevention.
- (7) The Contractor shall not combine waste materials from other projects with material from this project.
- (8) The Contractor shall obtain for the City a hazardous waste generator identification number and will sign the manifest as the generator, if necessary.
- (9) No material shall be transported until approved by the DDC.

c. Disposal Facilities

- (1) The Contractor shall use only the TSD facility(ies) identified in the WHP for the performance of the work. Substitutions or additions shall not be permitted without prior written approval from the Program Management, OEGS, and, if approved, shall be at no extra cost to the City.
- (2) The Contractor shall 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 DDC 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 his 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 DDC in the same manner and with the same requirements as for the original facility(ies). This shall be done with no extra cost or delay to the City.

d. Equipment and Vehicle Decontamination

- (1) The Contractor shall design and construct a portable decontamination station to be used to decontaminate equipment and vehicles exiting the exclusion zone. The cost for this work shall 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 shall be on a per day basis.

**8.01 W1.4 PRICE TO COVER**

- A. The per day price bid for Item 8.01 W1 shall 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 DEP 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 shall 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 DEP Sanitary/Combined and Storm Sewer Effluent Limit concentrations as listed in Attachment 1, and in accordance with the DDC-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 shall be included in the bid price of this Item.

2. All sampling and testing shall be conducted by a person trained in sampling protocols using accepted standard practices and/or the DEC sampling guidelines and protocols.
3. All sample containers shall be marked with legible sample labels which shall 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 shall be tracked from laboratory issuance of sample containers through receipt of the samples.
5. The Contractor shall maintain a bound sample log book. The Contractor shall provide the DDC access to it at all times and shall turn it over to the DDC in good condition at the completion of the work. The following information, as a minimum, shall 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 shall 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 DOH'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 DDC 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 shall 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 shall be measured as the number of sets of samples that are tested for the DEP Sanitary/Combined and Storm Sewer Effluent Limit concentrations. A set shall be defined as one (1) representative sample analyzed for the full range of DEP parameters as specified in attachment 1.

**8.01 W2.3 PRICE TO COVER**

The unit price bid per set for Item 8.01 W2 shall 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 shall 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 STORM,  
SANITARY/COMBINED SEWER**

**NEW YORK CITY DEPARTMENT OF ENVIRONMENTAL PROTECTION  
BUREAU OF WASTEWATER TREATMENT**

**Limitations for Effluent to Sanitary or Combined Sewers**

Parameter <sup>1</sup>	Daily Limit	Units	Sample Type	Monthly Limit
Non-polar material <sup>2</sup>	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) <sup>3</sup>	1	ppb	Composite	---
Total Suspended Solids (TSS)	350 <sup>4</sup>	mg/l	Instantaneous	---
CBOD <sup>5</sup>	---	---	Composite	---
Chloride <sup>5</sup>	---	---	Instantaneous	---

Total Nitrogen <sup>5</sup>	---	---	Composite	---
Total Solids <sup>5</sup>	---	---	Instantaneous	---

- 1 All handling and preservation of collected samples and laboratory analyses of samples shall 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 shall 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 EPA method 1664 Rev. A. Non-Polar Material shall mean that portion of the oil and grease that is not eliminated from a solution containing N-Hexane, or any other extraction solvent the EPA shall prescribe, by silica gel absorption.
- 3 Analysis for PCB=s 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 PCB=s must be done by EPA method 608 with MDL= $\leq 65$  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. New York State Department of Environmental Conservation (DEC), Spills Technology and Remediation Series (STARS) Memo #1
3. 6 NYCRR 360-1 DEC 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, EPA Office of Emergency and Remedial Response Publication, 9285.1-03
19. NIOSH / OSHA / USCG / EPA 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 shall 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 Sanitary/Combined 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  
(INCLUDING SUPPLEMENTAL PHASE II SUBSURFACE CORRIDOR INVESTIGATION  
REPORT)**

**- FINAL -**  
**Phase II Subsurface Corridor Investigation Report**  
**for**  
**Storm and Combined Sewers in 229<sup>th</sup> Street**  
**229<sup>th</sup> Street between 145<sup>th</sup> and 149<sup>th</sup> Avenue, Queens, New York**

DDC PROJECT NO. SE823  
WOL NOs. 10465-LBA-3-9834 and 10465-LBA-4-9939  
CONTRACT REGISTRATION NO. 20141401626

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December 11, 2015

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## EXECUTIVE SUMMARY

On behalf of the New York City Department of Design and Construction (NYCDDC), Louis Berger conducted a Phase II Subsurface Corridor Investigation (SCI) in preparation for water main upgrades, as well as storm, sanitary and combined sewer improvements, including outfalls that discharge to wetland areas. The new storm sewer improvements shall alleviate ponding conditions and reduce the combined sewer overflow in the area. Installation of the sanitary and combined sewers shall provide residents of the area with a drainage plan for the sanitary and combined sewer, and the proposed replacement of the old unlined cast pipe water main shall improve water distribution in the area.

The 1.75-mile (9,214-foot) long Corridor consists of the following street segments in the Laurelton section of Queens, New York:

- The length of 145<sup>th</sup> Avenue between 226<sup>th</sup> Street and 230<sup>th</sup> Place – 1,350 feet;
- The partial length of 227<sup>th</sup> Street approximately 50 feet north from 145<sup>th</sup> Avenue – 50 feet;
- The length of 228<sup>th</sup> Street between 145<sup>th</sup> Road and 50 feet north of 145<sup>th</sup> Avenue – 461 feet;
- The length of 229<sup>th</sup> Street between 145<sup>th</sup> Avenue and 280 feet south of 147<sup>th</sup> Avenue – 1,780 feet;
- The partial length of 230<sup>th</sup> Street 350 feet south of 145<sup>th</sup> Avenue – 350 feet;
- The length of 230<sup>th</sup> Place from 50 feet north of 145<sup>th</sup> Avenue to 211 feet south of 147<sup>th</sup> Avenue – 1,581 feet;
- The length of 146<sup>th</sup> Avenue from 50 feet west of 230<sup>th</sup> Place to 50 feet east of 231<sup>st</sup> Street – 415 feet;
- The length of 147<sup>th</sup> Avenue from 227<sup>th</sup> Street to 230<sup>th</sup> Place – 1,137 feet;
- The partial length of 230<sup>th</sup> Street 280 feet south of 147<sup>th</sup> Avenue – 280 feet;
- The partial length of 228<sup>th</sup> Street 211 feet south of 147<sup>th</sup> Avenue – 211 feet;
- The length of 227<sup>th</sup> Street from 211 feet north of 147<sup>th</sup> and 149<sup>th</sup> Avenue (Idlewild Park) – 895 feet; and,
- 149<sup>th</sup> Avenue (the northern perimeter of Idlewild Park) between 225<sup>th</sup> and 228<sup>th</sup> Street – 704 feet.

The Phase II SCI was conducted to determine if the Corridor's environmental condition might impact proposed construction activities. Since a portion of the proposed infrastructure project includes construction of an outfall pipe into a designated wetland area, which may impact the southern portion of the Corridor, this project is subject to additional review under City Environmental Quality Review (CEQR) by New York City Department of Environmental Protection (NYCDEP). Prior to the performance of this Phase II SCI, the Phase I CAR, a Phase II SCI Work Plan, and a site-specific Health and Safety Plan (HASP) were submitted to the NYCDEP for review on August 27, 2015 and were approved by the NYCDEP on September 30, 2015.

Louis Berger prepared a Phase I Corridor Assessment Report (CAR) dated July 2015, which presented the results of a survey conducted along the Corridor to assess the presence of potential sources of subsurface contamination within, and in the immediate vicinity of, the Corridor. The Phase I CAR identified 11 final "High" risk sites and one (1) individual properties categorized as final "Moderate" risk sites with respect to potential impact on the project Corridor (soil and/or groundwater), and recommended the completion of a Phase II SCI.

The objective of the Phase II SCI was to assess the presence of subsurface contamination that may potentially impact proposed construction activities. The Phase II SCI was conducted on October 15, 16, 19, and 20 and November 2, 2015 and consisted of the following components:

### **Scope of Work**

- The advancement of eight (8) soil borings (SB01 through SB03, SB05, SB07 through SB09 and SB11) to terminal depths of five (5) feet below ground surface (ftbg) and four (4) soil borings (SB04, SB06, SB10 and SB12) to terminal depths of 15 ftbg. All borings were initially pre-cleared using hand tools such as a hand auger, post hole digger, shale bar, a vacuum device (i.e., Vactron®), and/or air-knife to 5 to 6 ftbg. The four (4) deeper borings were then advanced using a Geoprobe® direct push drill rig. Soil samples from the shallow borings were collected using stainless steel spoons. Soil samples from the deep borings were collected using 5 foot long, 2 inch diameter Macro Core® stainless steel samplers equipped with acetate sleeves;
- The installation of three (3) temporary well points (TWP) in soil borings SB04 (TWP01), SB06 (TWP02) and SB10 (TWP03);
- Field screening, classification and identification of soils from the 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) composite and one (1) grab soil sample from each boring. The composite samples collected from each soil boring were comprised of soil from the entire boring column. The grab soil samples were either collected from the bottom 6-inch interval of borings where groundwater was not encountered or from the 6-inch interval above the water table in borings where groundwater was encountered;
- Composite samples were analyzed for: (1) the United States Environmental Protection Agency (EPA) Full Toxicity Characteristics Leaching Procedure (TCLP) parameters by EPA Method SW846; and (2) the Resource Conservation and Recovery Act (RCRA) Characteristics (ignitability, reactivity and corrosivity) by EPA Method SW846;
- Grab samples were analyzed for: (1) TCL volatile organic compounds (VOCs) by EPA Method 8260; (2) Target Compound List (TCL) base neutral/acid (BN/A) extractable

semi-volatile organic compounds (SVOCs) by EPA Method 8270; (3) Target Analyte List (TAL) metals by EPA Method 6010B; (4) TCL herbicides and pesticides by EPA Method 8151A and 8081A, respectively; and (5) TCL polychlorinated biphenyls (PCBs) by EPA Method 8082;

- The collection of three (3) groundwater samples (TWP01, TWP02, and TWP03) from the TWPs. The groundwater samples were analyzed for: (1) TCL VOCs by EPA Method 8260; (2) TCL BN/A extractable SVOCs by EPA Method 8270; (3) TAL metals by EPA Method 6010B and 7471A (filtered and unfiltered); (4) TCL herbicides and pesticides by EPA Method 8151A and 8081A, respectively; (5) TCL PCBs by EPA Method 8082; and (6) NYCDEP Sanitary or Combined Sewer Discharge Parameters; and,
- The preparation of this report, which includes tables summarizing the laboratory analytical results and figures depicting boring locations, significant site features and, if applicable, contamination occurrence and distribution.

In order to evaluate subsurface soil quality, laboratory analytical results of grab and composite soil samples were compared with regulatory standards identified in: (1) New York State Department of Environmental Conservation (NYSDEC) 6 New York Codes, Rules and Regulations (NYCRR) Subpart 375-6: Remedial Program Unrestricted, Restricted-Residential, and Commercial Use (Track 1 and Track 2) Soil Cleanup Objectives (SCOs) and (2) NYSDEC CP-51 Supplemental Soil Cleanup Objectives (SSCOs). The laboratory analytical results of the waste classification soil samples were compared with the Toxicity Characteristic Regulatory Levels for Hazardous Waste published in RCRA and 6 NYCRR Part 371. The analytical results of the groundwater samples were compared to: (1) the NYCDEP Sewer Discharge Criteria and with (2) the NYSDEC Class GA Standards and Guidance Values identified in the NYSDEC Technical and Operations Guidance Series (TOGS).

Based on the evaluation of the field screening data and the laboratory analytical results, and a comparison to applicable regulatory standards, the following conclusions are presented:

### **Summary of Findings**

- No evidence of visual or olfactory contamination was observed in the soil and PID readings were not detected at any boring locations;
- During this Phase II SCI, the Corridor was found to be underlain with native soils comprised mostly of moderate yellowish brown to dark yellowish brown coarse to fine sand with trace silt and trace medium to fine gravel. Approximately 5 to 7 feet of non-native anthropogenic fill material with debris was encountered in four (4) of the 12 soil borings. The fill layer consisted mostly of moderate yellowish brown to dark yellowish brown coarse to fine sand with trace silt and trace medium to fine gravel. Construction debris in the form of brick, wood, asphalt, and concrete was observed within the fill layer. Mapped soil classification indicates that cut and filled native material may be present throughout the Corridor. Groundwater was encountered in three (3) of the 12



borings at depths ranging between 9 and 11 ftbg. Bedrock was not encountered during this Phase II SCI;

- Laboratory results indicate that no VOC analytes were detected above the laboratory's reporting limits in any of the soil samples;
- Laboratory results indicate concentrations of several SVOC analytes that were detected below regulatory standards in all soil borings except SB11 and in the duplicate sample (DUP01), where SVOCs were not detected. The presence of SVOCs in the borings can be attributed to the presence of historic fill material and reworked native soil;
- Several metals were detected at concentrations above the Unrestricted Use (Track 1) SCO in four (4) soil samples; (SB01, SB07, SB09 and SB12). These metals include chromium in SB09 (32 mg/kg) and SB12 (49 mg/kg); copper in SB12 (84 mg/kg); lead in SB01 (71 mg/kg), SB09 (86 mg/kg) and SB12 (150 mg/kg); mercury in SB01 (0.25 mg/kg), SB07 (0.3 mg/kg), SB09 (0.69 mg/kg) and SB12 (0.49 mg/kg); and zinc in SB12 (180 mg/kg). Iron concentrations were detected in excess of the Residential SSCO (CP-51) in all the soil samples collected. The presence of metals in the borings can be attributed to historic fill material and reworked native soil;
- Several pesticides were detected above the Unrestricted Use SCO in four (4) soil samples (SB02, SB03, SB07, and SB12). The pesticides include chlordane in SB07 (0.39 mg/kg), dieldrin in SB03 (0.0086 mg/kg), p,p'-DDT in SB02 (0.0071 mg/kg), and p,p'-DDD and p,p'-DDE in SB12 (0.032 mg/kg and 0.032 mg/kg, respectively). Past use of pesticides in the area may have contributed to these detections. Herbicides and PCBs were not detected in any of the soil samples;
- Laboratory results of the analyses of waste classification samples SB01 through SB12 indicate that the soil beneath the Corridor does not exhibit evidence of hazardous waste characteristics. Total Petroleum Hydrocarbons (TPH) were detected in SB04, SB09, and SB12; however, there is no regulatory criterion for TPH;
- One (1) VOC, toluene, was detected above the laboratory's reporting limits in groundwater sample TWP03 but at a concentration that was below regulatory standards. No other VOCs were detected in any of the other groundwater samples;
- Laboratory results indicate that diethylphthalate was detected below all regulatory criteria in groundwater sample TWP03. No other SVOCs were detected in the other groundwater samples;
- Several metals were detected at concentrations above regulatory standards in all three (3) unfiltered groundwater samples and in all three (3) filtered groundwater samples. Unfiltered metals that exceeded the Technical & Operational Guidance Series (TOGS) 1.1.1 Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations - Class GA Standards include iron in TWP01 (410 ug/L), TWP02 (420 ug/L)

and TWP03 (580 ug/L); manganese in TWP02 (710 ug/L) and TWP03 (4,100 ug/L); and sodium in TWP01, TWP02 and TWP03 (120,000 ug/L, 310,000 ug/L and 560,000 ug/L, respectively). Filtered metals that exceeded the Class GA Standards include iron in TWP02 (330 ug/L); manganese in TWP02 (860 ug/L) and TWP03 (4,200 ug/L); and sodium in TWP01 (130,000 ug/L), TWP02 (340,000 ug/L) and TWP03 (450,000 ug/L). In addition, iron and sodium exceeded the Class GA Standards in the duplicate unfiltered sample (DUP01 at 490 ug/L and 130,000 ug/L, respectively) collected in TWP01 and sodium exceeded the Class GA Groundwater Standards in the duplicate filtered sample (130,000 ug/L). The presence of metals in the groundwater samples can be attributed to historic fill material and the presence of suspended solids in the groundwater at the time of sample collection;

- Laboratory results indicate that one (1) pesticide was detected at concentrations above the regulatory standard in groundwater samples TWP02 and TWP03. Specifically, dieldrin was detected above the Class GA Standards in groundwater samples TWP02 (0.35 ug/L) and TWP03 (0.049 ug/L). Pesticide a-chlordane was also detected in groundwater sample TWP02, but at a concentration below regulatory criterion. No other pesticides were detected in the groundwater samples. Past use of pesticides in the area may have contributed to these detections. Herbicides and PCBs were not detected in any of the soil samples; and,
- Analytical results of groundwater samples TWP01, TWP02, and TWP03 showed no exceedances of NYCDEP Sanitary or Combined Sewer Discharge Parameters were detected.

Based on the results of the field investigation and laboratory analytical results, the following conclusions and recommendations are provided:

### **Conclusions**

- Approximately 5 to 7 feet of non-native anthropogenic fill material with debris was encountered in four (4) of the 12 soil borings. Contaminants such as SVOCs and metals are commonly detected in historic fill and are usually products of incomplete combustion, and/or a result of diffuse anthropogenic pollution (DAP). The soil classification indicates that surficial soils of the area are characteristically found in urbanized areas that have been cut and filled;
- Laboratory results indicate that the soil samples collected beneath the Corridor do not exhibit evidence of hazardous waste characteristics for toxicity, reactivity, corrosivity and ignitability; and,
- Analytical results for the groundwater samples showed no exceedances of the NYCDEP Sewer Discharge Criteria.

## **Recommendations**

- The Contract documents should identify provisions for managing, handling, transporting and disposing of non-hazardous impacted 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 during excavation activities to minimize the creation and dispersion of fugitive airborne dust. The Contractor may implement dust control measures to minimize potential airborne contaminants released into the ambient environment as a direct result of construction activities. If further sampling reveals evidence of impacted soil above the established regulatory criteria, implementation of a Community Air Monitoring Plan (CAMP) would be recommended in accordance with NYSDEC DER-10 Regulations. The CAMP requires real-time monitoring for particulates (i.e., dust) at the downwind perimeter of each designated work area when certain activities are in progress at contaminated sites. The CAMP is intended to provide a measure of protection for the area of the surrounding community located downwind from the potential release of airborne contaminants. Specific requirements should be reviewed for each situation and coordinate with the New York State Department of Health (NYSDOH) to ensure proper applicability;
- Based on the observed depth to groundwater (9 to 11 ftbg), dewatering may be necessary for the proposed excavation activities. If dewatering is necessary the contractor will be required to obtain a NYCDEP sewer discharge permit and perform sampling and laboratory analysis prior to discharge into sanitary and combined sewers;
- In addition, if discharge into storm sewers (which ultimately discharge to surface waters) is 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 storm sewers; 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 (i.e., dust control procedures for metals).

## 1.0 INTRODUCTION

On behalf of the New York City Department of Design and Construction (NYCDDC), Louis Berger conducted a Phase II Subsurface Corridor Investigation (SCI) in preparation for water main upgrades, as well as storm, sanitary and combined sewer improvements, including outfalls that discharge to wetland areas. The new storm sewer improvements shall alleviate ponding conditions and reduce the combined sewer overflow in the area. Installation of the new sanitary and combined sewers will provide residents of the area with a drainage plan for the sanitary and combined sewer, and the proposed replacement of the old unlined cast pipe water main will improve water distribution in the area.

The 1.75-mile (9,214-foot) long Corridor consists of the following street segments in the Laurelton section of Queens, New York:

- The length of 145<sup>th</sup> Avenue between 226<sup>th</sup> Street and 230<sup>th</sup> Place – 1,350 feet;
- The partial length of 227<sup>th</sup> Street approximately 50 feet north from 145<sup>th</sup> Avenue – 50 feet;
- The length of 228<sup>th</sup> Street between 145<sup>th</sup> Road and 50 feet north of 145<sup>th</sup> Avenue – 461 feet;
- The length of 229<sup>th</sup> Street between 145<sup>th</sup> Avenue and 280 feet south of 147<sup>th</sup> Avenue – 1,780 feet;
- The partial length of 230<sup>th</sup> Street 350 feet south of 145<sup>th</sup> Avenue – 350 feet;
- The length of 230<sup>th</sup> Place from 50 feet north of 145<sup>th</sup> Avenue to 211 feet south of 147<sup>th</sup> Avenue – 1,581 feet;
- The length of 146<sup>th</sup> Avenue from 50 feet west of 230<sup>th</sup> Place to 50 feet east of 231<sup>st</sup> Street – 415 feet;
- The length of 147<sup>th</sup> Avenue from 227<sup>th</sup> Street to 230<sup>th</sup> Place – 1,137 feet;
- The partial length of 230<sup>th</sup> Street 280 feet south of 147<sup>th</sup> Avenue – 280 feet;
- The partial length of 228<sup>th</sup> Street 211 feet south of 147<sup>th</sup> Avenue – 211 feet;
- The length of 227<sup>th</sup> Street from 211 feet north of 147<sup>th</sup> and 149<sup>th</sup> Avenue (Idlewild Park) – 895 feet; and,
- 149<sup>th</sup> Avenue (the northern perimeter of Idlewild Park) between 225<sup>th</sup> and 228<sup>th</sup> Street – 704 feet.

The Phase II SCI was conducted to determine if the Corridor's environmental condition might impact proposed construction activities. Since a portion of the proposed infrastructure project includes construction of an outfall pipe into a designated wetland area which may impact the southern portion of the Corridor, this project is subject to additional review under City Environmental Quality Review (CEQR) by New York City Department of Environmental Protection (NYCDEP). Prior to the performance of this Phase II SCI, the Phase I CAR, a Phase II SCI Work Plan, and a site-specific Health and Safety Plan (HASP) were submitted to the NYCDEP for review on August 27, 2015 and were approved by the NYCDEP on September 30, 2015.

## 1.1 Summary of Previous Environmental Investigations

Louis Berger prepared a Phase I Corridor Assessment Report (CAR) for the Corridor in July 2015. The Corridor Assessment process involved conducting a Corridor reconnaissance to document current property use and conditions; a review of historical Sanborn Fire Insurance Maps to document historical property usage; and a review of a regulatory agency database report to identify Corridor properties and adjoining sites of potential environmental concern.

The July 2015 Phase I CAR identified 11 final “High” risk sites and one (1) final “Moderate” risk site with respect to potential impact on the project Corridor. The final “High” and “Moderate” risk sites are listed below:

### “HIGH” RISK SITES

No.	Facility Name	Address	Map ID
1	NYCDEP Tank Station 32	145-02 228 <sup>th</sup> Street	C6
2	Bell Atlantic	145-99 226 <sup>th</sup> Street	G17
3	E-Pack Express Corp.	145-63 226 <sup>th</sup> Street	I26 and I27
4	Former Manufacturer	145-73 226 <sup>th</sup> Street	NA
5	Brueton / Factory	227-01 to 227-99 146 <sup>th</sup> Avenue / 145-40 to 145-98 228 <sup>th</sup> Street / 146-01 to 146-03 228 <sup>th</sup> Street / 227-00 to 227-98 145 <sup>th</sup> Road / 145-31 to 145-99 227 <sup>th</sup> Street	D10 and D12
6	Pole #44	228-15 147 <sup>th</sup> Avenue	A2
7	Tender Care Cleaners	228-01 147 <sup>th</sup> Avenue	A3 and A9
8	Former Auto Repair	146-19 228 <sup>th</sup> Street	E13
9	Private Residence	146-27 230 <sup>th</sup> Street	B4 and B5
10	Former Lagoon	148-00 to 148-16 226 <sup>th</sup> Street	NA
11	Former Lagoon	Block 13714, Lot 53	NA

### “MODERATE” RISK SITES

No.	Facility Name	Address	Map ID
1	John F. Kennedy (JFK) International Airport	Block 13791, All Lots	NA

## 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 site features and, if applicable, contamination occurrence and distribution. Drilling activities for the field investigation were performed by Aquifer Drilling and Testing, Inc. of Mineola, New York. Oversight of drilling activities was performed by Ms. Breanna Gribble, Project Scientist and Mr. John Lacanlale, Project Scientist, 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 samples were collected for this project and consisted of three (3) duplicates, six (6) field blanks, and three (3) trip blanks. The field investigation was conducted on October 15, 16, 19 and 20 and November 2, 2015 and consisted of the following components:

- The advancement of eight (8) soil borings (SB01 through SB03, SB05, SB07 through SB09 and SB11) to terminal depths of five (5) feet below ground surface (ftbg) and four (4) soil borings (SB04, SB06, SB10 and SB12) to terminal depths of 15 ftbg. All borings were initially pre-cleared using hand tools such as a hand auger, post hole digger, shale bar, a vacuum device (i.e., Vactron®), and/or air-knife to 5 to 6 ftbg. The four (4) deeper borings were then advanced using a Geoprobe® direct push drill rig. Soil samples from the shallow borings were collected using stainless steel spoons. Soil samples from the deeper borings were collected using 5-foot long, 2-inch diameter Macro Core® stainless steel samplers equipped with acetate sleeves. It should be noted that soil boring SB12 was terminated at a depth of approximately 7 ftbg due to refusal. Additional step-out borings were conducted in an attempt to advance the boring deeper; however, all additional step-out borings encountered refusal at the same depth;
- The installation of three (3) temporary well points (TWP) in soil borings SB04, SB06 and SB10, selected based on the number of high risk sites in the vicinity and depth to groundwater. The installation of a fourth TWP was proposed at SB12; however, since refusal was encountered at 7 ftbg, no groundwater sample was collected. For the installation of the TWPs, the Geoprobe® unit was advanced to a terminal depth of 15 ftbg, approximately four (4) to six (6) feet below the encountered water table. The TWP consisted of a 10-foot length screen section and a 5-foot length riser section of one-inch diameter schedule 40 PVC. A groundwater sample was collected from the TWP for screening and laboratory analysis via dedicated Teflon® tubing and a peristaltic pump;
- Field screening, classification and identification of soils from the 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) composite and one (1) grab soil sample from each boring. The composite samples collected from each soil boring were comprised of soil from the entire boring column. The grab soil samples were either collected from the bottom 6-inch interval of borings where groundwater was not encountered or from the 6-inch interval above the water table in borings where groundwater was encountered.;
- Composite samples were analyzed for: (1) the United States Environmental Protection Agency (EPA) Full Toxicity Characteristics Leaching Procedure (TCLP) parameters by

- EPA Method SW846; and (2) the Resource Conservation and Recovery Act (RCRA) Characteristics (ignitability, reactivity and corrosivity) by EPA Method SW846;
- Grab samples were analyzed for: (1) TCL volatile organic compounds (VOCs) by EPA Method 8260; (2) Target Compound List (TCL) base neutral/acid (BN/A) extractable semi-volatile organic compounds (SVOCs) by EPA Method 8270; (3) Target Analyte List (TAL) metals by EPA Method 6010B; (4) TCL herbicides and pesticides by EPA Method 8151A and 8081A, respectively; and (5) TCL polychlorinated biphenyls (PCBs) by EPA Method 8082;
  - The collection of three (3) groundwater samples (TWP01, TWP02, and TWP03) from the TWPs. The groundwater samples were analyzed for: (1) TCL VOCs by EPA Method 8260; (2) TCL BN/A extractable SVOCs by EPA Method 8270; (3) TAL metals by EPA Method 6010B and 7471A (filtered and unfiltered); (4) TCL herbicides and pesticides by EPA Method 8151A and 8081A, respectively; (5) TCL PCBs by EPA Method 8082; and (6) NYCDEP Sanitary or Combined Sewer Discharge Parameters; and,
  - The preparation of this report, which includes tables summarizing the laboratory analytical results and figures depicting boring locations, significant site features and, if applicable, contamination occurrence and distribution.

## 2.0 CORRIDOR INFORMATION

### 2.1 Corridor Location, Description and Use

The Corridor is located in the Laurelton section of the Borough of Queens, New York. The Corridor location is identified on the Topographic Map on Figure 1. The Corridor is presented as Figure 2. The Corridor is approximately 1.7 miles (9,214 feet) in length and is comprised of the street segments identified below:

- The length of 145<sup>th</sup> Avenue between 226<sup>th</sup> Street and 230<sup>th</sup> Place – 1,350 feet;
- The partial length of 227<sup>th</sup> Street approximately 50 feet north from 145<sup>th</sup> Avenue – 50 feet;
- The length of 228<sup>th</sup> Street between 145<sup>th</sup> Road and 50 feet north of 145<sup>th</sup> Avenue – 461 feet;
- The length of 229<sup>th</sup> Street between 145<sup>th</sup> Avenue and 280 feet south of 147<sup>th</sup> Avenue – 1,780 feet;
- The partial length of 230<sup>th</sup> Street 350 feet south of 145<sup>th</sup> Avenue – 350 feet;
- The length of 230<sup>th</sup> Place from 50 feet north of 145<sup>th</sup> Avenue to 211 feet south of 147<sup>th</sup> Avenue – 1,581 feet;
- The length of 146<sup>th</sup> Avenue from 50 feet west of 230<sup>th</sup> Place to 50 feet east of 231<sup>st</sup> Street – 415 feet;
- The length of 147<sup>th</sup> Avenue from 227<sup>th</sup> Street to 230<sup>th</sup> Place – 1,137 feet;
- The partial length of 230<sup>th</sup> Street 280 feet south of 147<sup>th</sup> Avenue – 280 feet;
- The partial length of 228<sup>th</sup> Street 211 feet south of 147<sup>th</sup> Avenue – 211 feet;
- The length of 227<sup>th</sup> Street from 211 feet north of 147<sup>th</sup> and 149<sup>th</sup> Avenue (Idlewild Park) – 895 feet; and,
- 149<sup>th</sup> Avenue (the northern perimeter of Idlewild Park) between 225<sup>th</sup> and 228<sup>th</sup> Street – 704 feet.

Manhole covers, asphalt patches and storm drains are visible in roadway and sidewalk areas throughout the Corridor, and indicate the potential presence of multiple buried utilities, which may include electric, communications, sewer, water and gas services.

The majority of properties within the Corridor are primarily residential, with some commercial operations, including a dry cleaner and grocery (228-01 147<sup>th</sup> Avenue, Block 13462, Lot 24, “High Risk”). A NYCDEP Water Supply Station was also identified within the Corridor at 145-02 228<sup>th</sup> Street, Block 13484, Lot 6 (“High Risk”).

### 2.2 Description of Surrounding Properties

The Corridor is primarily surrounded by a mixture of single-family and multi-family residences, parks, and a few commercial and institutional properties, including a public school. Shipping distribution centers, a transformer yard, and a dry cleaner are located in the vicinity of the Corridor area. These include Marken Worldwide Express, K Line Logistics, All-Air Customs Brokers, Inc., Apex Logistics, Franco Vago, Con Edison Sub Station (formerly Bell Atlantic



Transformer Yard), and Super Laundry (formerly Tender Care Cleaners), all "High" risk sites. John F. Kennedy International Airport and Idlewild Park are located south of the Corridor.

### 2.3 Corridor and Regional Topographic Setting

Louis Berger reviewed the United States Geologic Survey (USGS) 7.5-minute Topographic Quadrangle for Jamaica and Lynbrook, NY (USGS, 1995) (Figure 1) to determine regional topography at the Corridor. The Corridor exhibits a vertical elevation change of approximately 15 feet along the length of the Corridor. The approximate elevation of the Corridor ranges from 15 feet above mean sea level (msl) at the intersection of 145<sup>th</sup> Avenue and 230<sup>th</sup> Place to 0 feet above msl at the intersection of 227<sup>th</sup> Street and 148<sup>th</sup> Avenue.

Under natural conditions, surface runoff would be expected to follow the topography and discharge into Jamaica Bay; however, storm runoff within the Corridor is managed by storm drains.

### 2.4 Corridor and Regional Geology

Based on the *NYC Reconnaissance Soil Survey* (2005), surficial soil is expected to consist of the Pavement & Buildings-Flatbush-Riverhead complex. Generally, this complex is found in urbanized areas of outwash plains that have been substantially cut and filled, mostly for residential use. Typically, 50 to 80 percent of the land surface associated with this complex is covered by impervious development.

Based on the *Subsurface Geology and Paleogeography of Queens County, Long Island New York* (Soren, 1978), surficial soils are underlain by Upper Pleistocene deposits consisting of till and outwash sand and gravel to a depth of approximately 100 ftbg, which are, in turn, underlain by approximately 50 feet of the Gardiners Clay. Gardiners Clay consists mostly of clay with some thin beds of sand and/or gravel. The Gardiners Clay is underlain by approximately 300 feet of Jameco Gravel, which may extend to depths of 450 ftbg, locally. Jameco deposits are mainly coarse sand and gravel.

The Gardiners Clay and Jameco Gravel are underlain by the Upper Cretaceous aged Raritan Formation. The Raritan Formation consists of two members, the Clay Member and the Lloyd Sand Member. The Clay Member of the Raritan Formation consists of clay beds with inclusions of silty clay and clayey silts and is anticipated to be encountered at a depth of approximately 450 ftbg and extend to approximately 600 ftbg. The Lloyd Sand Member of the Raritan Formation, which consists of fine to coarse quartz sand, extends from approximately 600 to 900 feet bgs. The Raritan Formation is underlain by gneiss and schist bedrock which is anticipated to occur at a depth of approximately 900 ftbg.

During this Phase II SCI, the Corridor was found to be underlain with native soils comprised mostly of moderate yellowish brown to dark yellowish brown coarse to fine sand with trace silt and trace medium to fine gravel. Approximately 5 to 7 feet of non-native anthropogenic fill material or reworked native soils was encountered in four (4) of the 12 soil borings. The fill layer and reworked native soils consist mostly of moderate yellowish brown to dark yellowish brown

coarse to fine sand with trace silt and trace medium to fine gravel. Construction debris in the form of brick, wood, asphalt, and concrete was observed within the fill layer. Groundwater was encountered in three (3) of the 12 borings at depths ranging between 9 and 11 ftbg. Bedrock was not encountered during this Phase II SCI.

## 2.5 Corridor and Regional Hydrogeology

Based on the elevation of Jamaica Bay (mean sea level) and the elevation of the Corridor ground surface, and on *Ground-Water Resources of Kings and Queen Counties, Long Island, New York* (1999), groundwater is estimated to be encountered at a depth of approximately 5 ftbg across the Corridor. As part of this Phase II SCI, groundwater was encountered at depths ranging between 9 and 11 ftbg. The southernmost extent of the Corridor is located within Idlewild Park, an estuarine and marine wetland with numerous surface water features. Conselyeas Pond is located within Brookville Park, approximately 690 feet east of the Corridor at its closest point. The closest major surface water feature is Head of Bay located within Jamaica Bay, approximately 1.6 miles southeast. Groundwater flow direction is expected to be to the south toward Jamaica Bay. Groundwater flow direction may also vary due to seasonal fluctuations in precipitation, local variation in geology, underground structures, or local dewatering operations.

Based on information supplied by the U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory, the southernmost extent of the Corridor is located within an estuarine and marine wetland (USFWS, 2015). The Classification Code for the wetland is E2EM1/5Pd that is superseded by Classification Code E2EM1Pd. According to the environmental database report provided by Environmental Data Resources, Inc. (EDR) of Shelton, CT, national-designated wetlands occupy the eastern and southeastern extents of the Corridor.

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) Panels 3604970242F and 3604970261F (FEMA, 2007), the majority of the Corridor is located outside of the 100- and 500-year flood zones with the exception of the area of the Corridor along the perimeter of Idlewild Park which falls within the 100-year flood zone. This area of the Corridor is within Flood Zone X, which is described as areas with 0.2% chance of flooding and areas of 1% chance of flooding to depths under 1 foot; and Flood Zone AE, which are areas with 1% chance of flooding. The base flood elevation in Flood Zone AE is determined to be 8 feet water-surface elevation in this area.

### 3.0 CORRIDOR EVALUATION

Proposed construction activities within the Corridor include soil excavation, which in turn, requires that soils at the site be characterized to identify material handling requirements (i.e. use of protective equipment) and for material reuse, handling and/or waste disposal requirements. Louis Berger provided oversight for the advancement of 12 soil borings during the field investigation conducted on October 15, 16, 19 and 20 and November 2, 2015. The field investigation was performed at designated areas in the vicinity of the planned construction. A summary of the field observations, including the location of the sites and the details of the soil borings, is provided in Table 1.

#### 3.1 Soil Quality Investigation

Eight (8) soil borings (SB01 through SB03, SB05, SB07 through SB09 and SB11) were advanced to maximum terminal depths of 5 ftbg and four (4) soil borings (SB04, SB06, SB10 and SB12) were advanced to maximum terminal depths of 15 ftbg. The shallow soil borings were advanced using a vacuum device (i.e. Vactron®), air-knife and hand augers while the deeper soil borings were advanced using a Geoprobe® direct push drill rig. Prior to advancement, borings were cleared to a depth of 5 to 6 ftbg with a vacuum device (i.e. Vactron®), air-knife and hand tool combination. Soil from the shallow borings was recovered using stainless steel spoons while soil from the deeper borings was recovered using a 5-foot long, 2-inch diameter Macro Core® stainless steel sampler equipped with disposable acetate sleeves. It should be noted that soil boring SB12 was terminated at a depth of approximately 7 ftbg due to refusal. Additional "step-out" borings were conducted in an attempt to advance the boring deeper, however all additional "step-out" borings encountered refusal at the same depth.

Three (3) temporary well points (TWP) were installed in soil borings SB04 (TWP01), SB06 (TWP02) and SB10 (TWP03), selected based on the number of high risk sites in the vicinity and depth to groundwater. The installation of a fourth TWP was proposed at SB12 however since refusal was encountered at 7 ftbg, no groundwater sample was collected. For the installation of the TWPs, the Geoprobe® unit was advanced to terminal depths of 15 ftbg, approximately 9 to 11 feet below the encountered water table. The TWP consisted of a 10-foot length screen section and a 5-foot length riser section of one-inch diameter schedule 40 PVC. Groundwater samples were collected from the TWPs for screening and laboratory analysis via dedicated Teflon® tubing and a peristaltic pump.

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 the grass area on the sidewalk along the south side of 145<sup>th</sup> Avenue, 73 feet and 3 inches southeast of the southeast corner of the intersection of 145<sup>th</sup> Avenue and 227<sup>th</sup> Street and 33 feet and 11 inches southwest of the curb along the north side of 145<sup>th</sup> Avenue.

- **SB02** – Located in the grass area on the sidewalk along the south side of 145<sup>th</sup> Avenue, 15 feet and 4 inches southeast of the southeast corner of the intersection of 145<sup>th</sup> Avenue and 229<sup>th</sup> Street and 33 feet and 4 inches southwest of the curb along the north side of 145<sup>th</sup> Avenue.
- **SB03** - Located in the grass area on the sidewalk along the west side of 228<sup>th</sup> Street, 133 feet and 5 inches northeast of the northwest corner of the intersection of 228<sup>th</sup> Street and 145<sup>th</sup> Road and 32 feet and 4 inches northwest of the curb along the east side of 228<sup>th</sup> Street.
- **SB04/TWP01** – Located in a planter box on the sidewalk along the south side of 145<sup>th</sup> Road, 55 feet and 0 inches northwest of the southwest corner of the intersection of 145<sup>th</sup> Road and 228<sup>th</sup> Street and 35 feet and 2 inches southwest of the curb along the north side of 145<sup>th</sup> Road. TWP01 was installed in soil boring SB04 and a groundwater sample was collected from this location.
- **SB05** – Located in the grass area on the sidewalk along the east side of 230<sup>th</sup> Place, 312 feet and 8 inches southwest of the southeast corner of the intersection of 230<sup>th</sup> Place and 145<sup>th</sup> Avenue and 54 feet and 10 inches southeast of the curb along the west side of 230<sup>th</sup> Place.
- **SB06/TWP02** - Located in a planter box on the sidewalk along the west side of 229<sup>th</sup> Street, 48 feet and 2 inches southwest of the southwest corner of the intersection of 229<sup>th</sup> Street and 146<sup>th</sup> Avenue and 34 feet and 5 inches northwest of the curb along the east side of 229<sup>th</sup> Street. TWP02 was installed in soil boring SB06 and a groundwater sample was collected from this location.
- **SB07** - Located in the grass area on the sidewalk along the east side of 230<sup>th</sup> Place, 275 feet and 6 inches northeast of the northeast corner of the intersection of 230<sup>th</sup> Place and 147<sup>th</sup> Avenue and 52 feet and 9 inches southeast of the curb along the west side of 230<sup>th</sup> Place.
- **SB08** - Located in the grass area on the sidewalk along the east side of 229<sup>th</sup> Place, 57 feet and 0 inches northeast of the northeast corner of the intersection of 229<sup>th</sup> Place and 147<sup>th</sup> Avenue and 34 feet and 10 inches southeast of the curb along the west side of 229<sup>th</sup> Place.
- **SB09** - Located in grass area on the sidewalk along the east side of 227<sup>th</sup> Street, 63 feet and 5 inches southwest of the southeast corner of the intersection of 227<sup>th</sup> Street and 147<sup>th</sup> Avenue and 32 feet and 7 inches southeast of the curb along the west side of 227<sup>th</sup> Street.
- **SB10/TWP03** - Located in the grass area along the south side of 147<sup>th</sup> Avenue, 72 feet and 3 inches northwest of the southwest corner of the intersection of 147<sup>th</sup> Avenue and 229<sup>th</sup> Street and 54 feet and 0 inches southwest of the curb along the north side of 147<sup>th</sup>

Avenue. TWP03 was installed in soil boring SB10 and a groundwater sample was collected from this location.

- **SB11** - Located in the grass area on the sidewalk along the west side of 230<sup>th</sup> Street, 40 feet and 3 inches southwest of the southwest corner of the intersection of 230<sup>th</sup> Street and 147<sup>th</sup> Avenue and 34 feet and 3 inches northwest of the curb along the east side of 230<sup>th</sup> Street.
- **SB12** - Located in the grass area along the east side of 226<sup>th</sup> Street, 23 feet and 11 inches northeast of the dead end and 33 feet and 11 inches southeast of the curb along the west side of 226<sup>th</sup> Street.

Soil from each boring was classified and examined for visual evidence (i.e. staining, discoloration) and any olfactory indications (i.e., odors) of contamination. Continuous soil cores were collected from each of the borings at 5-foot intervals. In addition, a PID was used to screen the soil for VOC vapors.

In order to identify representative conditions for disposal purposes, composite waste characterization soil samples were collected from each soil boring (SB01 through SB12). Composite samples were obtained by mixing the soil from the entire soil column in a stainless steel bowl.

In order to identify representative conditions relative to the presence of SVOCs, metals, herbicides, pesticides and PCBs in each boring, a grab sample(s) were either collected from the bottom 6-inch interval of borings where groundwater was not encountered or from the 6-inch interval above the water table in borings where groundwater was encountered.

Soil classification information, including lithology, is documented on the boring logs included in Appendix B. All boring equipment was cleaned by being rinsed with tap water, scrubbed with Alconox®, then rinsed with deionized water again between each sample interval. In addition, disposable acetate liners were used inside the sampler for recovery of the soil cores. Following the completion of each boring, the boreholes were back-filled with drill cuttings, and then sealed with concrete, where appropriate.

### **3.2 Groundwater Quality Investigation**

As groundwater may be encountered within the depths associated with the future excavation, three (3) groundwater samples, TWP01, TWP02 and TWP03, were collected from SB04, SB06 and SB10, respectively, for screening and laboratory analysis during the soil boring activities. Groundwater was encountered at depths ranging from approximately 9 to 11 ftbg. The groundwater samples were collected for screening and laboratory analysis via dedicated Teflon® tubing and a peristaltic pump. The sampling tubing was new, clean, and unused then properly disposed of after use. Upon extraction, the sample was examined for visual evidence (i.e., discoloration, sheen) and any olfactory indications (i.e., odors) of contamination and observations were noted in the field book.

### 3.3 Laboratory Analyses

Soil samples were submitted to 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 samples were collected for this project and consisted of three (3) duplicates, six (6) field blanks, and three (3) trip blanks. Laboratory analytical reports are included in Appendix C.

The grab soil samples were analyzed for: (1) TCL VOCs by Method 8260; (2) TCL BN/A extractable SVOCs by EPA Method 8270; (3) TAL metals by EPA Method 6010B; (4) TCL pesticides and herbicides by EPA Method 8081A and EPA Method 8151A, respectively; and (5) PCBs by EPA Method 8082. The composite soil samples were analyzed for: (1) EPA Full TCLP parameters and (2) RCRA Characteristics (ignitability, reactivity and corrosivity).

The groundwater samples were analyzed for: (1) TCL VOCs by EPA Method 8260; (2) TCL BN/A extractable SVOCs by EPA Method 8270; (3) TAL metals by EPA Method 6010B and 7471A (filtered and unfiltered); (4) TCL herbicides and pesticides by EPA Method 8151A and 8081A, respectively; (5) TCL PCBs by EPA Method 8082; and (6) NYCDEP Sanitary or Combined Sewer Discharge Parameters.

### 3.4 Data Evaluation

In order to evaluate subsurface soil quality, laboratory analytical results of grab and composite soil samples were compared with regulatory standards identified in: (1) New York State Department of Environmental Conservation (NYSDEC) 6 New York Codes, Rules and Regulations (NYCRR) Subpart 375-6: Remedial Program Unrestricted, Restricted-Residential, and Commercial Use (Track 1 and Track 2) Soil Cleanup Objectives (SCOs) and (2) NYSDEC CP-51 Supplemental Soil Cleanup Objectives (SSCOs). The laboratory analytical results of the waste classification soil samples were compared with the Toxicity Characteristic Regulatory Levels for Hazardous Waste published in RCRA and 6 NYCRR Part 371. The analytical results of the groundwater samples were compared to: (1) the NYCDEP Sewer Discharge Criteria and with (2) the NYSDEC Class GA Groundwater Standards and Guidance Values identified in the NYSDEC Technical and Operations Guidance Series (TOGS).

## 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. Complete analytical data reports are 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 evidence of visual or olfactory contamination was observed and PID readings were not detected at any soil boring location. Refer to Table 1 for a summary of environmental boring data.

### 4.2 Laboratory Analytical Results

#### 4.2.1 Volatile Organic Compounds (VOCs) in Soil

No VOCs were detected above the laboratory's reporting limits in any of the soil samples collected as part of this Phase II SCI. Refer to Table 2 for a summary of VOC results.

#### 4.2.2 Semi-Volatile Organic Compounds (SVOCs) in Soil

Laboratory results indicate concentrations of several SVOC analytes that were detected below regulatory standards in all soil borings except SB11 and in the duplicate sample (DUP01), where SVOCs were not detected. The presence of SVOCs in the borings can be attributed to the presence of historic fill material in the area or reworked native soil. Refer to Table 3 for a summary of SVOC results.

#### 4.2.3 Target Analyte List (TAL) Metals in Soil

Several metals were detected at concentrations above the Unrestricted Use (Track 1) SCO in four (4) soil samples; (SB01, SB07, SB09 and SB12). These metals include chromium in SB09 (32 mg/kg) and SB12 (49 mg/kg); copper in SB12 (84 mg/kg); lead in SB01 (71 mg/kg), SB09 (86 mg/kg) and SB12 (150 mg/kg); mercury in SB01 (0.25 mg/kg), SB07 (0.3 mg/kg), SB09 (0.69 mg/kg) and SB12 (0.49 mg/kg); and zinc in SB12 (180 mg/kg). Iron concentrations were detected in excess of the Residential SSCO (CP-51) in all the soil samples collected. The presence of metals in the borings can be attributed to historic fill material in the area or reworked native soil. Refer to Table 4 for a summary of metals results.

#### 4.2.4 Pesticides and Herbicides in Soil

Several pesticides were detected above the Unrestricted Use SCO in four (4) soil samples (SB02, SB03, SB07, and SB12). The pesticides include chlordane in SB07 (0.39 mg/kg), dieldrin in SB03 (0.0086 mg/kg), p,p'-DDT in SB02 (0.0071 mg/kg), and p,p'-DDD and p,p'-DDE in SB12 (0.032 mg/kg and 0.032 mg/kg, respectively). Past use of pesticides in the area may have contributed to the presence of these detections. Refer to Table 5 for a summary of pesticide results.

No herbicides were detected above the laboratory's reporting limits in any of the soil samples collected as part of this Phase II SCI. Refer to Table 6 for a summary of herbicide results.

#### **4.2.5 PCBs in Soil**

No PCBs were detected above the laboratory's reporting limits in any of the soil samples collected as part of this Phase II SCI. Refer to Table 7 for a summary of PCB results.

#### **4.2.6 Waste Classification of Soil**

The analytical laboratory results of the composite waste classification samples SB01 through SB12 show that none of the TCLP or RCRA parameters were exceeded. TPHs were detected in SB04, SB09, and SB12; however, there is no regulatory criterion for TPH. Therefore, results of these analyses indicate that the soil beneath the Corridor does not exhibit evidence of hazardous waste characteristics. Refer to Table 8 for a summary of TCLP parameters and RCRA characteristics.

#### **4.2.7 VOCs in Groundwater**

Laboratory results indicate that one (1) VOC, toluene, was detected in groundwater sample TWP03, but at a concentration below the regulatory standard. No other VOCs were detected above the laboratory's reporting limits in any of the other groundwater samples. Refer to Table 9 for a summary of VOC results.

#### **4.2.8 SVOCs in Groundwater**

Laboratory results diethylphthalate was detected below all regulatory criteria in groundwater sample TWP03. Diethylphthalate is a solvent primarily used in detergents, fragrances for perfume, lotions and other personal care products. The presence of diethylphthalate may be attributed to past use of this compound in the area. No other SVOCs were detected in the other groundwater samples. Refer to Table 10 for a summary of SVOC results.

#### **4.2.9 TAL Metals in Groundwater**

Several metals were detected at concentrations above regulatory standards in all three (3) unfiltered groundwater samples and in all three (3) filtered groundwater samples. Unfiltered metals that exceeded the Technical & Operational Guidance Series (TOGs) 1.1.1 Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations - Class GA Standards include iron in TWP01 (410 ug/L), TWP02 (420 ug/L) and TWP03 (580 ug/L); manganese in TWP02 (710 ug/L) and TWP03 (4,100 ug/L); and sodium in TWP01, TWP02 and TWP03 (120,000 ug/L, 310,000 ug/L and 560,000 ug/L, respectively).

Filtered metals that exceeded the Class GA Standards include iron in TWP02 (330 ug/L); manganese in TWP02 (860 ug/L) and TWP03 (4,200 ug/L); and sodium in TWP01 (130,000 ug/L), TWP02 (340,000 ug/L) and TWP03 (450,000 ug/L). In addition, iron and sodium exceeded the Class GA Standards in the duplicate unfiltered sample (DUP01 at 490 ug/L and 130,000 ug/L, respectively) collected in TWP01 and sodium exceeded the Class GA Standards in



the duplicate filtered sample (130,000 ug/L). The presence of metals in the groundwater samples can be attributed to historic fill material and the presence of suspended solids in the groundwater at the time of sample collection.. Refer to Table 11 for a summary of metals results.

#### ***4.2.10 Pesticides and Herbicides in Groundwater***

Laboratory results indicate that one (1) pesticide was detected at concentrations above the regulatory standard in groundwater samples TWP02 and TWP03. Specifically, dieldrin was detected above the Class GA Standards in groundwater sample TWP02 (0.35 ug/L) and TWP03 (0.049 ug/L). In addition, a-chlordane was detected in groundwater sample TWP02, but at a concentration below the regulatory standard. No other pesticides were detected in the groundwater samples. Past use of pesticides in the area may have contributed to these detections. Refer to Table 12 for a summary of pesticide results.

No herbicides were detected above the laboratory's reporting limits in any of the groundwater samples collected as part of this Phase II SCI. Refer to Table 13 for a summary of herbicide results.

#### ***4.2.11 PCBs in Groundwater***

No PCBs were detected above the laboratory's reporting limits in any of the soil samples collected as part of this Phase II SCI. Refer to Table 14 for a summary of PCB results.

#### ***4.2.12 Analysis of NYCDEP Parameters in Groundwater***

Analytical results of groundwater samples TWP01, TWP02, and TWP03 showed that no exceedances of NYCDEP Sewer Discharge Criteria were detected. Refer to Table 15 for a summary of selected NYCDEP parameters in groundwater.

## 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 conclusions are presented:

### Summary of Findings

- No evidence of visual or olfactory contamination was observed in the soil and PID readings were not detected at any boring locations;
- During this Phase II SCI, the Corridor was found to be underlain with native soils comprised mostly of moderate yellowish brown to dark yellowish brown coarse to fine sand with trace silt and trace medium to fine gravel. Approximately 5 to 7 feet of non-native anthropogenic fill material with debris was encountered in four (4) of the 12 soil borings. The fill layer consisted mostly of moderate yellowish brown to dark yellowish brown coarse to fine sand with trace silt and trace medium to fine gravel. Construction debris in the form of brick, wood, asphalt, and concrete was observed within the fill layer. Mapped soil classification indicates that cut and filled native material may be present throughout the Corridor. Groundwater was encountered in three (3) of the 12 borings at depths ranging between 9 and 11 ftbg. Bedrock was not encountered during this Phase II SCI;
- Laboratory results indicate that no VOC analytes were detected above the laboratory's reporting limits in any of the soil samples;
- Laboratory results indicate concentrations of several SVOC analytes that were detected below regulatory standards in all soil borings except SB11 and in the duplicate sample (DUP01), where SVOCs were not detected. The presence of SVOCs in the borings can be attributed to the presence of historic fill material and reworked native soil;
- Several metals were detected at concentrations above the Unrestricted Use (Track 1) SCO in four (4) soil samples; (SB01, SB07, SB09 and SB12). These metals include chromium in SB09 (32 mg/kg) and SB12 (49 mg/kg); copper in SB12 (84 mg/kg); lead in SB01 (71 mg/kg), SB09 (86 mg/kg) and SB12 (150 mg/kg); mercury in SB01 (0.25 mg/kg), SB07 (0.3 mg/kg), SB09 (0.69 mg/kg) and SB12 (0.49 mg/kg); and zinc in SB12 (180 mg/kg). Iron concentrations were detected in excess of the Residential SSCO (CP-51) in all the soil samples collected. The presence of metals in the borings can be attributed to historic fill material and reworked native soil;
- Several pesticides were detected above the Unrestricted Use SCO in three (3) soil samples (SB02, SB03, SB07, and SB12). The pesticides include chlordane in SB07 (0.39 mg/kg), dieldrin in SB03 (0.0086 mg/kg), p,p'-DDT in SB02 (0.0071 mg/kg), and p,p'-DDD and p,p'-DDE in SB12 (0.032 mg/kg and 0.032 mg/kg, respectively). Past use of pesticides in the area may have contributed to these detections. Herbicides and PCBs were not detected in any of the soil samples;

- Laboratory results of the analyses of waste classification samples SB01 through SB12 indicate that the soil beneath the Corridor does not exhibit evidence of hazardous waste characteristics. Total Petroleum Hydrocarbons (TPH) were detected in SB04, SB09, and SB12; however, there is no regulatory criterion for TPH;

One (1) VOC, toluene, was detected above the laboratory's reporting limits in groundwater sample TWP03 but at a concentration that was below regulatory standards. No other VOCs were detected in any of the other groundwater samples;

- Laboratory results indicate that diethylphthalate was detected below all regulatory criteria in groundwater sample TWP03. No other SVOCs were detected in the other groundwater samples;
- Several metals were detected at concentrations above regulatory standards in all three (3) unfiltered groundwater samples and in all three (3) filtered groundwater samples. Unfiltered metals that exceeded the Technical & Operational Guidance Series (TOGS) 1.1.1 Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations - Class GA Standards include iron in TWP01 (410 ug/L), TWP02 (420 ug/L) and TWP03 (580 ug/L); manganese in TWP02 (710 ug/L) and TWP03 (4,100 ug/L); and sodium in TWP01, TWP02 and TWP03 (120,000 ug/L, 310,000 ug/L and 560,000 ug/L, respectively). Filtered metals that exceeded the Class GA Groundwater Standards include iron in TWP02 (330 ug/L); manganese in TWP02 (860 ug/L) and TWP03 (4,200 ug/L); and sodium in TWP01 (130,000 ug/L), TWP02 (340,000 ug/L) and TWP03 (450,000 ug/L). In addition, iron and sodium exceeded the Class GA Groundwater Standards in the duplicate unfiltered sample (DUP01 at 490 ug/L and 130,000 ug/L, respectively) collected in TWP01 and sodium exceeded the Class GA Groundwater Standards in the duplicate filtered sample (130,000 ug/L). The presence of metals in the groundwater samples can be attributed to historic fill material and the presence of suspended solids in the groundwater at the time of sample collection.;
- Laboratory results indicate that one (1) pesticide was detected at concentrations above the regulatory standard in groundwater samples TWP02 and TWP03. Specifically, dieldrin was detected above the Class GA Groundwater Standards in groundwater samples TWP02 (0.35 ug/L) and TWP03 (0.049 ug/L). Pesticide a-chlordane was also detected in groundwater sample TWP02, but at a concentration below regulatory criterion. No other pesticides were detected in the groundwater samples. Past use of pesticides in the area may have contributed to these detections. Herbicides and PCBs were not detected in any of the soil samples; and
- Analytical results of groundwater samples TWP01, TWP02, and TWP03 showed no exceedances of NYCDEP Sanitary or Combined Sewer Discharge Parameters were detected.

Based on the results of the field investigation and laboratory analytical results, Louis Berger recommends the following:

### **Conclusions**

- Approximately 5 to 7 feet of non-native anthropogenic fill material with debris was encountered in four (4) of the 12 soil borings. Contaminants such as SVOCs and metals are commonly detected in historic fill and are usually products of incomplete combustion, and/or a result of diffuse anthropogenic pollution (DAP). The soil classification indicates that surficial soils of the area are characteristically found in urbanized areas that have been cut and filled;
- Laboratory results indicate that the soil samples collected beneath the Corridor do not exhibit evidence of hazardous waste characteristics for toxicity, reactivity, corrosivity and ignitability; and,
- Analytical results for the groundwater samples showed no exceedances of the NYCDEP Sewer Discharge Criteria.

### **Recommendations**

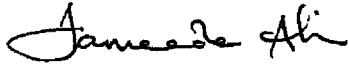
- The Contract documents should identify provisions for managing, handling, transporting and disposing of non-hazardous soil and non-hazardous impacted soil. The Contractor should be required to submit a Material Handling Plan, to identify the specific protocol and procedures that will be employed to manage the waste in accordance with applicable regulations;
- Dust control procedures are recommended during excavation activities to minimize the creation and dispersion of fugitive airborne dust. The Contractor may implement dust control measures to minimize potential airborne contaminants released into the ambient environment as a direct result of construction activities. If further sampling reveals evidence of impacted soil above the established regulatory criteria, implementation of a Community Air Monitoring Plan (CAMP) would be recommended in accordance with NYSDEC DER-10 Regulations. The CAMP requires real-time monitoring for particulates (i.e., dust) at the downwind perimeter of each designated work area when certain activities are in progress at contaminated sites. The CAMP is intended to provide a measure of protection for the area of the surrounding community located downwind from the potential release of airborne contaminants. Specific requirements should be reviewed for each situation and coordinate with the New York State Department of Health (NYSDOH) to ensure proper applicability;
- Based on the observed depth to groundwater (9 to 11 ftbg), dewatering may be necessary for the proposed excavation activities. If dewatering is necessary the contractor will be required to obtain a NYCDEP sewer discharge permit and perform sampling and laboratory analysis prior to discharge into sanitary and combined sewers;

- In addition, if discharge into storm sewers (which ultimately discharge to surface waters) is 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 storm sewers; 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 (i.e., dust control procedures for metals).

## 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:



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Fameeda Ali, CHMM

Project Manager

Report Reviewed By:



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Michael J. McCloskey, PG

QA/QC Manager

## 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**

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**TABLE 14 – SUMMARY OF WASTE CLASSIFICATION PARAMETERS  
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**Table 1. Summary of Environmental Boring Data**  
Phase II Subsurface Corridor Investigation for Storm and Combined Sewers in 229th Street  
Queens, New York

Boring No.	Sample ID	High PID (ppm)	Sample Interval (ftbg)	Total VOCs (mg/kg)	Total SVOCs (mg/kg)	Metals Exceed (Yes/No) <sup>1</sup>	Depth to Water (ftbg)	Total Depth (ftbg)	Other Comments
SB01	SB01	<1	4.5 - 5.0	ND	0.21	Yes	NE	5.0	No visual/olfactory signs of contamination observed.
			0 - 5.0	--	--				
SB02	SB02	<1	4.5 - 5.0	ND	0.07	No	NE	5.0	No visual/olfactory signs of contamination observed.
			0 - 5.0	--	--				
SB03	SB03	<1	4.5 - 5.0	ND	0.04	No	NE	5.0	No visual/olfactory signs of contamination observed.
			0 - 5.0	--	--				
SB04	SB04	<1	11.0 - 11.5	ND	2.87	No	12.0	15.0	No visual/olfactory signs of contamination observed. Collected groundwater sample TWP01 from SB04.
			0 - 15.0	--	--				
SB05	SB05	<1	4.5 - 5.0	ND	0.12	No	NE	5.0	No visual/olfactory signs of contamination observed.
			0 - 5.0	--	--				
SB06	SB06	<1	10.0 - 10.5	ND	0.69	No	11.0	15.0	No visual/olfactory signs of contamination observed. Collected groundwater sample TWP02 from SB06.
			0 - 15.0	--	--				
SB07	SB07	<1	4.5 - 5.0	ND	0.07	Yes	NE	5.0	No visual/olfactory signs of contamination observed.
			0 - 5.0	--	--				
SB08	SB08	<1	4.5 - 5.0	ND	0.26	No	NE	5.0	No visual/olfactory signs of contamination observed.
			0 - 5.0	--	--				
SB09	SB09	<1	4.5 - 5.0	ND	2.01	Yes	NE	5.0	No visual/olfactory signs of contamination observed.
			0 - 5.0	--	--				
SB10	SB10	<1	8.5 - 9.0	ND	0.01	No	9.0	15.0	No visual/olfactory signs of contamination observed. Collected groundwater sample TWP03 from SB10.
			0 - 15.0	--	--				
SB11	SB11	<1	4.5 - 5.0	ND	ND	No	NE	5.0	No visual/olfactory signs of contamination observed.
			0 - 5.0	--	--				
	DUP01	<1	4.5 - 5.0	ND	ND	No	NE	5.0	No visual/olfactory signs of contamination observed.
			0 - 5.0	--	--				
SB12	SB12	<1	6.5 - 7.0	ND	2.42	Yes	NE	7.0	No visual/olfactory signs of contamination observed.
			0 - 7.0	--	--				

**Notes:**

1. Metal(s) exceeds Unrestricted Use (Track 1) or Restricted-Residential Use (Track 2) SCOs.  
All soil samples were analyzed for Target Compound List (TCL) Volatile Organic Compounds, Semi-Volatile Organic Compounds (SVOCs) Pesticides, PCBs, Target Analyte List (TAL) Metals and Herbicides.  
PID = Photoionization detector  
ND = Not Detected  
NE = Not Encountered  
ftbg = feet below ground surface

Table 2. Summary of Target Compound List Volatile Organic Compounds Detected in Soil  
Phase II Subsurface Corridor Investigation for Storm and Combined Sewers in 229th Street  
Queens, 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)	CP-51/Soil Cleanup Guidance	Sample ID, Date Collected, and Depth												
					SB01	SB02	SB03	SB04	SB05	SB06	SB07	SB08	SB09	SB10	SB11	DUP01	SB12
					10/16/2015 4.5 - 5.0	10/16/2015 4.5 - 5.0	10/16/2015 4.5 - 5.0	10/20/2015 11.0 - 11.5	10/16/2015 4.5 - 5.0	10/20/2015 10.0 - 10.5	10/16/2015 4.5 - 5.0	10/16/2015 4.5 - 5.0	10/19/2015 4.5 - 5.0	11/2/2015 8.5 - 9.0	10/19/2015 4.5 - 5.0	10/19/2015 4.5 - 5.0	11/2/2015 6.5 - 7.0
No VOCs were Detected	NS	NS	NS	NS	ND	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/kg)  
ND = Compound not detected above method detection limit (see attached lab report for mdf's)  
SCOs = Soil Cleanup Objectives as per the NYSDEC Regulations & NYCRR Subpart 375-6 Remedial Program Soil Cleanup Objectives (December 14, 2006)  
CP51/Soil Cleanup Guidance = Supplemental Soil Cleanup Objectives, NYSDEC, October 2010  
NS = No Standard

Table 3. Summary of Target Compound List Semi-Volatile Organic Compounds Detected in Soil  
 Phase II Subsurface Corridor Investigation for Storm and Combined Sewers in 229th Street  
 Queens, New York

TCL SVOCs	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)	CP-51/Soil Cleanup Guidance	Sample ID, Date Collected, and Depth												
					Sample ID, Date Collected, and Depth												
					SB01	SB02	SB03	SB04	SB05	SB06	SB07	SB08	SB09	SB10	SB11	DUP01	SB12
				Residential Supplemental Soil Cleanup Objectives	10/16/2015 4.5 - 5.0	10/16/2015 4.5 - 5.0	10/16/2015 4.5 - 5.0	10/20/2015 11.0 - 11.5	10/16/2015 4.5 - 5.0	10/20/2015 10.0 - 10.5	10/16/2015 4.5 - 5.0	10/16/2015 4.5 - 5.0	10/19/2015 4.5 - 5.0	11/2/2015 8.5 - 9.0	10/19/2015 4.5 - 5.0	10/19/2015 4.5 - 5.0	11/2/2015 6.5 - 7.0
Acenaphthylene	100	500	100	NS	ND	ND	ND	ND	ND	ND	ND	0.046	ND	ND	ND	ND	ND
Anthracene	100	500	100	NS	ND	ND	ND	ND	ND	ND	ND	0.22	0.043	ND	ND	ND	ND
Benzo[a]anthracene	1	5.6	1	NS	ND	ND	ND	0.26	ND	0.075	ND	0.82	0.18	ND	ND	ND	ND
Benzo[a]pyrene	1	5.6	1	NS	ND	ND	ND	0.23	ND	0.052	ND	0.65	0.17	ND	ND	ND	0.21
Benzo[b]fluoranthene	100	500	100	NS	0.038	ND	ND	0.34	ND	0.067	ND	0.94	0.26	ND	ND	ND	0.25
Benzo[k]fluoranthene	0.8	56	3.9	NS	ND	ND	ND	0.18	ND	ND	ND	0.43	0.15	ND	ND	ND	0.14
bis(2-Ethylhexyl)phthalate	NS	NS	NS	50	0.082	0.07	0.037	0.085	0.12	ND	0.069	0.16	0.068	ND	ND	ND	ND
Chrysene	1	56	3.9	NS	ND	ND	ND	0.29	ND	0.061	ND	0.68	0.18	ND	ND	ND	0.31
Dibenz[a,h]anthracene	0.33	0.56	0.33	NS	ND	ND	ND	0.29	ND	0.061	ND	0.68	0.18	ND	ND	ND	0.21
Dibenzofuran	7	350	59	NS	ND	ND	ND	ND	ND	ND	ND	0.13	0.043	ND	ND	ND	ND
Di-n-butylphthalate	NS	NS	NS	100	0.208	0.168	0.068B	ND	0.18B	0.016	0.12B	0.049B	0.029	0.013	ND	ND	ND
Fluoranthene	100	500	100	NS	0.04	ND	ND	0.5	ND	0.14	ND	1.4	0.24	ND	ND	ND	0.35
Indeno[1,2,3-cd]pyrene	0.5	5.6	0.5	NS	ND	ND	ND	0.15	ND	ND	ND	0.42	0.13	ND	ND	ND	0.12
Phenanthrene	100	500	100	NS	ND	ND	ND	0.21	ND	0.13	ND	0.66	0.15	ND	ND	ND	0.2
Pyrene	100	500	100	NS	0.05	ND	ND	0.49	ND	0.15	ND	1.4	0.29	ND	ND	ND	0.43

Notes:

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 mds)  
 B = Analyte is found in the associated blank, as well as 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)  
 CP51/Soil Cleanup Guidance = Supplemental Soil Cleanup Objectives, NYSDEC, October 2010  
 NS = No Standard

DDC Project Number: SE823

Work Order Letter No.(s) 10465-LBA-4-9939 & 10465-LBA-3-R-9834

Phase II Subsurface Corridor Investigation for Storm and Combined Sewers in 229th Street

Table 4. Summary of Target Analyte List Metals Detected in Soil  
Phase II Subsurface Corridor Investigation for Storm and Combined Sewers in 229th Street  
Queens, New York

Target Analyte List Metals	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)	CP-51/Soil Cleanup Guidance	Sample ID, Date Collected, and Depth													
					SB01	SB02	SB03	SB04	SB05	SB06	SB07	SB08	SB09	SB10	SB11	DUP01	SB12	
				Residential Soil Cleanup Objectives	10/16/2015 4.5 - 5.0	10/16/2015 4.5 - 5.0	10/16/2015 4.5 - 5.0	10/20/2015 11.0 - 11.5	10/16/2015 4.5 - 5.0	10/20/2015 10.0 - 10.5	10/16/2015 4.5 - 5.0	10/16/2015 4.5 - 5.0	10/19/2015 4.5 - 5.0	11/2/2015 8.5 - 9.0	10/19/2015 4.5 - 5.0	10/19/2015 4.5 - 5.0	11/2/2015 6.5 - 7.0	
Aluminum	NS	NS	NS	NS	11,000	8,000	4,300	3,400	3,800	7,900	8,500	10,000	11,000	11,000	6,300	5,000	8600	
Arsenic	13	16	16	NS	1.9	1.7	1.8	0.74	1.9	1.4	5.1	1.6	9	2	2.5	3.4	3.8	
Barium	350	400	400	NS	42	36	19	17	13	56	31	41	77	33	23	22	180	
Beryllium	7.2	590	72	NS	ND	ND	ND	ND	0.24	ND	0.26	ND	0.73	ND	ND	ND	0.24	
Cadmium	2.5	9.3	4.3	NS	ND	ND	ND	ND	ND	ND	ND	ND	0.8	ND	ND	ND	0.76	
Calcium	NS	NS	NS	NS	1,400	1,700	ND	ND	ND	ND	ND	1,200	8,700	ND	ND	ND	12,000	
Chromium	30	1,500	180	NS	19	14	12	14	6.5	24	16	22	32	20	13	9.9	49	
Cobalt	NS	NS	NS	NS	4.3	2.9	4.5	ND	ND	12	6.2	6.9	8.6	5.4	5.2	4.9	7.4	
Copper	50	270	270	NS	20	17	14	9.7	6.7	22	17	24	41	16	15	12	84	
Iron	NS	NS	NS	NS	11,000	8,900	10,000	7,000	6,600	21,000	15,000	19,000	25,000	21,000	14,000	11,000	20,000	
Lead	63	1,000	400	NS	71	38	14	ND	9.1	ND	27	27	86	13	7.9	8.1	150	
Magnesium	NS	NS	NS	NS	1,700	1,100	1,100	1,300	ND	3,600	1,500	2,300	6,800	2,500	1,600	1,500	4,300	
Manganese	1,600	10,000	2,000	NS	110	150	180	73	90	310	250	300	490	140	330	280	270	
Mercury	0.18	2.8	0.81	NS	0.25	NS	ND	ND	0.14	ND	0.3	ND	0.99	ND	ND	ND	0.49	
Nickel	30	310	310	NS	13	10	15	9.1	5.6	20	18	26	22	18	17	16	22	
Potassium	NS	NS	NS	NS	ND	ND	ND	800	ND	2,900	ND	860	1,500	1,100	550	770	990	
Sodium	NS	NS	NS	NS	760	ND	ND	ND	ND	ND	ND	ND	ND	710	ND	ND	570	
Vanadium	NS	NS	NS	NS	18	17	11	11	ND	27	17	28	39	24	14	12	31	
Zinc	109	10,000	10,000	NS	58	53	32	13	19	32	42	50	100	27	20	17	180	

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)  
CP-51/Soil Cleanup Guidance = Supplemental Soil Cleanup Objectives, NYSDEC, October 2010  
NS = No Standard  
Underline = Concentration exceeds Unrestricted Use (Track 1) Soil Cleanup Objectives  
Double Underline = Concentration exceeds Residential Supplemental Soil Cleanup Objectives, CP-51/Soil Cleanup Objectives  
DDC Project Number: SEB23

Table 5. Summary of Target Analyte List Pesticides Detected in Soil  
Phase II Subsurface Corridor Investigation for Storm and Combined Sewers in 229th Street  
Queens, New York

Pesticides	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)	CP-51/Soil Cleanup Guidance	Sample ID, Date Collected, and Depth												
					SB01	SB02	SB03	SB04	SB05	SB06	SB07	SB08	SB09	SB10	SB11	DUP01	SB12
					10/16/2015 4.5 - 5.0	10/16/2015 4.5 - 5.0	10/16/2015 4.5 - 5.0	10/20/2015 11.0 - 11.5	10/16/2015 4.5 - 5.0	10/20/2015 10.0 - 10.5	10/16/2015 4.5 - 5.0	10/16/2015 4.5 - 5.0	10/19/2015 4.5 - 5.0	11/2/2015 8.5 - 9.0	10/19/2015 4.5 - 5.0	10/19/2015 4.5 - 5.0	11/2/2015 6.5 - 7.0
a-Chlordane	0.094	24	4.2	NS	ND	ND	ND	ND	ND	ND	ND	0.39	ND	ND	ND	ND	ND
Chlordane (Total)	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	0.61	ND	ND	ND	ND	ND
Dieldrin	0.005	1.4	0.2	NS	ND	ND	0.0086	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor Epoxide	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	0.038	ND	ND	ND	ND	ND
p,p'-DDD	0.0033	92	13	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.032
p,p'-DDE	0.0033	62	8.9	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.032
p,p'-DDT	0.0033	47	7.9	NS	ND	0.0071	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
γ-Chlordane	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	0.22	ND	ND	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 mdf/s)  
 SCOs = Soil Cleanup Objectives as per the NYSDEC Regulations 6 NYCRR Subpart 375-6 Remedial Program Soil Cleanup Objectives (December 14, 2006)  
 CP51/Soil Cleanup Guidance = Supplemental Soil Cleanup Objectives, NYSDEC, October 2010  
 NS = No Standard  
Underline = Concentration exceeds Unrestricted Use (Track 1) Soil Cleanup Objectives

DDC Project Number: SE823

Work Order Letter No. (s) 10465-LBA-4-9939 & 10465-LBA-3-R-9834

Table 6. Summary of Herbicides Detected in Soil  
Phase II Subsurface Corridor Investigation for Storm and Combined Sewers in 229th Street  
Queens, New York

Herbicides	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)	CP-51/Soil Cleanup Guidance	Sample ID, Date Collected, and Depth												
					SB01	SB02	SB03	SB04	SB05	SB06	SB07	SB08	SB09	SB10	SB11	DUP01	SB12
					10/16/2015 4.5 - 5.0	10/16/2015 4.5 - 5.0	10/16/2015 4.5 - 5.0	10/20/2015 11.0 - 11.5	10/16/2015 4.5 - 5.0	10/20/2015 10.0 - 10.5	10/16/2015 4.5 - 5.0	10/16/2015 4.5 - 5.0	10/19/2015 4.5 - 5.0	11/22/2015 8.5 - 9.0	10/19/2015 4.5 - 5.0	10/19/2015 4.5 - 5.0	11/2/2015 6.5 - 7.0
No Herbicides were detected	NS	NS	NS	NS	ND	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/kg)  
ND = Compound not detected above method detection limit (see attached lab report for nd/s)  
SCOs = Soil Cleanup Objectives as per the NYSDEC Regulations 6 NYCRR Subpart 375-5.4 Remedial Program Soil Cleanup Objectives (December 14, 2006)  
CP51/Soil Cleanup Guidance = Supplemental Soil Cleanup Objectives, NYSDEC, October 2010  
NS = No Standard

Table 7. Summary of Polychlorinated Biphenyls Detected in Soil  
Phase II Subsurface Corridor Investigation for Storm and Combined Sewers in 229th Street  
Queens, New York

Polychlorinated Biphenyls (PCBs)*	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)	CP-51/Soil Cleanup Guidance	Sample ID, Date Collected, and Depth											
					SB01	SB02	SB03	SB04	SB05	SB06	SB07	SB08	SB09	SB10	SB11	SB12
					10/16/2015 4.5 - 5.0	10/16/2015 4.5 - 5.0	10/16/2015 4.5 - 5.0	10/20/2015 11.0 - 11.5	10/16/2015 4.5 - 5.0	10/20/2015 10.0 - 10.5	10/16/2015 4.5 - 5.0	10/16/2015 4.5 - 5.0	10/19/2015 4.5 - 5.0	11/2/2015 8.5 - 9.0	10/19/2015 4.5 - 5.0	11/2/2015 6.5 - 7.0
Total PCBs	0.1	1	1	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/kg)  
ND = Compound not detected above method detection limit (see attached lab report for mdf's)  
\* 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)  
CP51/Soil Cleanup Guidance = Supplemental Soil Cleanup Objectives, NYSDEC, October 2010  
NS = No Standard

Table 8. Summary of Waste Classification Results in Soil  
Phase II Subsurface Corridor Investigation for Storm and Combined Sewers in 229th Street  
Queens, 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
		10/16/2015 0 - 5.0	10/16/2015 0 - 5.0	10/16/2015 0 - 5.0	10/20/2015 0 - 15.0	10/16/2015 0 - 5.0	10/20/2015 0 - 15.0	10/16/2015 0 - 5.0	10/16/2015 0 - 5.0	10/19/2015 0 - 5.0	11/2/2015 0 - 15.0	10/19/2015 0 - 5.0	11/2/2015 0 - 7.0
RCRA (Including Full TCLP)													
pH	<2 and ≥ 12.5*	7.9	7.4	8.3	8.4	8.3	7.3	6.9	7.3	7.8	7.8	7.6	8.4
Ignitability	>140 °F**	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	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.77
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	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.24
Mercury	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel	NS	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
1,1-Dichloroethene	0.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	7.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone	200	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	0.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Chloride	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4,5-Trichlorophenol	400	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dinitrotoluene	0.13	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Methylphenol	200	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3,4-Methylphenol	200	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobenzene	0.13	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorocyclopentadiene	3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrobenzene	2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pentachlorophenol	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pyridine	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlordane	0.03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endrin	0.02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Gamma-BHC	0.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor	0.008	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor epoxide	0.008	ND	ND	ND	ND	ND	ND	0.00012	ND	ND	ND	ND	ND
Methoxychlor	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toxaphene	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-D	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silvex	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TPH DRO/GRO													
TPH - Gasoline Range Organics	NS	ND	ND	ND	120	ND	ND	ND	ND	100	ND	ND	130
TPH - Diesel Range Organics	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes: All concentrations are in parts per million, milligrams per kilogram, or milligrams per liter (ppm, mg/kg, or mg/L)

**BOLD** = Compound detected above the method detection limit (see attached lab report for mdls)

TCLP = Toxicity Characteristic Leaching Procedure

NS = No Standard

ND = Compound not detected above method detection limit (see attached lab report for mdls)

\*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 140 °F

\*F = Degrees Fahrenheit

NEG = Negative (flash point was not detected below 140 °F or Negative (Paint was not detected from Paint Filter Test)



Table 9. Summary of Target Compound List Volatile Organic Compounds Detected in Groundwater  
Phase II Subsurface Corridor Investigation for Storm and Combined Sewers in 229th Street  
Queens, New York

TCL VOC	NYSDEC Class GA Groundwater Standards and Guidance Values	Sample ID, Date Collected, and Depth									
		TWP01 U	DUP01 U	TWP02 U	TWP03 U	FB01 U	FB02 U	FB03 U	TB01	TB02	
		10/20/2015	10/20/2015	10/20/2015	11/2/2015	10/20/2015	10/20/2015	11/2/2015	10/19/2015	10/20/2015	
Toluene	5	12.0	12.0	11.0	9.0	--	--	--	--	--	
		ND	ND	ND	1.6	ND	ND	ND	ND	ND	

Notes:

All concentrations are reported in micrograms per liter (ug/L)

U = Unfiltered sample

ND = Compound not detected above method detection limit (see attached lab report for mdl's)

Bold = Positive detection

DDC Project Number: SE823

Work Order Letter No.(s) 10465-LBA-4-9939 & 10465-LBA-3-R-9834

Table 10. Summary of Target Compound List Semi-Volatile Organic Compounds Detected in Groundwater  
Phase II Subsurface Corridor Investigation for Storm and Combined Sewers in 229th Street  
Queens, New York

TCL SVOC	NYSDEC Class GA Groundwater Standards and Guidance Values	Sample ID, Date Collected, and Depth							
		TWP01 U	DUP01 U	TWP02 U	TWP03 U	FB01 U	FB02 U	FB03 U	
		10/20/2015	10/20/2015	10/20/2015	11/2/2015	10/20/2015	10/20/2015	11/2/2015	
		12.0	12.0	11.0	9.0	—	—	—	
		ND	ND	ND	7.8	ND	ND	ND	
Diethylphthalate	50								

**Notes:**

All concentrations are reported in micrograms per liter (ug/L)

U = Unfiltered sample

ND = Compound not detected above method detection limit (see attached lab report for mdl's)

**Bold** = Positive detection

DDC Project Number: SE823

Work Order Letter No.(s) 10465-LBA-4-9939 & 10465-LBA-3-R-9834

**Table 11. Summary of Target Analyte List Metals Detected in Groundwater**  
**Phase II Subsurface Corridor Investigation for Storm and Combined Sewers in 229th Street**  
**Queens, New York**

Target Analyte List Metal	NYSDEC Class GA Groundwater Standards and Guidance Values	Sample ID, Date Collected, and Depth													
		TWP01 U	TWP01 F	DUP01 U	DUP01 F	TWP02 U	TWP02 F	TWP03 U	TWP03 F	FB01 U	FB01 F	FB02 U	FB02 F	FB03 U	FB03 F
Aluminum	NS	12.0	12.0	12.0	12.0	11.0	11.0	9.0	9.0	ND	ND	ND	ND	ND	ND
Barium	1,000	ND	ND	270	ND	ND	ND	310	ND	ND	ND	ND	ND	ND	ND
Calcium	NS	46,000	46,000	46,000	45,000	60,000	64,000	98,000	75,000	ND	ND	ND	ND	ND	ND
Cobalt	NS	ND	ND	ND	ND	4.2	6.6	6.8	4.5	ND	ND	ND	ND	ND	ND
Iron	300	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Magnesium	35,000	5,800	5,900	5,700	5,600	13,000	14,000	23,000	18,000	ND	ND	ND	ND	ND	ND
Manganese	300	100	100	93	91	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium	NS	6,300	7,000	6,700	6,600	9,700	11,000	12,000	11,000	ND	ND	ND	ND	ND	ND
Sodium	20,000	30,000	30,000	30,000	30,000	31,000	34,000	45,000	45,000	ND	ND	ND	ND	ND	ND

**Notes:**  
**All concentrations are reported in micrograms per liter (ug/L)**  
 U = Unfiltered sample  
 F = Filtered sample  
 ND = Compound not detected above method detection limit (see attached lab report for mdl's)  
 NS = No standard  
**Bold = Positive detection**

Shading of concentrations is based on NYSDEC Class GA Groundwater Standards and Guidance Values. NYSDEC Class GA Groundwater Standards and Guidance Values are per NYSDEC Technical and Operational Guidance Series (TOGS).

**Table 12. Summary of Pesticides Detected in Groundwater**  
**Phase II Subsurface Corridor Investigation for Storm and Combined Sewers in 229th Street**  
**Queens, New York**

Pesticide	NYSDEC Class GA Groundwater Standards and Guidance Values	Sample ID, Date Collected, and Depth							
		TWP01 U	DUP01 U	TWP02 U	TWP03 U	FB01 U	FB02 U	FB03 U	
		10/20/2015	10/20/2015	10/20/2015	11/2/2015	10/20/2015	10/20/2015	11/2/2015	
		12.0	12.0	11.0	9.0	—	—	—	
		ND	ND	0.011	ND	ND	ND	ND	
a-Chlordane	NS	ND	ND	0.011 <td>ND<td>ND<td>ND<td>ND</td></td></td></td>	ND <td>ND<td>ND<td>ND</td></td></td>	ND <td>ND<td>ND</td></td>	ND <td>ND</td>	ND	
Chlordane (Total)	0.05	ND	ND	0.011 <td>ND<td>ND<td>ND</td><td>ND</td></td></td>	ND <td>ND<td>ND</td><td>ND</td></td>	ND <td>ND</td> <td>ND</td>	ND	ND	
Dieldrin	0.004	ND	ND	0.035	0.049	ND	ND	ND	

**Notes:**

All concentrations are reported in micrograms per liter (ug/L)

U = Unfiltered sample

ND = Compound not detected above method detection limit (see attached lab report for mdl's)

NS = No standard

**Bold** = Positive detection



DDC Project Number: SE823

Work Order Letter No.(s) 10465-LBA-4-9939 & 10465-LBA-3-R-9834

**Table 13. Summary of Herbicides Detected in Groundwater**  
**Phase II Subsurface Corridor Investigation for Storm and Combined Sewers in 229th Street**  
**Queens, New York**

Herbicide	NYSDEC Class GA Groundwater Standards and Guidance Values	Sample ID, Date Collected, and Depth							
		TWP01 U 10/20/2015	DUP01 U 10/20/2015	TWP02 U 10/20/2015	TWP03 U 11/2/2015	FB01 U 10/20/2015	FB02 U 10/20/2015	FB03 U 11/2/2015	
No Herbicides were detected	NS	12.0	12.0	11.0	9.0	--	--	--	ND
		ND	ND	ND	ND	ND	ND	ND	ND

**Notes:**

All concentrations are reported in micrograms per liter (ug/L)

U = Unfiltered sample

ND = Compound not detected above method detection limit (see attached lab report for mdl's)

NS = No standard

DDC Project Number: SE823

Work Order Letter No.(s) 10465-LBA-4-9939 & 10465-LBA-3-R-9834

Table 14. Summary of Polychlorinated Biphenyls Detected in Groundwater  
Phase II Subsurface Corridor Investigation for Storm and Combined Sewers in 229th Street  
Queens, New York

Polychlorinated Biphenyls (PCBs)*	NYSDEC Class GA Groundwater Standards and Guidance Values	Sample ID, Date Collected, and Depth							
		TWP01 U	DUP01 U	TWP02 U	TWP03 U	FB01 U	FB02 U	FB03 U	
		10/20/2015	10/20/2015	10/20/2015	11/2/2015	10/20/2015	10/20/2015	11/2/2015	
		12.0	12.0	11.0	9.0	-	-	-	
No PCBs were Detected	NS	ND	ND	ND	ND	ND	ND	ND	

**Notes:**

All concentrations are reported in micrograms per liter (ug/L)

U = Unfiltered sample

\* Refers to the total concentration of PCBs in the sample

ND = Compound not detected above method detection limit (see attached lab report for mdl's)

NS = No standard

DDC Project Number: SE823

Work Order Letter No.(s) 10465-LBA-4-9939 & 10465-LBA-3-R-9834

**Table 15. Groundwater Quality Compared to New York City Department of Environmental Protection  
Limitations for Effluent to Sanitary or Combined Sewers  
Phase II Subsurface Corridor Investigation for Storm and Combined Sewers in 229th Street  
Queens, New York**

Parameter <sup>1</sup>	NYC DEP Limitations to Sanitary or Combined Sewers		Sample ID, Date Collected and Depth		
			TWP01	TWP02	TWP03
			10/20/2015	10/20/2015	11/2/2015
			12.0	11.0	9.0
Non-Polar Material <sup>2</sup>	50	mg/L	ND mg/L	ND mg/L	ND mg/L
Flash Point - Liquid/Solid	> 140	°F	> 141 °F	> 141 °F	> 141 °F
pH	>2 and ≤10		6.9	6.9	7.3
Cadmium (Instantaneous or Composite)	2 or 0.69	mg/L	ND mg/L	ND mg/L	ND mg/L
Chromium Hexavalent (VI)	5	mg/L	ND mg/L	ND mg/L	ND mg/L
Copper	5	mg/L	ND mg/L	ND mg/L	ND mg/L
Lead	2	mg/L	ND mg/L	ND mg/L	ND mg/L
Mercury	0.05	mg/L	ND mg/L	ND mg/L	ND mg/L
Nickel	3	mg/L	ND mg/L	ND mg/L	ND mg/L
Zinc	5	mg/L	ND mg/L	ND mg/L	ND mg/L
Benzene	134	ug/L	ND ug/L	ND ug/L	ND ug/L
Carbontetrachloride	NS	ug/L	ND ug/L	ND ug/L	ND ug/L
Chloroform	NS	ug/L	ND ug/L	ND ug/L	ND ug/L
1,4 Dichlorobenzene	NS	ug/L	ND ug/L	ND ug/L	ND ug/L
Ethylbenzene	380	ug/L	ND ug/L	ND ug/L	ND ug/L
MTBE (Methyl-Tert-Butyl-Ether)	50	ug/L	ND ug/L	ND ug/L	ND ug/L
Naphthalene	47	ug/L	ND ug/L	ND ug/L	ND ug/L
Phenol	NS	ug/L	ND ug/L	ND ug/L	ND ug/L
Tetrachloroethene	20	ug/L	ND ug/L	ND ug/L	ND ug/L
Toluene	74	ug/L	ND ug/L	1.6 ug/L	ND ug/L
1,2,4 Trichlorobenzene	NS	ug/L	ND ug/L	ND ug/L	ND ug/L
1,1,1 Trichloroethane	NS	ug/L	ND ug/L	ND ug/L	ND ug/L
Xylenes (Total)	74	ug/L	ND ug/L	ND ug/L	ND ug/L
PCBs (Total) <sup>3</sup>	1	ug/L	ND ug/L	ND ug/L	ND ug/L
Total Suspended Solids	350	mg/L	7.6 mg/L	ND mg/L	200 mg/L
CBOD <sup>5</sup>	NS	mg/L	ND mg/L	ND mg/L	ND mg/L
Chloride <sup>5</sup>	NS	mg/L	200 mg/L	470 mg/L	730 mg/L
Total Nitrogen <sup>5</sup>	NS	mg/L	3.4 mg/L	13 mg/L	5 mg/L
Total Solids <sup>5</sup>	NS	mg/L	520 mg/L	1,200 mg/L	1,800 mg/L

**Notes:**

All concentrations are reported in parts per million, milligrams per liter (ppm or mg/L), parts per billion or micrograms per liter (ppb or ug/L)

NS = No Standard

ND = Compound not detected above method detection limit (see attached lab report for mdl's)

**Bold** = Positive detection

**Field and Shoreline Concentration of PCBs** (NYC DEP Limitations for Effluent to Sanitary or Combined Sewers (mdl's), May 2009)

<sup>1</sup> All handling and preservation of collected samples and laboratory analyses of samples was performed in accordance with 40 CFR Part 136.

<sup>2</sup> Analysis for non-polar materials was performed by EPA method 1664.

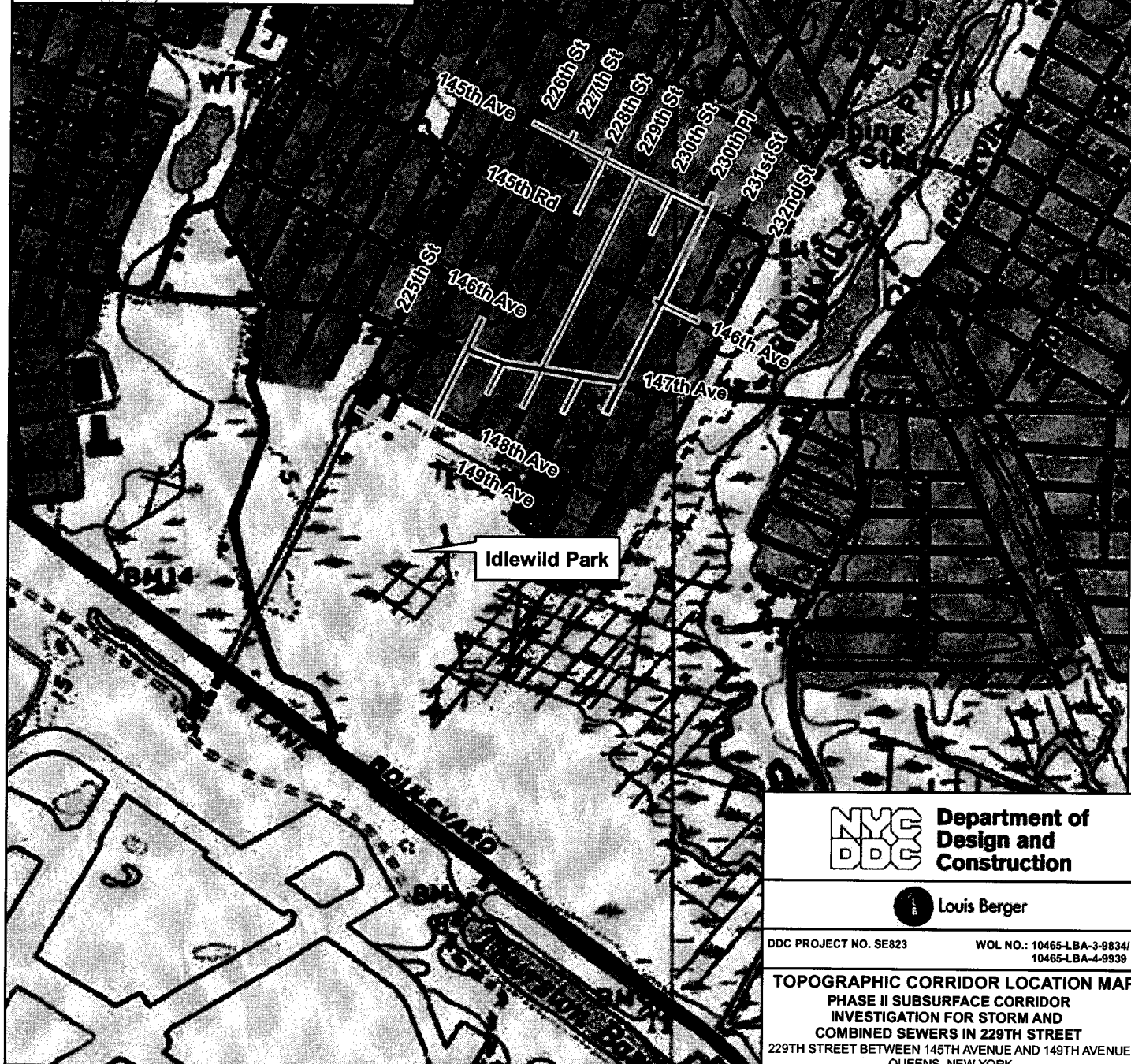
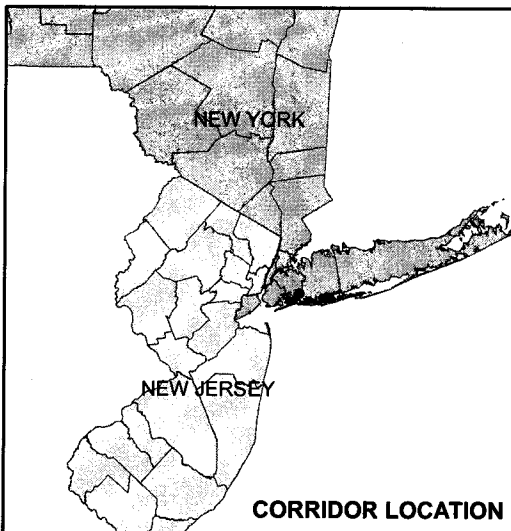
<sup>3</sup> Analysis for polychlorinated biphenyls (PCBs) was performed according to EPA method 608 with method detection limit ≤65 parts per trillion. Analysis for PCBs is required if discharge ≥10,000 gallons per day (gpd) and duration of discharge > 10 days.

<sup>4</sup> For discharge ≥ 10,000 gpd, the total suspended solids (TSS) limit is 350 mg/l. For discharge < 10,000 gpd, the limit is determined on a case by case basis

<sup>5</sup> Analysis for Carbonaceous Biochemical Oxygen Demand (CBOD), Chloride, Total Solids, and Total Nitrogen are required if proposed discharge ≥ 10,000 gpd

## **FIGURE 1 – TOPOGRAPHIC CORRIDOR LOCATION MAP**





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**Louis Berger**

DDC PROJECT NO. SE823

WOL NO.: 10465-LBA-3-9834/  
10465-LBA-4-9939

**TOPOGRAPHIC CORRIDOR LOCATION MAP**  
**PHASE II SUBSURFACE CORRIDOR**  
**INVESTIGATION FOR STORM AND**  
**COMBINED SEWERS IN 229TH STREET**  
 229TH STREET BETWEEN 145TH AVENUE AND 149TH AVENUE  
 QUEENS, NEW YORK

SCALE: 1" = 1000'

DATE: 11/16/2015

FIGURE: 1

Source: USGS Quadrangles Jamaica and Lynbrook, New York, 1995

**FIGURE 2 – SOIL BORING LOCATION PLAN**



### Legend

- High Risk Site Soil Boring Location
- Non High Risk Site Soil Boring Location
- ⊗ High Risk Site Soil Boring/Temporary Well Location
- Approximate Corridor Area



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WOL NO.: 10465-LBA-3-9834/  
10465-LBA-4-9939

### BORING LOCATION PLAN

**PHASE II SUBSURFACE CORRIDOR  
INVESTIGATION FOR STORM AND  
COMBINED SEWERS IN 229TH STREET**

229TH STREET BETWEEN 145TH AVENUE AND 149TH AVENUE  
QUEENS, NEW YORK

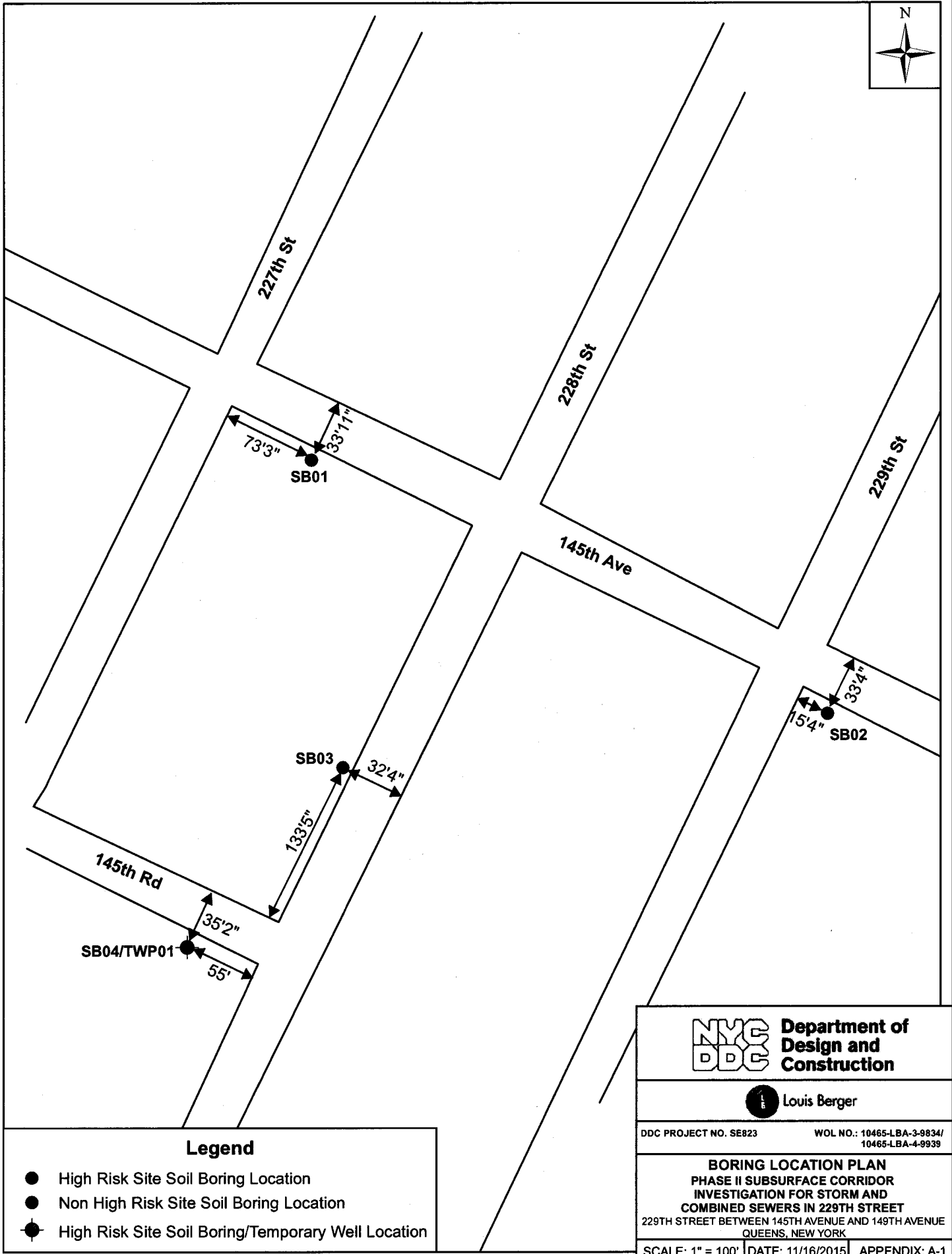
SCALE: 1" = 400'

DATE: 11/16/2015

FIGURE: 2

## **APPENDIX A**

### **BORING LOCATION PLAN**



**Legend**

- High Risk Site Soil Boring Location
- Non High Risk Site Soil Boring Location
- ⊙ High Risk Site Soil Boring/Temporary Well Location



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WOL NO.: 10465-LBA-3-8834/  
10465-LBA-4-9939

**BORING LOCATION PLAN**

**PHASE II SUBSURFACE CORRIDOR**

**INVESTIGATION FOR STORM AND**

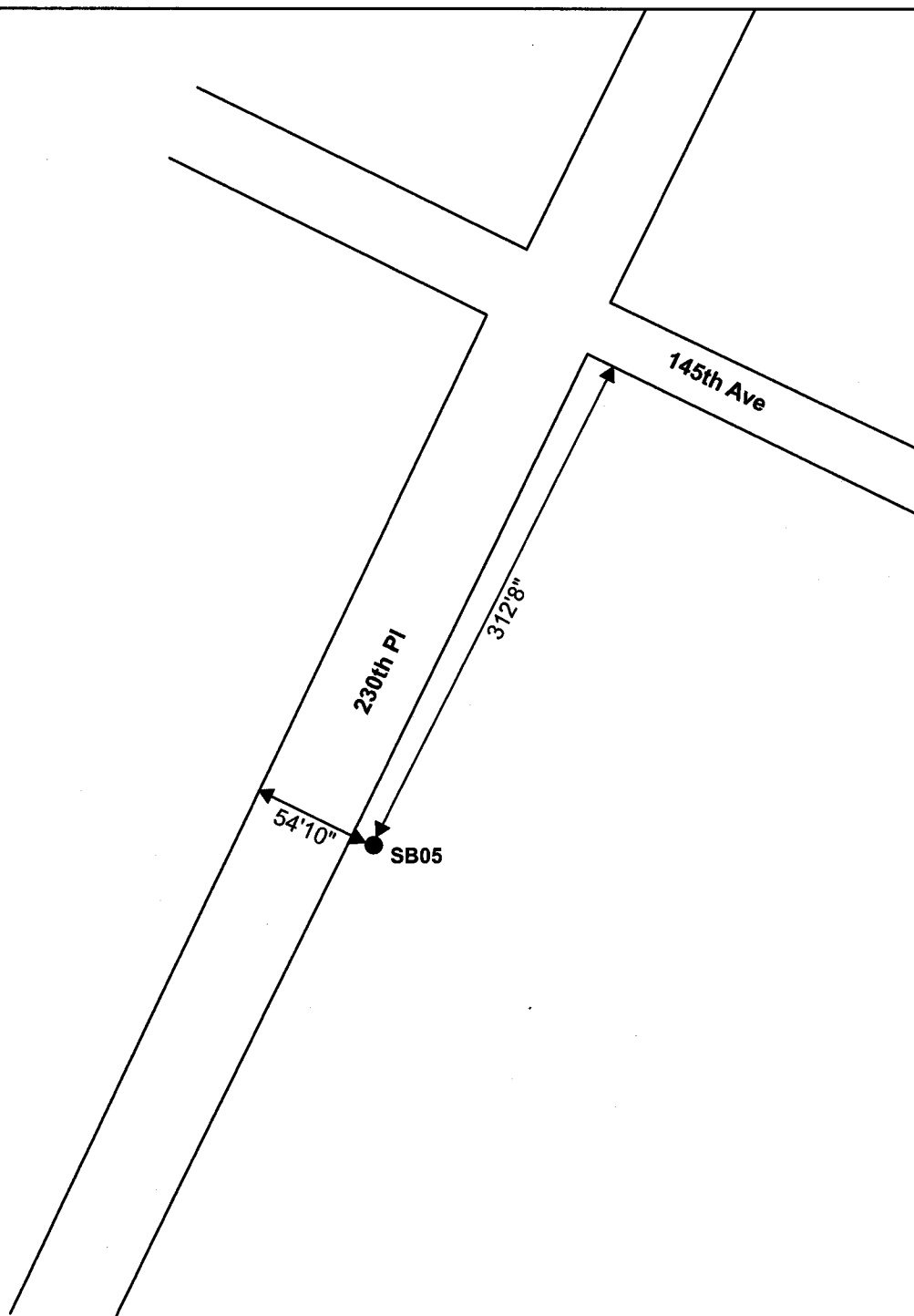
**COMBINED SEWERS IN 229TH STREET**

229TH STREET BETWEEN 145TH AVENUE AND 149TH AVENUE  
QUEENS, NEW YORK

SCALE: 1" = 100'

DATE: 11/16/2015

APPENDIX: A-1



### Legend

- High Risk Site Soil Boring Location
- Non High Risk Site Soil Boring Location
- ⊕ High Risk Site Soil Boring/Temporary Well Location



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**Louis Berger**

DDC PROJECT NO. SE823

WOL NO.: 10465-LBA-3-9834/  
10465-LBA-4-9939

**BORING LOCATION PLAN**  
**PHASE II SUBSURFACE CORRIDOR**  
**INVESTIGATION FOR STORM AND**  
**COMBINED SEWERS IN 229TH STREET**  
229TH STREET BETWEEN 145TH AVENUE AND 149TH AVENUE  
QUEENS, NEW YORK

SCALE: 1" = 100'

DATE: 11/16/2015

APPENDIX: A-2



SB06/TWP02

48'2"  
34'5"

229th St

146th Ave

230th St

230th Pl

SB07

52'9"  
27'5'6"

147th Ave

### Legend

- High Risk Site Soil Boring Location
- Non High Risk Site Soil Boring Location
- ⊙ High Risk Site Soil Boring/Temporary Well Location



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DDC PROJECT NO. SE823

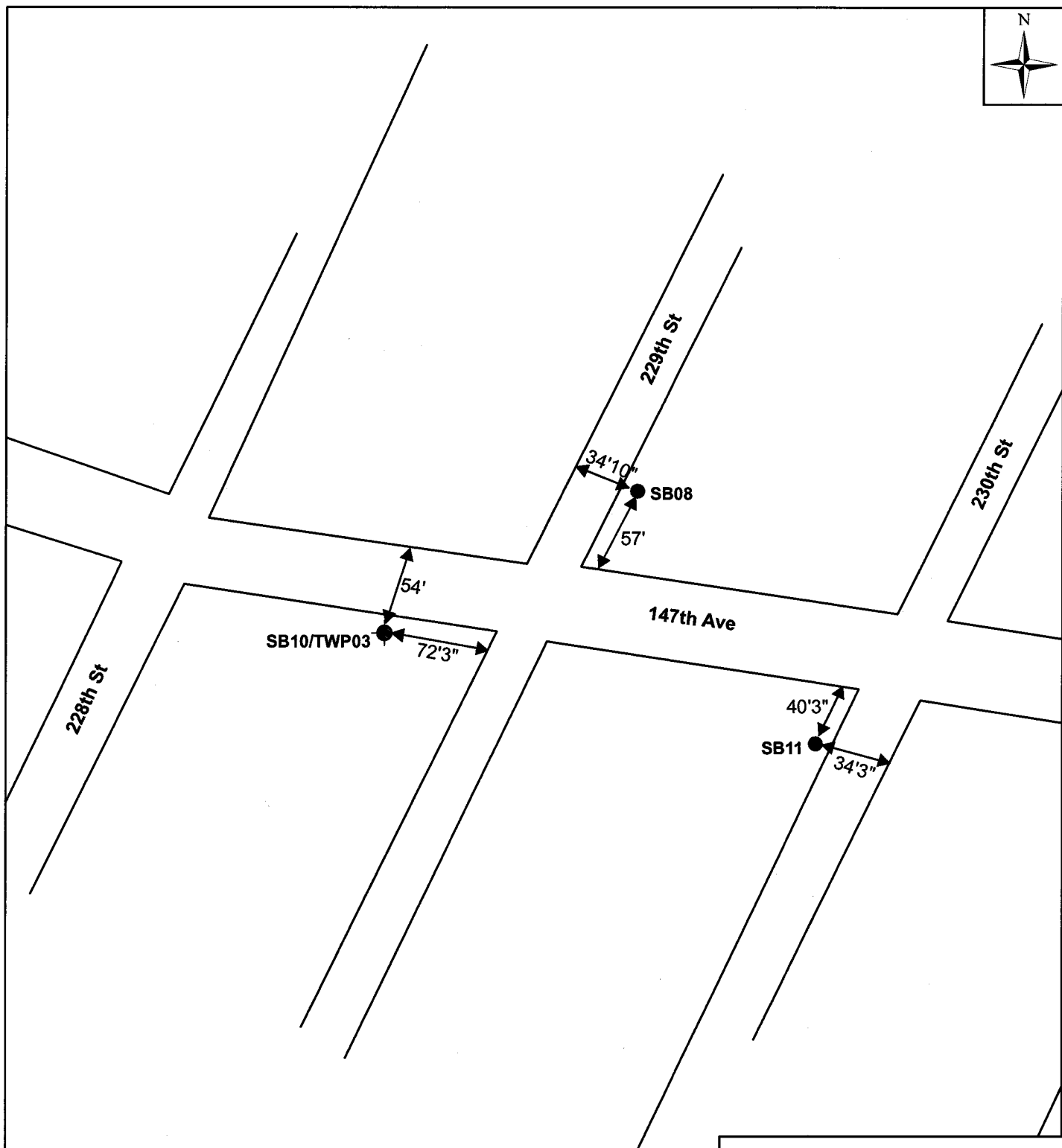
WOL NO.: 10465-LBA-3-9834/  
10465-LBA-4-9939

**BORING LOCATION PLAN**  
**PHASE II SUBSURFACE CORRIDOR**  
**INVESTIGATION FOR STORM AND**  
**COMBINED SEWERS IN 229TH STREET**  
229TH STREET BETWEEN 145TH AVENUE AND 149TH AVENUE  
QUEENS, NEW YORK

SCALE: 1" = 100'

DATE: 11/16/2015

APPENDIX: A-3



### Legend

- High Risk Site Soil Boring Location
- Non High Risk Site Soil Boring Location
- ⊕ High Risk Site Soil Boring/Temporary Well Location



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DDC PROJECT NO. SE823

WOL NO.: 10465-LBA-3-9834/  
10465-LBA-4-9939

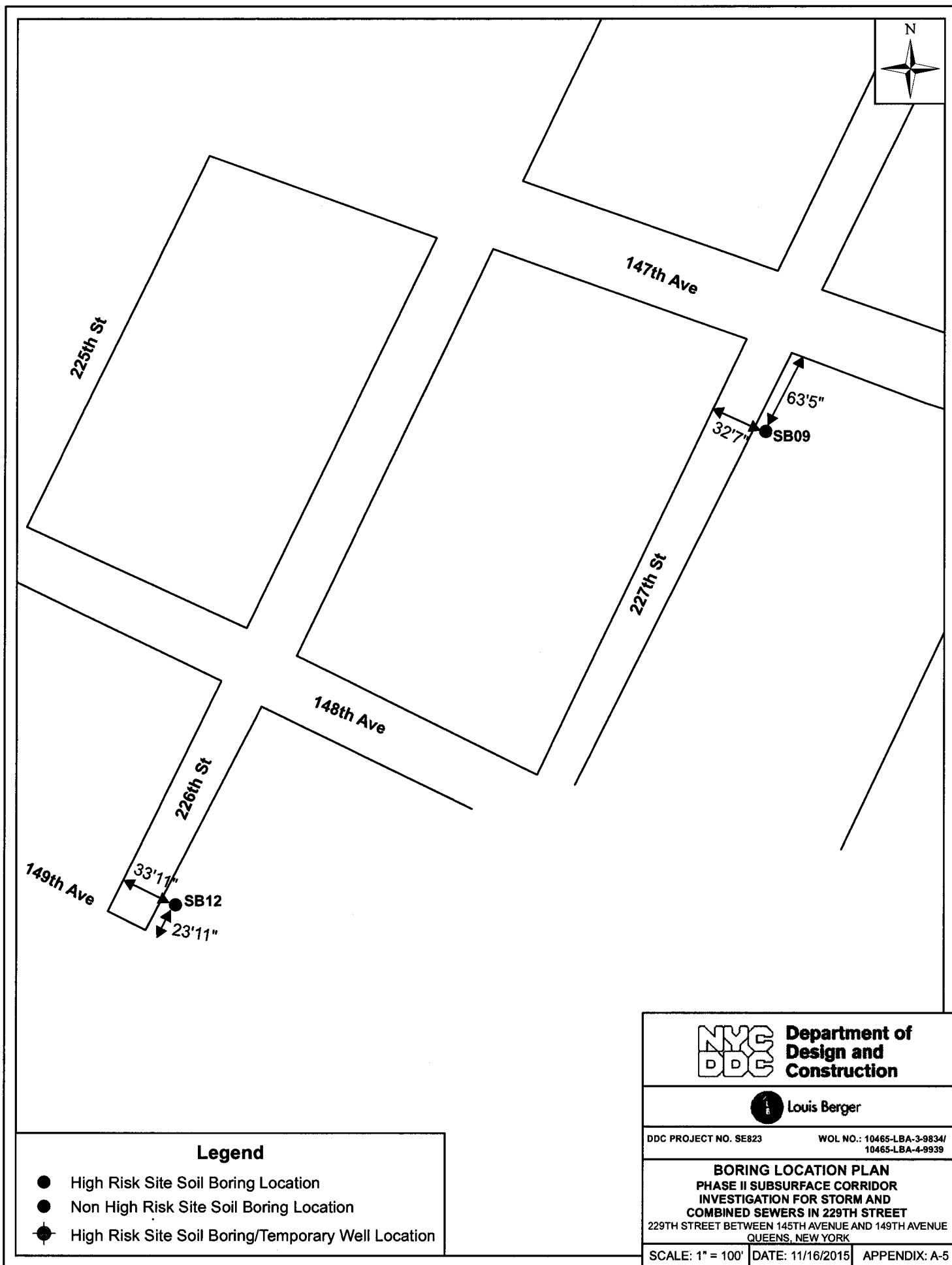
**BORING LOCATION PLAN**  
**PHASE II SUBSURFACE CORRIDOR**  
**INVESTIGATION FOR STORM AND**  
**COMBINED SEWERS IN 229TH STREET**  
229TH STREET BETWEEN 145TH AVENUE AND 149TH AVENUE  
QUEENS, NEW YORK

SCALE: 1" = 100'

DATE: 11/16/2015





APPENDIX: A-4





## **APPENDIX B**

### **GEOLOGIC BORING LOGS**

 <b>Louis Berger</b>		<h1 style="text-align: center;">Drilling Log</h1> <p style="text-align: center;">Page 1 of 1</p>		<b>BORING NO.: SB01</b>				
				<b>LOCATION: Queens, NY</b>				
<b>CLIENT:</b> New York City Department of Design and Construction				<b>PROJECT NO.:</b> 3000647.413				
<b>PROJECT:</b> Storm and Combined Sewers in 229th Street				<b>FMS ID#:</b> SE823				
<b>DRILLING CONTRACTOR:</b> Aquifer Drilling and Testing, Inc.				<b>WOL #:</b> 10465-LBA-3-9834/10465-LBA-4-9939				
<b>DRILLING METHOD:</b> Hand Tools				<b>DATE STARTED:</b> 10/15/2015				
<b>BOREHOLE DATA</b>		<b>WELL DATA</b>		<b>DATE FINISHED:</b> 10/15/2015				
<b>Diameter (in):</b> 2		<b>Well Diameter (in):</b> N/A		<b>DRILLER:</b> B. Karshick				
<b>Total Depth (ft.):</b> 5		<b>Total Depth (ft.):</b> N/A		<b>LBA INSPECTOR:</b> J. Lacanlale				
<b>Depth to Refusal (ft):</b> N/A		<b>Screen Length (ft):</b> N/A		<b>NORTHING (ft):</b> 180629.60				
<b>Depth to Water (ft.):</b> N/A		<b>Depth to Water (ft.):</b> N/A		<b>EASTING (ft):</b> 1053039.57				
<b>Depth to Rock (ft.):</b> N/A		<b>Slot Size (in):</b> N/A		<b>SURFACE ELEVATION (ft):</b> N/A				
<b>NOTES:</b> Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart. Soil boring was pre-cleared to 5 ft bg using hand tools.								
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), medium to fine SAND, trace Silt, trace coarse to fine Gravel (10% fill material - brick); moist.	<b>Sand (Fill), Collected grab sample SB01 from 4.5 to 5.0 ft bg and composite sample from 0 to 5.0 ft bg</b>
	2		FILL				Moderate yellowish brown (10YR 5/4) to pale yellowish brown (10YR 6/2), medium to fine SAND, little Silt, trace coarse to fine Gravel (5% fill material - wood debris); moist.	
	4							
	6							
	8							
Total Depth of Boring 5 feet.								



Louis Berger

# Drilling Log

Page 1 of 1

BORING NO.: SB02

LOCATION: Queens, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 3000647.413

PROJECT: Storm and Combined Sewers in 229th Street

FMS ID#: SE823

DRILLING CONTRACTOR: Aquifer Drilling and Testing, Inc.

WOL #: 10465-LBA-3-9834/10465-LBA-4-9939

DRILLING METHOD: Hand Tools

DATE STARTED: 10/15/2015

**BOREHOLE DATA****WELL DATA**

DATE FINISHED: 10/15/2015

Diameter (in): 2

Well Diameter (in): N/A

DRILLER: B. Karshick

Total Depth (ft.): 5

Total Depth (ft.): N/A

LBA INSPECTOR: J. Lacanlale

Depth to Refusal (ft): N/A

Screen Length (ft): N/A

NORTHING (ft): 180422.26

Depth to Water (ft.): N/A

Depth to Water (ft.): N/A

EASTING (ft): 1053463.63

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 5 ft bg using hand tools.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
	0		SP			< 1	Dark yellowish brown (10YR 4/2), medium to fine SAND, trace Silt, trace coarse to fine Gravel; moist.	Sand, Collected grab sample SB02 from 4.5 to 5.0 ft bg and composite sample from 0 to 5.0 ft bg
	2							
	4							
	6						Total Depth of Boring 5 feet.	
	8							

 <b>Louis Berger</b>		<h1 style="text-align: center;">Drilling Log</h1> <p style="text-align: center;">Page 1 of 1</p>		<b>BORING NO.: SB03</b>				
				<b>LOCATION: Queens, NY</b>				
<b>CLIENT:</b> New York City Department of Design and Construction				<b>PROJECT NO.:</b> 3000647.413				
<b>PROJECT:</b> Storm and Combined Sewers in 229th Street				<b>FMS ID#:</b> SE823				
<b>DRILLING CONTRACTOR:</b> Aquifer Drilling and Testing, Inc.				<b>WOL #:</b> 10465-LBA-3-9834/10465-LBA-4-9939				
<b>DRILLING METHOD:</b> Hand Tools				<b>DATE STARTED:</b> 10/15/2015				
<b>BOREHOLE DATA</b>		<b>WELL DATA</b>		<b>DATE FINISHED:</b> 10/15/2015				
<b>Diameter (in):</b> 2		<b>Well Diameter (in):</b> N/A		<b>DRILLER:</b> B. Karshick				
<b>Total Depth (ft.):</b> 5		<b>Total Depth (ft.):</b> N/A		<b>LBA INSPECTOR:</b> J. Lacanlale				
<b>Depth to Refusal (ft):</b> N/A		<b>Screen Length (ft):</b> N/A		<b>NORTHING (ft):</b> 180378.44				
<b>Depth to Water (ft.):</b> N/A		<b>Depth to Water (ft.):</b> N/A		<b>EASTING (ft):</b> 1053065.59				
<b>Depth to Rock (ft.):</b> N/A		<b>Slot Size (in):</b> N/A		<b>SURFACE ELEVATION (ft):</b> N/A				
<b>NOTES:</b> Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart. Soil boring was pre-cleared to 5 ft bg using hand tools.								
Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
			SP			< 1	Dark yellowish brown (10YR 4/2), medium to fine SAND, trace fine Gravel; moist.	<b>Sand, Collected grab sample SB03 from 4.5 to 5.0 ft bg and composite sample from 0 to 5.0 ft bg</b>
			SP			< 1	Dark yellowish orange (10YR 6/6), medium to fine SAND, trace fine Gravel; moist.	
	2							
	4							
	6							
	8							
							Total Depth of Boring 5 feet.	

 <b>Louis Berger</b>		<h1 style="text-align: center;">Drilling Log</h1> <p style="text-align: center;">Page 1 of 2</p>		<b>BORING NO.: SB04/TWP01</b>			
				<b>LOCATION: Queens, NY</b>			
<b>CLIENT:</b> New York City Department of Design and Construction				<b>PROJECT NO.:</b> 3000647.413			
<b>PROJECT:</b> Storm and Combined Sewers in 229th Street				<b>FMS ID#:</b> SE823			
<b>DRILLING CONTRACTOR:</b> Aquifer Drilling and Testing, Inc.				<b>WOL #:</b> 10465-LBA-3-9834/10465-LBA-4-9939			
<b>DRILLING METHOD:</b> Direct Push				<b>DATE STARTED:</b> 10/15/2015			
<b>BOREHOLE DATA</b>		<b>WELL DATA</b>		<b>DATE FINISHED:</b> 10/20/2015			
<b>Diameter (in):</b> 2		<b>Well Diameter (in):</b> 1		<b>DRILLER:</b> B. Karshick			
<b>Total Depth (ft.):</b> 15		<b>Total Depth (ft.):</b> 15		<b>LBA INSPECTOR:</b> J. Lacanlale			
<b>Depth to Refusal (ft):</b> N/A		<b>Screen Length (ft):</b> 10		<b>NORTHING (ft):</b> 180231.52			
<b>Depth to Water (ft.):</b> 11		<b>Depth to Water (ft.):</b> 11		<b>EASTING (ft):</b> 1052937.46			
<b>Depth to Rock (ft.):</b> N/A		<b>Slot Size (in):</b> 0.2		<b>SURFACE ELEVATION (ft):</b> N/A			
<b>NOTES:</b> Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart. Soil boring was pre-cleared to 5 ft bg using hand tools.							
<b>Well Construction</b>	<b>Depth (feet)</b>	<b>Lithology</b>	<b>USCS</b>	<b>Sample Interval</b> <b>Sample Recovery</b>	<b>PID Reading (ppm)</b>	<b>Description and Stratigraphy</b>	<b>Remarks</b>
			SP		< 1	Dark yellowish brown (10YR 4/2), medium to fine SAND, trace Silt, trace coarse to fine Gravel; moist.	<b>Sand, Collected grab sample SB04 from 11.0 to 11.5 ft bg and composite sample from 0 to 15.0 ft bg. Collected groundwater sample TWP01</b>
			SP		< 1	Moderate yellowish brown (10YR 5/4) to dark yellowish orange (10YR 6/6), medium to fine SAND, trace Silt, trace coarse to fine Gravel; moist.	
			SP		< 1	Grayish brown (5YR 3/2), coarse to fine SAND, trace Silt; moist.	
			SP		< 1	Light brown (5YR 5/6), coarse to fine SAND, trace Silt; moist.	

 <b>Louis Berger</b>		<h1 style="text-align: center;">Drilling Log</h1> <p style="text-align: center;">Page 2 of 2</p>		<b>BORING NO.: SB04/TWP01</b>				
				<b>LOCATION: Queens, NY</b>				
<b>CLIENT:</b> New York City Department of Design and Construction				<b>PROJECT NO.:</b> 3000647.413				
<b>PROJECT:</b> Storm and Combined Sewers in 229th Street				<b>FMS ID#:</b> SE823				
<b>DRILLING CONTRACTOR:</b> Aquifer Drilling and Testing, Inc.				<b>WOL #:</b> 10465-LBA-3-9834/10465-LBA-4-9939				
<b>DRILLING METHOD:</b> Direct Push				<b>DATE STARTED:</b> 10/15/2015				
<b>BOREHOLE DATA</b>		<b>WELL DATA</b>		<b>DATE FINISHED:</b> 10/20/2015				
<b>Diameter (in):</b> 2		<b>Well Diameter (in):</b> 1		<b>DRILER:</b> B. Karshick				
<b>Total Depth (ft.):</b> 15		<b>Total Depth (ft.):</b> 15		<b>LBA INSPECTOR:</b> J. Lacanlale				
<b>Depth to Refusal (ft):</b> N/A		<b>Screen Length (ft):</b> 10		<b>NORTHING (ft):</b> 180231.52				
<b>Depth to Water (ft.):</b> 11		<b>Depth to Water (ft.):</b> 11		<b>EASTING (ft):</b> 1052937.46				
<b>Depth to Rock (ft.):</b> N/A		<b>Slot Size (in):</b> 0.2		<b>SURFACE ELEVATION (ft):</b> N/A				
<b>NOTES:</b> Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart. Soil boring was pre-cleared to 5 ft bg using hand tools.								
Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
	10		SP			< 1	Light brown (5YR 5/6), coarse to fine SAND, trace Silt; moist.	<div style="text-align: center;">   <b>Water Level at 11.0 ft bgs</b> </div>
	12						Light brown (5YR 5/6), coarse to fine SAND, trace Silt; moist to wet.	
	14							
	16						Total Depth of Boring 15 feet.	



Louis Berger

# Drilling Log

Page 1 of 1

BORING NO.: SB05

LOCATION: Queens, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 3000647.413

PROJECT: Storm and Combined Sewers in 229th Street

FMS ID#: SE823

DRILLING CONTRACTOR: Aquifer Drilling and Testing, Inc.

WOL #: 10465-LBA-3-9834/10465-LBA-4-9939

DRILLING METHOD: Hand Tools

DATE STARTED: 10/16/2015

**BOREHOLE DATA****WELL DATA**

DATE FINISHED: 10/16/2015

Diameter (in): 2

Well Diameter (in): N/A

DRILLER: B. Karshick

Total Depth (ft.): 5

Total Depth (ft.): N/A

LBA INSPECTOR: J. Lacanlale

Depth to Refusal (ft): N/A

Screen Length (ft): N/A

NORTHING (ft): 179916.91

Depth to Water (ft.): N/A

Depth to Water (ft.): N/A

EASTING (ft): 1053805.39

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 5 ft bg using hand tools.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
	—		SP			< 1	Dark yellowish brown (10YR 4/2) to moderate yellowish brown (10YR 5/4), medium to fine SAND, trace Silt, little coarse to fine Gravel; moist.	Sand, Collected grab sample SB05 from 4.5 to 5.0 ft bg and composite sample from 0 to 5.0 ft bg
	—		SP			< 1	Dark yellowish orange (10YR 6/6), medium to fine SAND, trace Silt, trace coarse to fine Gravel; moist.	
	2							
	—							
	4							
	—							
	6						Total Depth of Boring 5 feet.	
	—							
	8							



 <b>Louis Berger</b>		<h1 style="text-align: center;">Drilling Log</h1> <p style="text-align: center;">Page 1 of 2</p>		<b>BORING NO.:</b> SB06/TWP02				
				<b>LOCATION:</b> Queens, NY				
<b>CLIENT:</b> New York City Department of Design and Construction				<b>PROJECT NO.:</b> 3000647.413				
<b>PROJECT:</b> Storm and Combined Sewers in 229th Street				<b>FMS ID#:</b> SE823				
<b>DRILLING CONTRACTOR:</b> Aquifer Drilling and Testing, Inc.				<b>WOL #:</b> 10465-LBA-3-9834/10465-LBA-4-9939				
<b>DRILLING METHOD:</b> Direct Push				<b>DATE STARTED:</b> 10/16/2015				
<b>BOREHOLE DATA</b>		<b>WELL DATA</b>		<b>DATE FINISHED:</b> 10/20/2015				
<b>Diameter (in):</b> 2		<b>Well Diameter (in):</b> 1		<b>DRILLER:</b> B. Karshick				
<b>Total Depth (ft.):</b> 15		<b>Total Depth (ft.):</b> 15		<b>LBA INSPECTOR:</b> J. Lacanlale				
<b>Depth to Refusal (ft):</b> N/A		<b>Screen Length (ft):</b> 10		<b>NORTHING (ft):</b> 179778.32				
<b>Depth to Water (ft.):</b> 11.3		<b>Depth to Water (ft.):</b> 11.3		<b>EASTING (ft):</b> 1053066.66				
<b>Depth to Rock (ft.):</b> N/A		<b>Slot Size (in):</b> 0.2		<b>SURFACE ELEVATION (ft):</b> N/A				
<b>NOTES:</b> Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart. Soil boring was pre-cleared to 5 ft bg using hand tools.								
Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
			SP			< 1	Moderate yellowish brown (10YR 5/4), medium to fine SAND, trace Silt, little coarse to fine Gravel; moist.	Sand, Collected grab sample SB06 from 10.0 to 10.5 ft bg and composite sample from 0 to 15.0 ft bg. Collected groundwater sample TWP02
			SP			< 1	Dark yellowish orange (10YR 6/6), medium to fine SAND, trace Silt, trace fine Gravel; moist.	
			SP			< 1	Moderate yellowish brown (10YR 5/4), coarse to fine SAND, trace Silt, trace fine Gravel; moist.	

 <b>Louis Berger</b>		<h1 style="text-align: center;">Drilling Log</h1> <p style="text-align: center;">Page 2 of 2</p>		<b>BORING NO.: SB06/TWP02</b>				
				<b>LOCATION: Queens, NY</b>				
<b>CLIENT:</b> New York City Department of Design and Construction				<b>PROJECT NO.:</b> 3000647.413				
<b>PROJECT:</b> Storm and Combined Sewers in 229th Street				<b>FMS ID#:</b> SE823				
<b>DRILLING CONTRACTOR:</b> Aquifer Drilling and Testing, Inc.				<b>WOL #:</b> 10465-LBA-3-9834/10465-LBA-4-9939				
<b>DRILLING METHOD:</b> Direct Push				<b>DATE STARTED:</b> 10/16/2015				
<b>BOREHOLE DATA</b>		<b>WELL DATA</b>		<b>DATE FINISHED:</b> 10/20/2015				
<b>Diameter (in):</b> 2		<b>Well Diameter (in):</b> 1		<b>DRILLER:</b> B. Karshick				
<b>Total Depth (ft.):</b> 15		<b>Total Depth (ft.):</b> 15		<b>LBA INSPECTOR:</b> J. Lacanlale				
<b>Depth to Refusal (ft):</b> N/A		<b>Screen Length (ft):</b> 10		<b>NORTHING (ft):</b> 179778.32				
<b>Depth to Water (ft.):</b> 11.3		<b>Depth to Water (ft.):</b> 11.3		<b>EASTING (ft):</b> 1053066.66				
<b>Depth to Rock (ft.):</b> N/A		<b>Slot Size (in):</b> 0.2		<b>SURFACE ELEVATION (ft):</b> N/A				
<b>NOTES:</b> Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart. Soil boring was pre-cleared to 5 ft bg using hand tools.								
Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
	10		SP			< 1	Moderate yellowish brown (10YR 5/4), coarse to fine SAND, trace Silt, trace fine Gravel; moist.	∇ <b>Water Level at 11.3 ft bgs</b>
						< 1	Grayish brown (5YR 3/2), coarse to fine SAND, trace Silt; moist.	
			SP			< 1	Light brown (5YR 5/6), coarse to fine SAND, trace Silt; wet.	
	12		SP			< 1	Light olive gray (5Y 5/2), coarse to fine SAND, little Silt; wet.	
			SP			< 1	Dark yellowish orange (10YR 6/6), coarse to fine SAND, trace Silt; wet.	
	14							
	16						Total Depth of Boring 15 feet.	

 <b>Louis Berger</b>		<h1 style="text-align: center;">Drilling Log</h1> <p style="text-align: center;">Page 1 of 1</p>		<b>BORING NO.: SB07</b>				
				<b>LOCATION: Queens, NY</b>				
<b>CLIENT:</b> New York City Department of Design and Construction				<b>PROJECT NO.:</b> 3000647.413				
<b>PROJECT:</b> Storm and Combined Sewers in 229th Street				<b>FMS ID#:</b> SE823				
<b>DRILLING CONTRACTOR:</b> Aquifer Drilling and Testing, Inc.				<b>WOL #:</b> 10465-LBA-3-9834/10465-LBA-4-9939				
<b>DRILLING METHOD:</b> Hand Tools				<b>DATE STARTED:</b> 10/16/2015				
<b>BOREHOLE DATA</b>		<b>WELL DATA</b>		<b>DATE FINISHED:</b> 10/16/2015				
<b>Diameter (in):</b> 2		<b>Well Diameter (in):</b> N/A		<b>DRILLER:</b> B. Karshick				
<b>Total Depth (ft.):</b> 5		<b>Total Depth (ft.):</b> N/A		<b>LBA INSPECTOR:</b> J. Lacanlale				
<b>Depth to Refusal (ft):</b> N/A		<b>Screen Length (ft):</b> N/A		<b>NORTHING (ft):</b> 179327.57				
<b>Depth to Water (ft.):</b> N/A		<b>Depth to Water (ft.):</b> N/A		<b>EASTING (ft):</b> 1053514.36				
<b>Depth to Rock (ft.):</b> N/A		<b>Slot Size (in):</b> N/A		<b>SURFACE ELEVATION (ft):</b> N/A				
<b>NOTES:</b> Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart. Soil boring was pre-cleared to 5 ft bg using hand tools.								
Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
			SP			< 1	Moderate yellowish brown (10YR 5/4), medium to fine SAND, trace Silt, little coarse to fine Gravel; moist.	Sand, Collected grab sample SB07 from 4.5 to 5.0 ft bg and composite sample from 0 to 5.0 ft bg
			SP			< 1	Dark yellowish orange (10YR 6/6), medium to fine SAND, trace Silt, trace coarse to fine Gravel; moist.	
	2							
	4							
	6							
	8							
	Total Depth of Boring 5 feet.							



Louis Berger

# Drilling Log

Page 1 of 1

BORING NO.: SB08

LOCATION: Queens, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 3000647.413

PROJECT: Storm and Combined Sewers in 229th Street

FMS ID#: SE823

DRILLING CONTRACTOR: Aquifer Drilling and Testing, Inc.

WOL #: 10465-LBA-3-9834/10465-LBA-4-9939

DRILLING METHOD: Hand Tools

DATE STARTED: 10/16/2015

**BOREHOLE DATA****WELL DATA**

DATE FINISHED: 10/16/2015

Diameter (in): 2

Well Diameter (in): N/A

DRILLER: B. Karshick

Total Depth (ft.): 5

Total Depth (ft.): N/A

LBA INSPECTOR: J. Lacanlale

Depth to Refusal (ft): N/A

Screen Length (ft): N/A

NORTHING (ft): 179212.56

Depth to Water (ft.): N/A

Depth to Water (ft.): N/A

EASTING (ft): 1052857.22

Depth to Rock (ft.): N/A





Slot Size (in): N/A





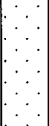


SURFACE ELEVATION (ft): N/A



NOTES: Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart.


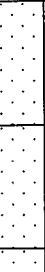


Soil boring was pre-cleared to 5 ft bg using hand tools.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
			SP			< 1	Dark yellowish brown (10YR 4/2) to moderate yellowish brown (10YR 5/4), medium to fine SAND, trace Silt, little coarse to fine Gravel; moist.	Sand, Collected grab sample SB08 from 4.5 to 5.0 ft bg and composite sample from 0 to 5.0 ft bg
			SP			< 1	Dark yellowish orange (10YR 6/6), medium to fine SAND, trace Silt, trace coarse to fine Gravel; moist.	
	2							
	4							
	6						Total Depth of Boring 5 feet.	
	8							





 <b>Louis Berger</b>		<h1 style="text-align: center;">Drilling Log</h1> <p style="text-align: center;">Page 1 of 1</p>		<b>BORING NO.: SB09</b>				
				<b>LOCATION: Queens, NY</b>				
<b>CLIENT:</b> New York City Department of Design and Construction				<b>PROJECT NO.:</b> 3000647.413				
<b>PROJECT:</b> Storm and Combined Sewers in 229th Street				<b>FMS ID#:</b> SE823				
<b>DRILLING CONTRACTOR:</b> Aquifer Drilling and Testing, Inc.				<b>WOL #:</b> 10465-LBA-3-9834/10465-LBA-4-9939				
<b>DRILLING METHOD:</b> Hand Tools				<b>DATE STARTED:</b> 10/19/2015				
<b>BOREHOLE DATA</b>		<b>WELL DATA</b>		<b>DATE FINISHED:</b> 10/19/2015				
<b>Diameter (in):</b> 2		<b>Well Diameter (in):</b> N/A		<b>DRILLER:</b> B. Karshick				
<b>Total Depth (ft.):</b> 5		<b>Total Depth (ft.):</b> N/A		<b>LBA INSPECTOR:</b> J. Lacanlale				
<b>Depth to Refusal (ft):</b> N/A		<b>Screen Length (ft):</b> N/A		<b>NORTHING (ft):</b> 179167.74				
<b>Depth to Water (ft.):</b> N/A		<b>Depth to Water (ft.):</b> N/A		<b>EASTING (ft):</b> 1052256.04				
<b>Depth to Rock (ft.):</b> N/A		<b>Slot Size (in):</b> N/A		<b>SURFACE ELEVATION (ft):</b> N/A				
<b>NOTES:</b> Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart. Soil boring was pre-cleared to 5 ft bg using hand tools.								
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, trace Silt, little coarse to fine Gravel (10% fill material - brick); moist.	<b>Sand (Fill), Collected grab sample SB09 from 4.5 to 5.0 ft bg and composite sample from 0 to 5.0 ft bg</b>
	1		FILL			< 1	Moderate yellowish brown (10YR 5/4), medium to fine SAND, trace Silt, trace coarse to fine Gravel (10% fill material - brick); moist.	
	2							
	3							
	4							
	5							
	6							
	7							
	8							
	Total Depth of Boring 5 feet.							

 <b>Louis Berger</b>		<h1 style="text-align: center;">Drilling Log</h1> <p style="text-align: center;">Page 1 of 2</p>		<b>BORING NO.: SB10/TWP03</b>				
				<b>LOCATION: Queens, NY</b>				
<b>CLIENT:</b> New York City Department of Design and Construction				<b>PROJECT NO.:</b> 3000647.413				
<b>PROJECT:</b> Storm and Combined Sewers in 229th Street				<b>FMS ID#:</b> SE823				
<b>DRILLING CONTRACTOR:</b> Aquifer Drilling and Testing, Inc.				<b>WOL #:</b> 10465-LBA-3-9834/10465-LBA-4-9939				
<b>DRILLING METHOD:</b> Direct Push				<b>DATE STARTED:</b> 10/19/2015				
<b>BOREHOLE DATA</b>		<b>WELL DATA</b>		<b>DATE FINISHED:</b> 11/2/2015				
<b>Diameter (in):</b> 2		<b>Well Diameter (in):</b> 1		<b>DRILER:</b> B. Karshick				
<b>Total Depth (ft.):</b> 15		<b>Total Depth (ft.):</b> 15		<b>LBA INSPECTOR:</b> J. Lacanlale				
<b>Depth to Refusal (ft.):</b> N/A		<b>Screen Length (ft.):</b> 10		<b>NORTHING (ft):</b> 179114.98				
<b>Depth to Water (ft.):</b> 9		<b>Depth to Water (ft.):</b> 9		<b>EASTING (ft):</b> 1052647.17				
<b>Depth to Rock (ft.):</b> N/A		<b>Slot Size (in):</b> 0.2		<b>SURFACE ELEVATION (ft):</b> N/A				
<b>NOTES:</b> Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart. Soil boring was pre-cleared to 6 ft bg using hand tools.								
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) to moderate yellowish brown (10YR 5/4), coarse to fine SAND, trace Silt, little coarse to fine Gravel (10% fill material - concrete); moist.	<b>Sand (Fill), Collected grab sample SB10 from 8.5 to 9.0 ft bg and composite sample from 0 to 15.0 ft bg. Collected groundwater sample TWP03</b>
	2		FILL			< 1	Dark yellowish orange (10YR 6/6), medium to fine SAND, trace Silt, trace coarse to fine Gravel (10% fill material - concrete); moist.	
	6		SP			< 1	Dark yellowish orange (10YR 6/6), medium to fine SAND, trace Silt, trace fine Gravel; wet.	
	8							

 <b>Louis Berger</b>		<h1 style="text-align: center;">Drilling Log</h1> <p style="text-align: center;">Page 2 of 2</p>		<b>BORING NO.:</b> SB10/TWP03				
				<b>LOCATION:</b> Queens, NY				
<b>CLIENT:</b> New York City Department of Design and Construction				<b>PROJECT NO.:</b> 3000647.413				
<b>PROJECT:</b> Storm and Combined Sewers in 229th Street				<b>FMS ID#:</b> SE823				
<b>DRILLING CONTRACTOR:</b> Aquifer Drilling and Testing, Inc.				<b>WOL #:</b> 10465-LBA-3-9834/10465-LBA-4-9939				
<b>DRILLING METHOD:</b> Direct Push				<b>DATE STARTED:</b> 10/19/2015				
<b>BOREHOLE DATA</b>		<b>WELL DATA</b>		<b>DATE FINISHED:</b> 11/2/2015				
<b>Diameter (in):</b> 2		<b>Well Diameter (in):</b> 1		<b>DRIILER:</b> B. Karshick				
<b>Total Depth (ft.):</b> 15		<b>Total Depth (ft.):</b> 15		<b>LBA INSPECTOR:</b> J. Lacanlale				
<b>Depth to Refusal (ft):</b> N/A		<b>Screen Length (ft):</b> 10		<b>NORTHING (ft):</b> 179114.98				
<b>Depth to Water (ft.):</b> 9		<b>Depth to Water (ft.):</b> 9		<b>EASTING (ft):</b> 1052647.17				
<b>Depth to Rock (ft.):</b> N/A		<b>Slot Size (in):</b> 0.2		<b>SURFACE ELEVATION (ft):</b> N/A				
<b>NOTES:</b> Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart. Soil boring was pre-cleared to 6 ft bg using hand tools.								
Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
	10		SP			< 1	Dark yellowish orange (10YR 6/6), medium to fine SAND, trace Silt, trace fine Gravel; wet.	<div style="text-align: center;">   <b>Water Level at 9.0 ft bgs</b> </div>
	12						Dark yellowish orange (10YR 6/6) to light brown (5YR 5/6), medium to fine SAND, trace Silt, trace fine Gravel; wet.	
	14							
	16						Total Depth of Boring 15 feet.	

 <b>Louis Berger</b>		<h1 style="text-align: center;">Drilling Log</h1> <p style="text-align: center;">Page 1 of 1</p>		<b>BORING NO.: SB11</b>				
				<b>LOCATION: Queens, NY</b>				
<b>CLIENT:</b> New York City Department of Design and Construction				<b>PROJECT NO.:</b> 3000647.413				
<b>PROJECT:</b> Storm and Combined Sewers in 229th Street				<b>FMS ID#:</b> SE823				
<b>DRILLING CONTRACTOR:</b> Aquifer Drilling and Testing, Inc.				<b>WOL #:</b> 10465-LBA-3-9834/10465-LBA-4-9939				
<b>DRILLING METHOD:</b> Hand Tools				<b>DATE STARTED:</b> 10/19/2015				
<b>BOREHOLE DATA</b>		<b>WELL DATA</b>		<b>DATE FINISHED:</b> 10/19/2015				
<b>Diameter (in):</b> 2		<b>Well Diameter (in):</b> N/A		<b>DRILER:</b> B. Karshick				
<b>Total Depth (ft.):</b> 5		<b>Total Depth (ft.):</b> N/A		<b>LBA INSPECTOR:</b> J. Lacanlale				
<b>Depth to Refusal (ft):</b> N/A		<b>Screen Length (ft):</b> N/A		<b>NORTHING (ft):</b> 179029.24				
<b>Depth to Water (ft.):</b> N/A		<b>Depth to Water (ft.):</b> N/A		<b>EASTING (ft):</b> 1052987.05				
<b>Depth to Rock (ft.):</b> N/A		<b>Slot Size (in):</b> N/A		<b>SURFACE ELEVATION (ft):</b> N/A				
<b>NOTES:</b> Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart. Soil boring was pre-cleared to 5 ft bg using hand tools.								
Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
	—		SP			< 1	Dark yellowish brown (10YR 4/2), coarse to fine SAND, trace Silt, little coarse to fine Gravel; moist.	<b>Sand, Collected grab sample SB11 and DUP01 from 4.5 to 5.0 ft bg and composite sample from 0 to 5.0 ft bg</b>
	—		SP			< 1	Dark yellowish orange (10YR 6/6), medium to fine SAND, trace Silt, trace coarse to fine Gravel; moist.	
2	—		SP			< 1	Moderate yellowish brown (10YR 5/4) to pale yellowish brown (10YR 6/2), medium to fine SAND, trace Silt, trace fine Gravel; moist.	
	4							
Total Depth of Boring 5 feet.								
	6							
	—							
	—							
	8							



 <b>Louis Berger</b>		<h1 style="text-align: center;">Drilling Log</h1> <p style="text-align: center;">Page 1 of 1</p>		<b>BORING NO.: SB12</b>				
				<b>LOCATION: Queens, NY</b>				
<b>CLIENT:</b> New York City Department of Design and Construction				<b>PROJECT NO.:</b> 3000647.413				
<b>PROJECT:</b> Storm and Combined Sewers in 229th Street				<b>FMS ID#:</b> SE823				
<b>DRILLING CONTRACTOR:</b> Aquifer Drilling and Testing, Inc.				<b>WOL #:</b> 10465-LBA-3-9834/10465-LBA-4-9939				
<b>DRILLING METHOD:</b> Direct Push				<b>DATE STARTED:</b> 10/19/2015				
<b>BOREHOLE DATA</b>		<b>WELL DATA</b>		<b>DATE FINISHED:</b> 11/2/2015				
<b>Diameter (in):</b>	2	<b>Well Diameter (in):</b>	N/A	<b>DRILLER:</b> B. Karshick				
<b>Total Depth (ft.):</b>	7	<b>Total Depth (ft.):</b>	N/A	<b>LBA INSPECTOR:</b> J. Lacanlale				
<b>Depth to Refusal (ft):</b>	7	<b>Screen Length (ft):</b>	N/A	<b>NORTHING (ft):</b> 178777.20				
<b>Depth to Water (ft.):</b>	N/A	<b>Depth to Water (ft.):</b>	N/A	<b>EASTING (ft):</b> 1051766.58				
<b>Depth to Rock (ft.):</b>	N/A	<b>Slot Size (in):</b>	N/A	<b>SURFACE ELEVATION (ft):</b> N/A				
<b>NOTES:</b> Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart. Soil boring was pre-cleared to 6 ft bg using hand tools.								
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) to moderate yellowish brown (10YR 5/4), coarse to fine SAND, trace Silt, little coarse to fine Gravel (20% fill material - brick, concrete, asphalt); moist.	<b>Sand (Fill), Collected grab sample SB12 from 6.5 to 7.0 ft bg and composite sample from 0 to 7.0 ft bg</b>
	2							
	4							
	6		FILL			< 1	Dusky yellowish brown (10YR 2/2) to dark yellowish brown (10YR 4/2), coarse to fine SAND, trace Silt, some coarse to fine Gravel (15% fill material - concrete); moist.	<b>Gravelly Sand (Fill)</b>
	7							
	8						Total Depth of Boring 7 feet.	

## **APPENDIX C**

### **LABORATORY ANALYTICAL RESULTS**

NOTE: Laboratory Analytical Results are available in the office of  
Engineer in Charge, Design 1; Phone: 718-391-2187.

**- Final -**  
**Supplemental Phase II Subsurface Corridor Investigation Report**  
**for**  
**Storm and Combined Sewers in 229<sup>th</sup> Street Area**  
**Between 145<sup>th</sup> and 149<sup>th</sup> Avenue, Queens, New York**

DDC PROJECT NO. SE823  
WOL NO. 11904-LBA-4-10833  
CONTRACT REGISTRATION NO. 20151405733

Prepared for:



Office of Environmental and Geotechnical Services  
30-30 Thomson Avenue, 3<sup>rd</sup> Floor  
Long Island City, New York 11101

Prepared by:



**Louis Berger**

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Tel. (212) 612-7900 Fax (212) 363-4341  
PROJECT NO. 2011040.159

September 26, 2016

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## EXECUTIVE SUMMARY

On behalf of the New York City Department of Design and Construction (NYCDDC), Louis Berger conducted a Supplemental Phase II Subsurface Corridor Investigation (SCI) for the approximately 2,555-foot long extended area adjoining the original Corridor located in the Brookville section of the Borough of Queens, New York (hereinafter referred to as the “Updated Corridor”). The proposed construction activities consist of water main upgrades; and storm, sanitary, and combined sewer improvements throughout the Updated Corridor; as well as outfalls that discharge to wetland areas. The Updated Corridor location is identified on Figure 1, Topographic Corridor Location Map.

Louis Berger previously completed a Phase I Corridor Assessment in July 2015 and a Phase II SCI for the original SE823 Corridor in October and November 2015, during which 12 soil borings and three (3) temporary well points (TWPs) were installed and sampled. Subsequent to this, the infrastructure project SE823 was expanded to include several street segments abutting the original Corridor, which are now the focus of this Supplemental Phase II SCI. The “Updated Corridor” in this Supplemental Phase II SCI Report is comprised of the following street segments:

Street Segment	Length (feet)
148 <sup>th</sup> Avenue from 227 <sup>th</sup> Street to 230 <sup>th</sup> Place	1,055
228 <sup>th</sup> Street from 148 <sup>th</sup> Avenue to approximately 240 feet south of 147 <sup>th</sup> Avenue	250
229 <sup>th</sup> Street from 148 <sup>th</sup> Avenue to approximately 270 feet south of 147 <sup>th</sup> Avenue	300
230 <sup>th</sup> Street from 148 <sup>th</sup> Avenue to approximately 260 feet south of 147 <sup>th</sup> Avenue	430
230 <sup>th</sup> Place from 148 <sup>th</sup> Avenue to approximately 195 feet south of 147 <sup>th</sup> Avenue	520

The Supplemental Phase II SCI was performed in order to investigate if environmental conditions along the Updated Corridor may impact proposed infrastructure improvements and construction activities. It should be noted that a Phase I Corridor Assessment was not conducted for the Updated Corridor and consequently, all information on previous environmental assessments relates to the original SE823 Corridor limits as shown in Figure 1 and Figure 2.

The depth of excavation proposed for the NYCDDC infrastructure project SE823 in the Updated Corridor is approximately 12 to 15 feet below grade (ftbg), and mostly at 13 ftbg. Based on the review of the design drawings prepared by the New York City Department of Environmental Protection (NYCDEP) Bureau of Water and Sewer Operations Division dated July, 2016 and by the NYCDDC dated February 25, 2016 and August 13, 2016, and discussions with the NYCDDC Project Manager, Louis Berger proposed the advancement of eight (8) soil borings

and one (1) TWP along the Updated Corridor to characterize soils and groundwater (if observed) that may be encountered during planned construction activities. Based on the findings of the Phase II SCI conducted by Louis Berger throughout the original SE823 Corridor, groundwater within the Updated Corridor was anticipated to be present at approximately 9 ftbg.

According to the NYCDDC, utility work is proposed on outfalls which ultimately discharge into a wetlands area identified as Idlewild Park Preserve. Therefore, the proposed Supplemental Phase II SCI work activities, presented in Louis Berger's August Work Plan, were subject to additional review under City Environmental Quality Review (CEQR) by the NYCDEP. The Supplemental Phase II SCI Work Plan was submitted to the NYCDEP for review on September 2, 2016, and was approved on September 9, 2016. Due to tight project schedule, NYCDEP conditionally agreed to the implementation of the field activities prior to the expedited approval of the work plan. A Site-Specific Health and Safety Plan (HASP) was previously submitted to and approved by the NYCDEP. Work performed during this Supplemental Phase II SCI adhered to the Supplemental Work Plan and original NYCDEP-approved HASP.

The Supplemental Phase II SCI consisted of soil and groundwater sampling for ascertaining laboratory analytical parameters to assess environmental issues or concerns, followed by subsequent reporting. The Supplemental Phase II SCI was conducted between September 6 and 8, 2016, and consisted of the following components:

#### **Scope of Work**

- The advancement of eight (8) soil borings (SB13 through SB20) to proposed terminal depths of 15 ftbg. Groundwater was encountered in all of the boring locations at depths ranging between 7.5 to 12 ftbg. Accordingly, five (5) of the eight (8) boring locations were terminated at the groundwater table (SB13, SB15, SB16, and SB18 were terminated at 10 ftbg and SB14 at 7.5 ftbg). However, soil borings SB17, SB19 and SB20 were advanced to 15 ftbg since groundwater was encountered deeper than 10 ftbg (12, 10.5, and 12 ftbg, respectively). To ensure the clearance of sensitive subsurface utility lines and features, the soil boring locations were pre-cleared to a depth of 6 ftbg via evasive methods, such as a Vactron® and/or air-knife;
- The installation of one (1) TWP in soil boring SB19 (TWP04);
- Field screening, classification and identification of soils from the 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 two (2) grab soil samples from each boring location per CEQR requirements. One (1) surface grab sample was collected from the 0-2 foot depth interval (the "A" interval) at each boring. The second grab soil sample was collected from the 2-foot interval above the encountered water table (the "B" interval) at each boring location. Per CEQR requirements, both the surface and subsurface grab samples were analyzed for Target Compound List (TCL) VOCs using United States Environmental Protection Agency (USEPA) Method 8260, TCL semi-volatile organic compounds (SVOCs) by USEPA Method 8270, Target Analyte List (TAL) metals by USEPA Method 6010B and 7471A, pesticides by USEPA Method 8081, and polychlorinated biphenyls (PCBs) by USEPA Method 8082. Surface grab samples are identified as SB13A through SB20A. Subsurface grab soil samples are identified as SB13B through SB20B;
- The collection of one (1) waste characterization soil sample from each boring location. The waste characterization sample was composited from the soil column above the encountered groundwater table at each boring location. The waste characterization sample was analyzed for total petroleum hydrocarbons-diesel range organics/gasoline range organics (TPH-DRO/GRO) by USEPA 8015B, Toxicity Characteristics 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, as well as Paint Filter Test by USEPA Method 9095B for waste classification purposes;
- The collection of one (1) groundwater sample from the TWP installed at soil boring location SB19 (TWP04). The groundwater sample was analyzed for TCL VOCs by EPA Method 8260; TCL SVOCs by EPA Method 8270, TAL metals by EPA Method 6010B and 7471A (filtered and unfiltered), TCL pesticides by EPA Method 8081A, PCBs by EPA Method 8082, and NYCDEP Sanitary or Combined Sewer Discharge Parameters; and,
- The preparation of this report, which includes tables summarizing the laboratory analytical results and figures depicting boring locations, significant site 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: (1) 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); (2) NYSDEC CP-51 Soil Cleanup Guidance Residential Supplemental Soil Cleanup Objectives (SSCOs) to NYSDEC Subpart 375-6; and/or (3) Toxicity Characteristic Regulatory Levels for Hazardous Waste published in RCRA and New York Codes, Rules and Regulations (NYCRR) Part 371. The analytical results of the groundwater samples were compared to the NYSDEC Class GA Groundwater Standards and Guidance Values as per NYSDEC Technical and Operational Guidance Series (TOGS) and the NYCDEP Sewer Discharge Criteria.

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 evidence of visual or olfactory contamination was observed in the soil or groundwater and PID readings were not detected at any boring locations;
- During this Phase II SCI, fill material consisting of brick, wood, asphalt, concrete, and ash was encountered at each boring location to a maximum depth of 10 ftbg. In addition to fill material, the Updated Corridor was found to be underlain by yellowish brown medium to fine sand with varying amounts of gravel, silt, and clay. Groundwater was encountered in all soil boring locations at depths ranging from 7.5 to 12 ftbg. Bedrock was not encountered during the Supplemental Phase II SCI;
- Laboratory results indicate that no VOCs were detected above the laboratory's reporting limits in any of the grab soil samples;
- Laboratory results indicate that several SVOCs were detected above regulatory criteria in one (1) grab soil sample (SB15B) collected as part of this Supplemental Phase II SCI; however, all other soil sample concentrations were below the regulatory criteria. Benzo[a]pyrene was detected above the Unrestricted Use (Track 1) SCO, Restricted-Residential Use (Track 2) SCO, and the Commercial Use (Track 2) SCO; Benzo[a]anthracene, benzo[b]fluoranthene, dibenzo[a,h]anthracene, and ideno[1,2,3-cd]pyrene were each detected above their respective Unrestricted Use (Track 1) SCOs and Restricted-Residential Use (Track 2) SCOs; and Benzo[k]fluoranthene and chrysene were each detected above respective Unrestricted Use (Track 1) SCOs;

- Numerous metals were detected above regulatory criteria in all grab soil samples collected during the Supplemental Phase II SCI except in SB16B, SB18B, SB19B, SBDUP01, and SB20B, where concentrations were below regulatory criteria. Arsenic, barium, cadmium, copper, lead, and mercury were detected above respective Unrestricted Use (Track 1), Commercial Use (Track 2), and Restricted-Residential Use (Track 2) SCO in grab soil samples SB14A, SB14B, SB15B, and/or SB18A. At these locations, laboratory results indicate that arsenic was found between 17 and 32 parts per million (ppm), lead was found between 2,000 and 4,100 ppm, and mercury was found between 3.1 and 3.7 ppm;
- Several pesticides were detected above the Unrestricted Use (Track 1) SCO in 11 of the 17 grab soil samples, including the duplicate sample, but below the Restricted-Residential Use (Track 2) and Commercial Use (Track 2) SCO. Laboratory results indicate that p,p'-DDD was found between 0.0038 and 0.71 ppm, p,p'-DDE between 0.014 and 0.16 ppm, p,p'-DDT between 0.0054 and 0.21 ppm, and a-chlordane was found at 0.12 ppm;
- Laboratory results indicate PCB concentrations were found above the Unrestricted Use (Track 1) SCO in three (3) of the 17 grab soil samples, but below the Restricted-Residential Use (Track 2) and Commercial Use (Track 2) SCO. At these locations, laboratory results indicate that total PCB concentrations were found between 0.12 and 0.44 ppm;
- Laboratory results indicate TCLP for lead was found above the RCRA Hazardous Waste Level in SB14WC (5.7 ppm). No other waste classification soil sample concentrations were above TCLP or RCRA parameters. TPH-DRO concentrations were detected in SB14WC (98 ppm) and SB15WC (140 ppm); however, there is no regulatory criterion for TPH;
- No VOCs or SVOCs were detected above the laboratory's reporting limits in the groundwater sample and duplicate groundwater sample (TWP04 and TWP DUP01) collected during the Supplemental Phase II SCI;
- Laboratory results indicate three (3) metals were detected at concentrations above regulatory standards in the unfiltered and filtered groundwater sample and duplicate groundwater sample (TWP04 and TWP DUP01) including iron, manganese, and sodium. All other metal concentrations in the sample were below the regulatory criteria;
- Laboratory results indicate that one (1) pesticide was detected above laboratory reporting limits but below regulatory criteria in the groundwater sample and duplicate groundwater sample (TWP04 and TWP DUP01);

- No PCBs were detected above laboratory reporting limits in the groundwater sample and duplicate groundwater sample (TWP04 and TWP DUP01) collected during the Supplemental Phase II SCI; and,
- Analytical results of groundwater sample showed no exceedances of NYCDEP Sanitary or Combined Sewer Discharge Parameters.

Based on the results of the field investigation and laboratory analytical results, Louis Berger recommends the following:

### **Conclusions**

- Fill material with debris was encountered at all boring locations to a maximum depth of 10 ftbg. Contaminants such as SVOCs, metals and PCBs are commonly detected in historic fill, which was found to be underlying the Corridor. It is possible that the SVOC, metal, and PCB exceedances detected in soil during the Supplemental Phase II SCI are the result of historic fill;
- Pesticides were detected above Unrestricted Use (Track 1) SCOs in 11 of 17 grab soil samples, including the duplicate sample. It is possible that the presence of pesticides in soil are the result of historical pesticide application within the Updated Corridor;
- The analytical laboratory results of the composite waste classification soil samples show that TCLP lead was found above the RCRA Hazardous Waste Level in SB14WC (5.7 ppm). Therefore, results of these analyses indicate that the soil beneath at least a portion of the Corridor exhibits evidence of hazardous waste characteristics. Potentially hazardous waste may be generated during excavation work in the area of SB14. It is possible that the TCLP lead exceedance of RCRA Hazardous Waste Levels is due to historic fill in the Corridor;
- Iron, manganese, and sodium were found in exceedance of regulatory criteria in both filtered and unfiltered groundwater samples collected during the Supplemental Phase II SCI and may be the result of historic fill within the Corridor and/or natural conditions; and,
- Analytical results for the groundwater samples showed no exceedances of the NYCDEP Sewer Discharge Criteria.

## **Recommendations**

- The Contract documents should identify provisions for managing, handling, transporting and disposing of contaminated, non-hazardous and 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 during excavation activities to minimize the creation and dispersion of fugitive airborne dust. The Contractor may implement dust control measures to minimize potential airborne contaminants released into the ambient environment as a direct result of construction activities. A Community Air Monitoring Plan (CAMP) should be developed in accordance with NYSDEC Division of Environmental Remediation (DER)-10 Regulations. The CAMP requires real-time monitoring for particulates (i.e., dust) at the downwind perimeter of each designated work area when certain activities are in progress at contaminated sites. The CAMP is intended to provide a measure of protection for the area of the surrounding community located downwind from the potential release of airborne contaminants;
- Based on the observed depth to groundwater (7.5 to 12 ftbg), dewatering may be necessary for the proposed excavation activities. If dewatering is necessary, the contractor will be required to obtain a NYCDEP sewer discharge permit and perform sampling and laboratory analysis prior to discharge into sanitary and combined sewers;
- In addition, if discharge into storm sewers (which ultimately discharge to surface waters) is 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 storm sewers; and,
- Before beginning any excavation activity, the contractor should submit a 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 (i.e., dust control procedures for metals, SVOCs, PCBs, and pesticides).

## 1.0 INTRODUCTION

On behalf of the New York City Department of Design and Construction (NYCDDC), Louis Berger conducted a Supplemental Phase II Subsurface Corridor Investigation (SCI) for the approximately 2,555-foot long extended area adjoining the original Corridor located in the Brookville section of the Borough of Queens, New York (hereinafter referred to as the "Updated Corridor"). The proposed construction activities consist of water main upgrades; and storm, sanitary, and combined sewer improvements throughout the Updated Corridor; as well as outfalls that discharge to wetland areas. The Updated Corridor location is identified on Figure 1, Topographic Corridor Location Map.

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It should be noted that a Phase I Corridor Assessment was not conducted for the Updated Corridor and consequently, all information on previous environmental assessments relates to the original SE823 Corridor limits as shown in Figure 1 and Figure 2.

### **1.1 Summary of Previous Environmental Investigations**

Louis Berger prepared a Phase I CAR for the original SE823 Corridor in July of 2015. The Phase I CAR presented the results of an investigation to document the current use, a review of Sanborn fire insurance maps, aerial photos and topographic maps to document historical use, and a review of the state and federal government databases to identify sites on or adjoining the original Corridor that constitute a potential environmental concern. Based on Risk Criteria protocol established by the NYCDDC, 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 original Corridor. Louis Berger identified 30 sites categorized as initially having a "High" risk with respect to potential impact on the project, and three (3) sites as initially having a "Moderate" risk with respect to potential impact on the project, within a 1/8-mile radius of the original Corridor. Based on modifying information, Louis Berger recommended that that 18 of the 30 initial "High" risk sites and the three (3) initial "Moderate" risk sites be reclassified as final "Low" risk sites, and one (1) of the 30 initial "High" risk sites be reclassified as "Moderate" risk site. Therefore, the final evaluation identified 11 final "High" risk sites and one (1) final "Moderate" risk site with respect to potential impact on the original project Corridor. The final "High" and "Moderate" risk sites are listed below:

#### **"HIGH" RISK SITES**

No.	Facility Name	Address	Map ID
1	NYCDEP Tank Station 32	145-02 228 <sup>th</sup> Street	C6
2	Bell Atlantic	145-99 226 <sup>th</sup> Street	G17
3	E-Pack Express Corp.	145-63 226 <sup>th</sup> Street	I26 and I27
4	Former Manufacturer	145-73 226 <sup>th</sup> Street	NA
5	Brueton / Factory	227-01 to 227-99 146 <sup>th</sup> Avenue / 145-40 to 145-98 228 <sup>th</sup> Street / 146-01 to 146-03 228 <sup>th</sup> Street / 227-00 to 227-98 145 <sup>th</sup> Road / 145-31 to 145-99 227 <sup>th</sup> Street	D10 and D12
6	Pole #44	228-15 147 <sup>th</sup> Avenue	A2
7	Tender Care Cleaners	228-01 147 <sup>th</sup> Avenue	A3 and A9
8	Former Auto Repair	146-19 228 <sup>th</sup> Street	E13
9	Private Residence	146-27 230 <sup>th</sup> Street	B4 and B5
10	Former Lagoon	148-00 to 148-16 226 <sup>th</sup> Street	NA
11	Former Lagoon	Block 13714, Lot 53	NA

#### "MODERATE" RISK SITES

No.	Facility Name	Address	Map ID
1	John F. Kennedy (JFK) International Airport	Block 13791, All Lots	NA

A Phase II SCI was conducted on the original SE823 Corridor in October and November 2015 to assess the presence of subsurface contamination that may potentially impact proposed construction activities. Twelve (12) soil borings and three (3) TWP's were installed and sampled. Approximately 5 to 7 feet of fill material with debris was encountered in four (4) of the 12 soil borings. Several metals and pesticides were identified in soil and groundwater samples above the applicable regulatory criteria. Laboratory results indicate that the soil samples collected beneath the original Corridor did not exhibit evidence of hazardous waste characteristics for toxicity, reactivity, corrosivity, and ignitability. Analytical results for the groundwater samples showed no exceedances of the NYCDEP Sewer Discharge Criteria. Based on the findings of the Phase II SCI, it was recommended that the Contractor prepare a Material Handling Plan; implement dust control measures during construction activities; implement a Community Air Monitoring Plan (CAMP) if warranted by further sampling; obtain a NYCDEP sewer discharge permit if dewatering effluent will be discharged to sanitary and combined sewers; obtain a New York State Department of Environmental Conservation (NYSDEC) State Pollutant Discharge Elimination System (SPDES) permit if dewatering effluent will be discharged to storm sewers which discharge to surface waters; and prepare a HASP.

## 1.2 Scope of Work

Subsequent to the October and November 2015 Phase II SCI on the original SE823 Corridor, the infrastructure project SE823 was expanded to include several street segments abutting the original Corridor (i.e., the Updated Corridor), which are now the focus of this Supplemental Phase II SCI.

The Supplemental 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 site features and, if applicable, contamination occurrence and distribution. Drilling and hand-clearing activities were performed by Aquifer Drilling and Testing, Inc. Soil boring oversight and sample collection was conducted by Mr. Omer Sohail, 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). The field investigation was conducted between September 6 and 8, 2016, and consisted of the following components:

- The advancement of eight (8) soil borings (SB13 through SB20) to proposed terminal depths of 15 ftbg. Groundwater was encountered in all of the boring locations at depths ranging between 7.5 to 12 ftbg. Accordingly, five (5) of the eight (8) boring locations were terminated at the groundwater table (SB13, SB15, SB16, and SB18 were terminated at 10 ftbg and SB14 at 7.5 ftbg). However, soil borings SB17, SB19 and SB20 were advanced to 15 ftbg since groundwater was encountered deeper than 10 ftbg (12, 10.5, and 12 ftbg, respectively). To ensure the clearance of sensitive subsurface utility lines and features, the soil boring locations were pre-cleared to a depth of 6 ftbg via evasive methods, such as a Vactron® and/or air-knife;
- The installation of one (1) TWP in soil boring SB19 (TWP04);
- Field screening, classification and identification of soils from the 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 two (2) grab soil samples from each boring location per CEQR requirements. One (1) surface grab sample was collected from the 0-2 foot depth interval (the "A" interval) at each boring. The second grab soil sample was collected from the 2-foot interval above the encountered water table (the "B" interval) at each boring location. Per CEQR requirements, both the surface and subsurface grab samples were analyzed for Target Compound List (TCL) VOCs using United States Environmental Protection Agency (USEPA) Method 8260, TCL semi-volatile organic compounds (SVOCs) by USEPA Method 8270, Target Analyte List (TAL) metals by USEPA Method 6010B and 7471A, pesticides by USEPA Method 8081, and polychlorinated biphenyls (PCBs) by USEPA Method 8082. Surface grab samples are identified as SB13A through SB20A. Subsurface grab soil samples are identified as SB13B through SB20B;
- The collection of one (1) waste characterization soil sample from each boring location. The waste characterization sample was composited from the soil column above the encountered groundwater table at each boring location. The waste characterization sample was analyzed for total petroleum hydrocarbons-diesel range organics/gasoline range organics (TPH-DRO/GRO) by USEPA 8015B, Toxicity Characteristics 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, as well as Paint Filter Test by USEPA Method 9095B for waste classification purposes;
- The collection of one (1) groundwater sample from the TWP installed at soil boring location SB19 (TWP04). The groundwater sample was analyzed for TCL VOCs by EPA Method 8260; TCL SVOCs by EPA Method 8270, TAL metals by EPA Method 6010B and 7471A (filtered and unfiltered), TCL pesticides by EPA Method 8081A, PCBs by EPA Method 8082, and NYCDEP Sanitary or Combined Sewer Discharge Parameters; and,
- The preparation of this report, which includes tables summarizing the laboratory analytical results and figures depicting boring locations, significant site features and, if applicable, contamination occurrence and distribution.

## **2.0 CORRIDOR INFORMATION**

### **2.1 Corridor Location, Description and Use**

The approximately 2,555-foot long extended area adjoining the original Corridor is located in the Brookville section of the Borough of Queens, New York. The Updated Corridor location is identified on the Topographic Corridor Location Map on Figure 1. The Updated Corridor and boring locations are presented as Figure 2. Currently, the Updated Corridor consists of public streets and 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. Overhead utility lines are present along the Updated Corridor.

The majority of properties within the Updated Corridor are primarily residential, with the exception of a public school, P.S. 181 Brookfield, located at the intersection of 148<sup>th</sup> Avenue and 230<sup>th</sup> Street.

### **2.2 Description of Surrounding Properties**

The Updated Corridor is primarily surrounded by a mixture of single-family and multi-family residences and Idlewild Park Preserve and Brookville Park, which are undeveloped wetlands.

### **2.3 Corridor and Regional Topographic Setting**

Louis Berger reviewed the United States Geologic Survey (USGS) 7.5-minute Topographic Quadrangle for Jamaica and Lynbrook, NY (USGS, 1995) (Figure 1) to determine regional topography at the Updated Corridor. The Corridor ranges in elevation from less than 10 feet above mean sea level (msl) at the northern extent of the updated Corridor along 230<sup>th</sup> Place to less than approximately 5 feet above msl along 148<sup>th</sup> Avenue. The Corridor exhibits a topographic elevation change of less than 10 feet and generally slopes to the south. Under natural conditions, surface runoff would be expected to follow the overall topography of the area, ultimately towards the southeast to Jamaica Bay. However, storm runoff within the Updated Corridor is managed by storm drains.

## 2.4 Corridor and Regional Geology

Based on the *NYC Reconnaissance Soil Survey* (2005), surficial soil is expected to consist of the Pavement & Buildings-Flatbush-Riverhead complex. Generally, this complex is found in urbanized areas of outwash plains that have been substantially cut and filled, mostly for residential use. Typically, 50 to 80 percent of the land surface associated with this complex is covered by impervious development.

Based on the *Subsurface Geology and Paleogeography of Queens County, Long Island New York* (Soren, 1978), surficial soils are underlain by Upper Pleistocene deposits consisting of till and outwash sand and gravel to a depth of approximately 100 ftbg, which are, in turn, underlain by approximately 50 feet of the Gardiners Clay. Gardiners Clay consists mostly of clay with some thin beds of sand and/or gravel. The Gardiners Clay is underlain by approximately 300 feet of Jameco Gravel, which may extend to depths of 450 ftbg, locally. Jameco deposits are mainly coarse sand and gravel.

The Gardiners Clay and Jameco Gravel are underlain by the Upper Cretaceous aged Raritan Formation. The Raritan Formation consists of two members, the Clay Member and the Lloyd Sand Member. The Clay Member of the Raritan Formation consists of clay beds with inclusions of silty clay and clayey silts and is anticipated to be encountered at a depth of approximately 450 ftbg and extend to approximately 600 ftbg. The Lloyd Sand Member of the Raritan Formation, which consists of fine to coarse quartz sand, extends from approximately 600 to 900 ftbg. The Raritan Formation is underlain by gneiss and schist bedrock which is anticipated to occur at a depth of approximately 900 ftbg.

During this Supplemental Phase II SCI, fill material consisting of brick, wood, asphalt, concrete, and/or ash was encountered at each boring location to a maximum depth of 10 ftbg. In addition to fill material, the Corridor was found to be underlain by yellowish brown medium to fine sand with varying amounts of gravel, silt, and clay. Bedrock was not encountered during the Phase II SCI.

## 2.5 Corridor and Regional Hydrogeology

Based on the elevation of Jamaica Bay (mean sea level) and the elevation of the Updated Corridor ground surface, and on *Ground-Water Resources of Kings and Queen Counties, Long Island, New York* (1999), groundwater was estimated to be encountered at a depth of approximately 10 ftbg across the Updated Corridor. As part of this Supplemental Phase II SCI, groundwater was encountered at depths ranging between 7.5 and 12 ftbg.

The southernmost extent of the Updated Corridor is located adjacent to Idlewild Park, an estuarine and marine wetland with numerous surface water features. The closest major surface water feature is Head of Bay located within Jamaica Bay, approximately 1.6 miles southeast. Groundwater flow direction is expected to be to the south toward Jamaica Bay. Groundwater flow direction may also vary due to seasonal fluctuations in precipitation, local variation in subsurface lithography, underground structures, or local dewatering operations.

Based on information supplied by the U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory, the Updated Corridor is located mostly outside of recognized wetlands except for the southernmost extent of the Updated Corridor which is located adjacent to an estuarine and marine wetland (USFWS, 2016). The Classification Code for the wetland is E2EM1/5Pd that is superseded by Classification Code E2EM1Pd.

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) Panels 3604970242F and 3604970244F (FEMA, 2007), the majority of the Updated Corridor is located outside of the 100- and 500-year flood zones with the exception of a small sliver of the southern end of 148<sup>th</sup> Avenue, which is within the 500 and 100-year flood zone. This area of the Corridor is within Flood Zone X, which is described as areas with 0.2% chance of flooding and areas of 1% chance of flooding to depths under 1 foot.

### 3.0 CORRIDOR EVALUATION

Proposed construction activities within the Updated Corridor include soil excavation, which requires that soils at the site be characterized to identify material handling requirements, use of protective equipment and waste disposal requirements. Louis Berger advanced eight (8) soil borings and installed one (1) TWP during the field investigation conducted between September 6 and 8, 2016. The field investigation was performed at designated areas in the vicinity of the planned excavation area. A summary of the field observations, including the details of the soil borings, is provided in Table 1.

#### 3.1 Soil Quality Investigation

Soil borings SB13, SB15, SB16, and SB18 were each advanced to 10 ftbg. Soil borings SB17, SB19, and SB20 were each advanced to 15 ftbg. SB14 was advanced to 7.5 ftbg using evasive methods only. To ensure the clearance of sensitive subsurface utility lines and features, all soil boring locations were pre-cleared to a depth of 6 ftbg via evasive methods, such as a Vactron® and/or air-knife and a hand auger. 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:

- **SB13** – Located in the grass area on the sidewalk along the south side of 148<sup>th</sup> Avenue, 53 feet east of the southeastern curb of 148<sup>th</sup> Avenue and 227<sup>th</sup> Street, and 40 feet 6 inches south of the northern curb along 148<sup>th</sup> Avenue.
- **SB14** – Located in the grass area on the sidewalk along the west side of 228<sup>th</sup> Street, 171 feet north of the northwestern curb of 148<sup>th</sup> Avenue and 228<sup>th</sup> Street, and 32 feet 9 inches west of the eastern curb along 228<sup>th</sup> Street.
- **SB15** - Located in the grass area on the sidewalk along the south side of 148<sup>th</sup> Street, 88 feet west of the southwestern curb of 229<sup>th</sup> Street and 148<sup>th</sup> Avenue, and 41 feet 6 inches south of the northern curb along 148<sup>th</sup> Avenue.
- **SB16** – Located in the grass area on the sidewalk along the west side of 229<sup>th</sup> Street, 231 feet north of the northwestern curb of 148<sup>th</sup> Avenue and 229<sup>th</sup> Street and, 34 feet 8 inches west of the eastern curb along 229<sup>th</sup> Street.

- **SB17** – Located in the grass area on the sidewalk along the north side of 148<sup>th</sup> Avenue, 24 feet east of the northeastern curb of 229<sup>th</sup> Street and 148<sup>th</sup> Avenue and, 36 feet 9 inches north of the southern curb along 148<sup>th</sup> Avenue.
- **SB18** - Located in the grass area on the sidewalk along the west side of 230<sup>th</sup> Street, 81 feet north of the northwest curb of 148<sup>th</sup> Avenue and 230<sup>th</sup> Street and, 37 feet 6 inches west of the eastern curb along 230<sup>th</sup> Street.
- **SB19/TWP04** - Located in the grass area on the sidewalk along the north side of 148<sup>th</sup> Avenue, 45 feet west of the northwest curb of 230<sup>th</sup> Place and 148<sup>th</sup> Avenue and, 44 feet 2 inches north of the southern curb along 148<sup>th</sup> Avenue. TWP04 was installed in soil boring SB19 and a groundwater sample was collected from this location.
- **SB20** - Located in the grass area on the sidewalk along the west side of 230<sup>th</sup> Place, 147 feet north of the northwestern curb of 148<sup>th</sup> Avenue and 230<sup>th</sup> Place, 49 feet 4 inches west of the eastern curb along 230<sup>th</sup> Place.

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 TCLP metals, total petroleum hydrocarbons, RCRA characteristics, and conditions relative to waste disposal over the unsaturated soil column in each boring, composite soil samples were collected by mixing the soil interval above the encountered water table in a stainless steel bowl. A composite soil sample was taken from each soil boring.

In order to identify representative conditions relative to the presence of VOCs, SVOCs, TAL metals, pesticides, and PCBs, grab samples were collected from the 2-foot interval at the top of the boring and the 2-foot above the encountered groundwater table.

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. Following the completion of each boring, the boreholes were backfilled with removed material.

### **3.2 Groundwater Quality Investigation**

As groundwater may be encountered at the depths associated with the future excavation, one (1) groundwater sample, TWP04, was collected at SB19 for laboratory analysis. Groundwater was encountered at depths ranging from approximately 7.5 to 12 ftbg during the Supplemental Phase II SCI and at 10.5 ftbg at SB19. TWP04 was purged using a peristaltic pump and dedicated tubing until the purge water was free of sediment. After the well was purged, a groundwater sample was collected.

### **3.3 Laboratory Analyses**

Soil samples, as well as field-derived Quality Assurance/Quality Control samples (i.e., a blind soil duplicate), were submitted to HC-V of Fairfield, New Jersey, which is a NYSDOH ELAP-certified analytical laboratory (No. 11408). Laboratory analytical reports are included in Appendix C.

The surface grab soil samples (SB13A through SB20A) were analyzed for TCL VOCs using USEPA Method 8260C, TCL SVOCs by USEPA Method 8270, TAL metals by USEPA Methods 6010B and 7471A, pesticides by USEPA Method 8081, and PCBs by USEPA Method 8082. The subsurface soil grab samples (SB13B through SB20B) were analyzed for TCL VOCs using USEPA Method 8260C, TCL SVOCs by USEPA Method 8270, TAL metals by USEPA Methods 6010B and 7471A, pesticides by USEPA Method 8081, and PCBs by USEPA Method 8082.

Composite soil samples SB13WC through SB20WC were analyzed for TPH-DRO/GRO by USEPA 8015B, 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, as well as Paint Filter Test by USEPA Method 9095B.

The groundwater sample was analyzed for TCL VOCs by EPA Method 8260, TCL SVOCs by EPA Method 8270, TAL metals by EPA Method 6010B and 7471A (filtered and unfiltered), TCL pesticides by EPA Method 8081A, PCBs by EPA Method 8082, and NYCDEP Sanitary or Combined Sewer Discharge Parameters.

### **3.4 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: (1) NYSDEC Subpart 375-6: Remedial Program Unrestricted, Restricted-Residential, and Commercial Use (Track 1 and Track 2) Soil Cleanup Objectives (SCOs); (2) NYSDEC CP-51 Soil Cleanup Guidance Residential Supplemental Soil Cleanup Objectives (SSCOs) to NYSDEC Subpart 375-6; and/or (3) Toxicity Characteristic Regulatory Levels for Hazardous Waste published in RCRA and NYCRR Part 371. The analytical results of the groundwater samples were compared to the NYSDEC Class GA Groundwater Standards and Guidance Values as per NYSDEC Technical and Operational Guidance Series (TOGS) and the NYCDEP Sewer Discharge Criteria



## 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. Complete analytical data reports are 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 evidence of visual or olfactory contamination was observed and PID readings were not detected at any soil boring location. Refer to Table 1 for a summary of environmental boring data.

### 4.2 Laboratory Analytical Results

#### 4.2.1 *Target Compound List (TCL) Volatile Organic Compounds (VOCs) in Soil*

No VOCs were detected above the laboratory's reporting limits in any of the grab soil samples collected as part of this Phase II SCI. Refer to Table 2 for a summary of VOC results.

#### 4.2.2 *TCL Semi-Volatile Organic Compounds (SVOCs) in Soil*

Laboratory results indicate that several SVOCs were detected above regulatory criteria in one (1) grab soil sample (SB15B) collected as part of this Supplemental Phase II SCI; however, all other soil sample concentrations were below the regulatory criteria. SVOC exceedance of regulatory criteria was observed SB15B only, as follows:

- Benzo[a]pyrene (2.6 ppm) was detected above the Unrestricted Use (Track 1) SCO, Restricted-Residential Use (Track 2) SCO, and the Commercial Use (Track 2) SCO;
- Benzo[a]anthracene (3.1 ppm), benzo[b]fluoranthene (3.8 ppm), dibenzo[a,h]anthracene (0.51 ppm), and ideno[1,2,3-cd]pyrene (1.7 ppm) were each detected above their respective Unrestricted Use (Track 1) SCOs and Restricted-Residential Use (Track 2) SCOs; and,
- Benzo[k]fluoranthene (1.2 ppm) and chrysene (2.9 ppm) were each detected above respective Unrestricted Use (Track 1) SCOs.

Refer to Table 3 for a summary of SVOC results.

#### **4.2.3 Target Analyte List (TAL) Metals in Soil**

Numerous metals were detected at concentrations above their respective Unrestricted Use (Track 1) SCOs, Restricted-Residential Use (Track 2) SCOs, and the Commercial Use (Track 2) SCOs in soil samples, as follows:

- Arsenic in SB14A (17 ppm), SB14B (25 ppm), SB15B (32 ppm), and SB18A (25 ppm);
- Barium in SB14A (750 ppm), SB14B (1,100 ppm), and SB15B (1,200 ppm);
- Cadmium in SB15B (32 ppm);
- Copper in SB14A (790 ppm) and SB14B (950 ppm);
- Lead in SB14A (2,000 ppm) and SB14B (4,100 ppm); and,
- Mercury in SB14A (3.7 ppm) and SB14B (3.1 ppm).

Metals were detected above their respective Unrestricted Use (Track 1) SCOs and Restricted-Residential Use (Track 2) SCOs, however below Commercial Use (Track 2) SCOs, in soil samples, as follows:

- Cadmium in SB14B (4.9 ppm);
- Lead in SB15B (680 ppm); and,
- Mercury in SB15B (2 ppm).

And lastly, several metals were detected above their respective Unrestricted Use (Track 1) SCOs, however below Restricted-Residential Use (Track 2) SCOs and the Commercial Use (Track 2) SCOs in all soil samples except SB16B, SB18B, SB19B and the associated duplicate sample SBDUP01, and SB20B, where results were less than regulatory criterion.

Refer to Table 4 for a summary of TAL metals results.

#### **4.2.4 Pesticides in Soil**

Several pesticides were detected above the Unrestricted Use (Track 1) SCOs, however below Restricted-Residential Use (Track 2) SCOs and the Commercial Use (Track 2) in soil samples, as follows:

- p,p'-DDD in SB13A (0.011 ppm), SB13B (0.0055 ppm), SB14A (0.023 ppm), SB14B (0.018 ppm), SB15A (0.028 ppm), SB15B (0.71 ppm), and SB19A (0.0038 ppm);
- p,p'-DDE in SB13A (0.014 ppm), SB14A (0.022 ppm), SB14B (0.028 ppm), SB15A (0.16 ppm), SB17A (0.031 ppm), SB17B (0.014 ppm), and SB19A (0.093 ppm);
- p,p'-DDT in SB13A (0.0055 ppm), SB14B (0.0054 ppm), SB15A (0.0069 ppm), SB16A (0.0087 ppm), SB17A (0.024 ppm), SB17B (0.0054 ppm), and SB19A (0.21 ppm); and,

- a-chlordane in SB18A (0.12 ppm).

In soil sample SB16A, the detected concentration (0.0033 ppm) meets the Unrestricted Use (Track 1) SCO.

Refer to Table 5 for a summary of pesticide results.

#### ***4.2.5 Polychlorinated Biphenyls (PCBs) in Soil***

Laboratory results indicate PCB concentrations were found above the Unrestricted Use (Track 1) SCOs in SB14A (0.44 ppm), SB14B (0.22 ppm), and SB15A (0.12 ppm), but below the Restricted-Residential Use (Track 2) and Commercial Use (Track 2) SCOs. Refer to Table 6 for a summary of PCB results.

#### ***4.2.6 Waste Classification of Soil***

Laboratory results indicate TCLP for lead was found above the RCRA Hazardous Waste Level in SB14WC (5.7 ppm). No other waste classification soil sample concentrations were above TCLP or RCRA parameters. TPH-DRO concentrations were detected in SB14WC (98 ppm) and SB15WC (140 ppm); however, there is no regulatory criterion for TPH. Refer to Table 7 for a summary of TCLP parameters and RCRA characteristics.

#### ***4.2.7 VOCs in Groundwater***

Laboratory results indicate that no VOCs were detected above laboratory reporting limits in the groundwater sample and duplicate groundwater sample (TWP04 and TWP DUP01). Refer to Table 8 for a summary of VOC results.

#### ***4.2.8 SVOCs in Groundwater***

Laboratory results indicate that no SVOCs were detected above laboratory reporting limits in the groundwater sample and duplicate groundwater sample (TWP04 and TWP DUP01). Refer to Table 9 for a summary of SVOC results.

#### ***4.2.9 TAL Metals in Groundwater***

Several metals were detected at concentrations above regulatory standards in the unfiltered and filtered groundwater samples of TWP04 and TWPDUP01. Unfiltered metals that exceeded the Technical & Operational Guidance Series (TOGs) 1.1.1 Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations - Class GA Standards, as follows:

- Iron in TWP04 (630 ppb) and TWPDUP01 (590 ppb);

- Manganese in TWP04 (610 ppb) and TWPDUP01 (630 ppb); and,
- Sodium in TWP04 (140,000 ppb) and TWPDUP01 (120,000 ppb).

Filtered metals that exceeded the Class GA Standards include:

- Iron in TWP04F (500 ppb) and TWPDUP01F (480 ppb);
- Manganese in TWP04F (550 ppb) and TWPDUP01F (540 ppb); and,
- Sodium in TWP04F (120,000 ppb) and TWPDUP01F (120,000 ppb).

Refer to Table 10 for a summary of metals results.

#### ***4.2.10 Pesticides in Groundwater***

Heptachlor epoxide was detected above the laboratory's reporting limits but below all regulatory criteria in TWP04 and TWPDUP01. Refer to Table 11 for a summary of pesticides results.

#### ***4.2.11 PCBs in Groundwater***

No PCBs were detected above the laboratory's reporting limits in the groundwater samples collected as part of this Supplemental Phase II SCI. Refer to Table 12 for a summary of PCB results.

#### ***4.2.12 Analysis of NYCDEP Parameters in Groundwater***

Several analytes were detected above the laboratory's reporting limits in the groundwater samples collected as part of this Supplemental Phase II SCI; however, analysis showed no exceedances of NYCDEP Sanitary or Combined Sewer Discharge Parameters.

Refer to Table 13 for a summary of groundwater quality results compared to NYCDEP Sewer Discharge Criteria.

## 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 conclusions and recommendations are presented:

### Findings

- No evidence of visual or olfactory contamination was observed in the soil or groundwater and PID readings were not detected at any boring locations;
- During this Phase II SCI, fill material consisting of brick, wood, asphalt, concrete, and ash was encountered at each boring location to a maximum depth of 10 ftbg. In addition to fill material, the Updated Corridor was found to be underlain by yellowish brown medium to fine sand with varying amounts of gravel, silt, and clay. Groundwater was encountered in all soil boring locations at depths ranging from 7.5 to 12 ftbg. Bedrock was not encountered during the Supplemental Phase II SCI;
- Laboratory results indicate that no VOCs were detected above the laboratory's reporting limits in any of the grab soil samples;
- Laboratory results indicate that several SVOCs were detected above regulatory criteria in one (1) grab soil sample (SB15B) collected as part of this Supplemental Phase II SCI; however, all other soil sample concentrations were below the regulatory criteria. Benzo[a]pyrene was detected above the Unrestricted Use (Track 1) SCO, Restricted-Residential Use (Track 2) SCO, and the Commercial Use (Track 2) SCO; Benzo[a]anthracene, benzo[b]fluoranthene, dibenzo[a,h]anthracene, and ideno[1,2,3-cd]pyrene were each detected above their respective Unrestricted Use (Track 1) SCOs and Restricted-Residential Use (Track 2) SCOs; and Benzo[k]fluoranthene and chrysene were each detected above respective Unrestricted Use (Track 1) SCOs;
- Numerous metals were detected above regulatory criteria in all grab soil samples collected during the Supplemental Phase II SCI except in SB16B, SB18B, SB19B, SBDUP01, and SB20B, where concentrations were below regulatory criteria. Arsenic, barium, cadmium, copper, lead, and mercury were detected above respective Unrestricted Use (Track 1), Commercial Use (Track 2), and Restricted-Residential Use (Track 2) SCOs in grab soil samples SB14A, SB14B, SB15B, and/or SB18A. At these locations, laboratory results

indicate that arsenic was found between 17 and 32 parts per million (ppm), lead was found between 2,000 and 4,100 ppm, and mercury was found between 3.1 and 3.7 ppm;

- Several pesticides were detected above the Unrestricted Use (Track 1) SCOs in 11 of the 17 grab soil samples, including the duplicate sample, but below the Restricted-Residential Use (Track 2) and Commercial Use (Track 2) SCOs. Laboratory results indicate that p,p'-DDD was found between 0.0038 and 0.71 ppm, p,p'-DDE between 0.014 and 0.16 ppm, p,p'-DDT between 0.0054 and 0.21 ppm, and a-chlordane was found at 0.12 ppm;
- Laboratory results indicate PCB concentrations were found above the Unrestricted Use (Track 1) SCOs in three (3) of the 17 grab soil samples, but below the Restricted-Residential Use (Track 2) and Commercial Use (Track 2) SCOs. At these locations, laboratory results indicate that total PCB concentrations were found between 0.12 and 0.44 ppm;
- Laboratory results indicate TCLP for lead was found above the RCRA Hazardous Waste Level in SB14WC (5.7 ppm). No other waste classification soil sample concentrations were above TCLP or RCRA parameters. TPH-DRO concentrations were detected in SB14WC (98 ppm) and SB15WC (140 ppm); however, there is no regulatory criterion for TPH;
- No VOCs or SVOCs were detected above the laboratory's reporting limits in the groundwater sample and duplicate groundwater sample (TWP04 and TWP DUP01) collected during the Supplemental Phase II SCI;
- Laboratory results indicate three (3) metals were detected at concentrations above regulatory standards in the unfiltered and filtered groundwater sample and duplicate groundwater sample (TWP04 and TWP DUP01) including iron, manganese, and sodium. All other metal concentrations in the sample were below the regulatory criteria;
- Laboratory results indicate that one (1) pesticide was detected above laboratory reporting limits but below regulatory criteria in the groundwater sample and duplicate groundwater sample (TWP04 and TWP DUP01);
- No PCBs were detected above laboratory reporting limits in the groundwater sample and duplicate groundwater sample (TWP04 and TWP DUP01) collected during the Supplemental Phase II SCI; and,
- Analytical results of groundwater sample showed no exceedances of NYCDEP Sanitary or Combined Sewer Discharge Parameters.

Based on the results of the field investigation and laboratory analytical results, Louis Berger recommends the following:

### **Conclusions**

- Fill material with debris was encountered at all boring locations to a maximum depth of 10 ftbg. Contaminants such as SVOCs, metals and PCBs are commonly detected in historic fill, which was found to be underlying the Corridor. It is possible that the SVOC, metal, and PCB exceedances detected in soil during the Supplemental Phase II SCI are the result of historic fill;
- Pesticides were detected above Unrestricted Use (Track 1) SCOs in 11 of 17 grab soil samples, including the duplicate sample. It is possible that the presence of pesticides in soil are the result of historical pesticide application within the Updated Corridor;
- The analytical laboratory results of the composite waste classification soil samples show that TCLP lead was found above the RCRA Hazardous Waste Level in SB14WC (5.7 ppm). Therefore, results of these analyses indicate that the soil beneath at least a portion of the Corridor exhibits evidence of hazardous waste characteristics. Potentially hazardous waste may be generated during excavation work in the area of SB14. It is possible that the TCLP lead exceedance of RCRA Hazardous Waste Levels is due to historic fill in the Corridor;
- Iron, manganese, and sodium were found in exceedance of regulatory criteria in both filtered and unfiltered groundwater samples collected during the Supplemental Phase II SCI and may be the result of historic fill within the Corridor and/or natural conditions; and,
- Analytical results for the groundwater samples showed no exceedances of the NYCDEP Sewer Discharge Criteria.

### **Recommendations**

- The Contract documents should identify provisions for managing, handling, transporting and disposing of contaminated, non-hazardous and 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;

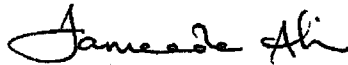
- Dust control procedures are recommended during excavation activities to minimize the creation and dispersion of fugitive airborne dust. The Contractor may implement dust control measures to minimize potential airborne contaminants released into the ambient environment as a direct result of construction activities. A CAMP should be developed in accordance with NYSDEC Division of Environmental Remediation (DER)-10 Regulations. The CAMP requires real-time monitoring for particulates (i.e., dust) at the downwind perimeter of each designated work area when certain activities are in progress at contaminated sites. The CAMP is intended to provide a measure of protection for the area of the surrounding community located downwind from the potential release of airborne contaminants;
- Based on the observed depth to groundwater (7.5 to 12 ftbg), dewatering may be necessary for the proposed excavation activities. If dewatering is necessary, the contractor will be required to obtain a NYCDEP sewer discharge permit and perform sampling and laboratory analysis prior to discharge into sanitary and combined sewers;
- In addition, if discharge into storm sewers (which ultimately discharge to surface waters) is required during dewatering, it may be performed under the appropriate NYSDEC SPDES permit. Additional sampling and laboratory analysis may be required to satisfy NYSDEC requirements prior to discharge into storm sewers; and,
- Before beginning any excavation activity, the contractor should submit a 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 (i.e., dust control procedures for metals, SVOCs, PCBs, and pesticides).



## 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:



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Fameeda Ali, CHMM  
Project Manager

Report Reviewed By:



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Michael J. McCloskey, PG  
QA/QC Manager

## 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.

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- TABLE 1 – SUMMARY OF ENVIRONMENTAL BORING DATA**  
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**Table 1. Summary of Environmental Boring Data**  
**Supplemental Phase II Subsurface Corridor Investigation for Storm and Combined Sewers in 229th Street**  
**Queens, New York**

Boring No.	Sample ID	High PID (ppm)	Sample Interval (ftbg)	Total VOCs (mg/kg)	Total SVOCs (mg/kg)	TAL Metals Exceed (Yes/No) <sup>1</sup>	Depth to Water (ftbg)	Total Depth (ftbg)	Other Comments
SB13	SB13A	<1	0 - 2.0	ND	9.78	Yes	9.0	10.0	No visual/olfactory signs of contamination observed. Waste classification sample SB13WC was collected from 0 - 9.0 ftbg
	SB13B		7.0 - 9.0	ND	2.1	Yes			
SB14	SB14A	<1	0 - 2.0	ND	5.61	Yes	7.5	7.5	No visual/olfactory signs of contamination observed. Waste classification sample SB14WC was collected from 0 - 7.5 ftbg
	SB14B		5.5 - 7.5	ND	3.82	Yes			
SB15	SB15A	<1	0 - 2.0	ND	3.51	Yes	9.5	10.0	No visual/olfactory signs of contamination observed. Waste classification sample SB15WC was collected from 0 - 9.5 ftbg
	SB15B		7.5 - 9.5	ND	48.04	Yes			
SB16	SB16A	<1	0 - 2.0	ND	4.64	Yes	9.0	10.0	No visual/olfactory signs of contamination observed. Waste classification sample SB16WC was collected from 0 - 9.0 ftbg
	SB16B		7.0 - 9.0	ND	ND	No			
SB17	SB17A	<1	0 - 2.0	ND	1.30	Yes	12.0	15.0	No visual/olfactory signs of contamination observed. Waste classification sample SB17WC was collected from 0 - 12.0 ftbg
	SB17B		10.0 - 12.0	ND	0.95	Yes			
SB18	SB18A	<1	0 - 2.0	ND	4.09	Yes	9.0	10.0	No visual/olfactory signs of contamination observed. Waste classification sample SB18WC was collected from 0 - 9.0 ftbg
	SB18B		7.0 - 9.0	ND	0.00	No			
SB19	SB19A	<1	0 - 2.0	ND	0.15	Yes	10.5	15.0	No visual/olfactory signs of contamination observed. Waste classification sample SB19WC was collected from 0 - 10.5 ftbg
	SB19B		8.5 - 10.5	ND	ND	No			
	SBDUP01		8.5 - 10.5	ND	ND	No			
SB20	SB20A	<1	0 - 2.0	ND	1.45	Yes	12.0	15.0	No visual/olfactory signs of contamination observed. Waste classification sample SB20WC was collected from 0 - 12.0 ftbg
	SB20B		10.0 - 12.0	ND	ND	No			

**Notes:**

1. TAL Metal(s) exceeds Unrestricted Use (Track 1) or Restricted-Residential Use (Track 2) SCOs.

All soil samples were analyzed for Target Compound List (TCL) Volatile Organic Compounds (VOCs), Semi-Volatile Organic Compounds (SVOCs)

Pesticides, Polychlorinated Biphenyls (PCBs) and Target Analyte List (TAL) Metals

Waste Classification (WC) samples were analyzed for Toxicity Characteristic Leaching Procedure (TCLP) Metals and Total Petroleum Hydrocarbons (TPH), and

Resource Conservation and Recovery Act (RCRA) Characteristics

PID = Photoionization detector

ND = Not Detected

NE = Not Encountered

ftbg = feet below grade

DDC Project Number: SE823

Work Order Letter No. 11904-LBA-4-10833

Table 2. Summary of Target Compound List (TCL) Volatile Organic Compounds (VOCs) Detected in Soil  
Supplemental Phase II Subsurface Corridor Investigation for Storm and Combined Sewers in 229th Street  
Queens, 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)	CP-61/Soil Cleanup Guidance		Sample ID, Date Collected, and Depth							
				NS	Residential Supplemental Soil Cleanup Objectives	SB13A	SB13B	SB14A	SB14B	SB15A	SB15B	SB16A	SB16B
No VOCs were detected	NS	NS	NS										
						9/8/2016	9/8/2016	9/7/2016	9/7/2016	9/8/2016	9/8/2016	9/7/2016	9/8/2016
						0 - 2.0	7.0 - 9.0	0 - 2.0	5.5 - 7.5	0 - 2.0	7.5 - 9.5	0 - 2.0	7.0 - 9.0
						ND	ND	ND	ND	ND	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)  
 CP-61/Soil Cleanup Guidance = Supplemental Soil Cleanup Objectives, NYSDEC, October, 2010  
 NS = No Standard

DDC Project Number: SE823

Work Order Letter No. 11904-LBA-4-10833

**Table 2. Summary of Target Compound List (TCL) Volatile Organic Compounds (VOCs) Detected in Soil  
Supplemental Phase II Subsurface Corridor Investigation for Storm and Combined Sewers in 229th Street  
Queens, 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)	CP-51/Soil Cleanup Guidance		Sample ID, Date Collected, and Depth									
				Residential Supplemental Soil Cleanup Objectives	NS	SB17A	SB17B	SB18A	SB18B	SB19A	SB19B	SBDUP01	SB20A	SB20B	
No VOCs were detected	NS	NS	NS			9/6/2016 0 - 2.0	9/8/2016 10.0 - 12.0	9/7/2016 0 - 2.0	9/8/2016 7.0 - 9.0	9/8/2016 0 - 2.0	9/8/2016 8.5 - 10.5	9/8/2016 8.5 - 10.5	9/6/2016 0 - 2.0	9/8/2016 10.0 - 12.0	
						ND	ND	ND	ND	ND	ND	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 & NYCRR Subpart 375-6 Remedial Program Soil Cleanup Objectives (December 14, 2006)  
 CP51/Soil Cleanup Guidance = Supplemental Soil Cleanup Objectives, NYSDEC, October, 2010  
 NS = No Standard

DDC Project Number: SE823

Work Order Letter No. 11904-LBA-4-10833

Table 3. Summary of Target Compound List (TCL) Semi-Volatile Organic Compounds (SVOCs) Detected in Soil  
Supplemental Phase II Subsurface Corridor Investigation for Storm and Combined Sewers in 229th Street  
Queens, New York

TCL SVOCs	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)	CP-57/Soil Cleanup Guidance Residential Soil Cleanup Objectives	Sample ID, Date Collected, and Depth							
					SB13A 9/6/2016 0 - 2.0	SB13B 9/6/2016 7.0 - 9.0	SB14A 9/7/2016 0 - 2.0	SB14B 9/7/2016 5.5 - 7.5	SB15A 9/6/2016 0 - 2.0	SB15B 9/6/2016 7.5 - 9.5	SB16A 9/7/2016 0 - 2.0	SB16B 9/6/2016 7.0 - 9.0
Aceanaphthene	20	500	100	NS	0.1	ND	ND	ND	0.04	0.93	ND	ND
Acenaphthylene	100	500	100	NS	0.059	ND	0.055	ND	ND	ND	0.046	ND
Anthracene	100	500	100	NS	0.27	0.057	0.13	0.059	0.1	1.8	0.053	ND
Benzo[a]anthracene	1	5.6	1	NS	0.76	0.18	0.45	0.36	0.26	3.1	0.32	ND
Benzo[a]pyrene	1	1	1	NS	0.71	0.19	0.39	0.32	0.24	3.1	0.33	ND
Benzo[b]fluoranthene	1	5.6	1	NS	0.86	0.26	0.52	0.43	0.34	3.8	0.47	ND
Benzo[k]fluoranthene	100	500	100	NS	0.57	0.14	0.27	0.19	0.2	2	0.27	ND
Bis[2-Ethylhexyl]phthalate	0.8	56	3.9	NS	0.28	0.074	0.16	0.13	0.095	1.2	0.13	ND
Bis[2-Ethylhexyl]phthalate	NS	NS	NS	NS	0.21	ND	0.61	0.44	0.18	ND	0.82	ND
Butylbenzylphthalate	NS	NS	NS	NS	ND	ND	ND	ND	0.039	ND	0.092	ND
Carbazole	NS	NS	NS	NS	0.087	ND	ND	ND	ND	1	ND	ND
Chrysene	1	56	3.9	NS	0.68	0.17	0.42	0.36	0.24	2.9	0.35	ND
Dibenz[a,h]anthracene	0.33	0.56	0.33	NS	0.14	0.037	0.079	0.061	0.049	0.51	0.064	ND
Dibenzofuran	7	350	59	NS	0.067	0.015	0.016	ND	0.025	0.79	ND	ND
Di-n-butylphthalate	NS	NS	NS	NS	0.046B	ND	0.054B	0.026B	0.033B	ND	0.065B	ND
Di-n-octylphthalate	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	100	500	100	NS	1.5	0.29	0.64	0.42	0.47	7.8	0.48	ND
Fluorene	30	500	100	NS	0.11	ND	0.055	ND	0.038	1.2	ND	ND
Indeno[1,2,3-cd]pyrene	0.5	5.6	0.5	NS	0.47	0.11	0.23	0.17	0.17	1.7	0.22	ND
Naphthalene	12	500	100	NS	0.027	0.025	0.019	ND	0.016	0.61	0.02	ND
Phenanthrene	100	500	100	NS	1.1	0.18	0.57	0.2	0.41	8.5	0.23	ND
Pyrene	100	500	100	NS	1.6	0.38	0.94	0.65	0.56	7.6	0.66	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)  
 CP51/Soil Cleanup Guidance = Supplemental Soil Cleanup Objectives, NYSDEC, October, 2010  
 NS = No Standard  
 B = Analyte found in sample and associated blank  
**Bold = Concentration exceeds Restricted-Residential Use (Track 2) Soil Cleanup Objectives**  
Underline = Concentration exceeds Unrestricted Use (Track 1) Soil Cleanup Objectives

DOC Project Number: SE823

Work Order Letter No. 11904-LBA-4-10833

Table 3. Summary of Target Compound List (TCL) Semi-Volatile Organic Compounds (SVOCs) Detected in Soil  
 Supplemental Phase II Subsurface Corridor Investigation for Storm and Combined Sewers in 229th Street  
 Queens, New York

TCL SVOCs	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)	CP-51/Soil Cleanup Guidance Residential Supplemental Soil Cleanup Objectives	Sample ID, Date Collected, and Depth									
					SB17A	SB17B	SB18A	SB18B	SB19A	SB19B	SB20A	SB20B	9/8/2016	9/8/2016
					0 - 2.0	10.0 - 12.0	0 - 2.0	7.0 - 9.0	0 - 2.0	8.5 - 10.5	8.5 - 10.5	0 - 2.0		
Acenaphthene	20	500	100	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	100	500	100	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Anthracene	100	500	100	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benz[a]anthracene	1	5.6	1	NS	0.072	0.062	0.086	ND	ND	ND	ND	ND	ND	ND
Benz[a]pyrene	1	1	1	NS	0.077	0.066	0.086	ND	ND	ND	ND	ND	ND	ND
Benz[b]fluoranthene	1	5.6	1	NS	0.11	0.089	0.13	ND	0.048	ND	0.17	ND	ND	ND
Benz[g,h,i]perylene	100	500	100	NS	0.068	0.062	0.076	ND	ND	ND	0.14	ND	ND	ND
Benz[k]fluoranthene	0.8	56	3.9	NS	0.039	ND	0.047	ND	ND	ND	0.088	ND	ND	ND
Bis(2-Ethylhexyl)phthalate	NS	NS	NS	NS	0.5	0.26	3	ND	ND	ND	0.056	ND	ND	ND
Butylbenzylphthalate	NS	NS	NS	NS	ND	ND	0.086	ND	ND	ND	ND	ND	ND	ND
Carbazole	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chrysene	1	56	3.9	NS	0.067	0.063	0.094	ND	ND	ND	0.14	ND	ND	ND
Dibenz[a,h]anthracene	0.33	0.56	0.33	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzofuran	7	350	58	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Di-n-butylphthalate	NS	NS	NS	NS	0.0258	0.0328	0.0578	ND	ND	ND	0.0208	ND	ND	ND
Di-n-octylphthalate	NS	NS	NS	NS	ND	0.042	0.042	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	100	500	100	NS	0.11	0.09	0.12	ND	0.045	ND	0.19	ND	ND	ND
Fluorene	30	500	100	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Indeno[1,2,3-cd]pyrene	0.5	5.6	0.5	NS	0.056	0.053	0.063	ND	ND	ND	0.084	ND	ND	ND
Naphthalene	12	500	100	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	100	500	100	NS	0.05	0.051	0.052	ND	ND	ND	0.094	ND	ND	ND
Pyrene	100	500	100	NS	0.13	0.12	0.16	ND	0.061	ND	0.25	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)  
 CP51/Soil Cleanup Guidance = Supplemental Soil Cleanup Objectives, NYSDEC, October, 2010  
 B = Analyte found in sample and associated blank  
 Bold = Concentration exceeds Restricted-Residential Use (Track 2) Soil Cleanup Objectives  
 Underline = Concentration exceeds Commercial Use (Track 2) Soil Cleanup Objectives  
 Underline = Concentration exceeds Unrestricted Use (Track 1) Soil Cleanup Objectives

DOC Project Number: SE023

Work Order Letter No. 11904-LBA-1-10833



Table 4. Summary of Target Analyte List (TAL) Metals Detected in Soil  
Supplemental Phase II Subsurface Corridor Investigation for Storm and Combined Sewers in 229th Street  
Queens, New York

TAL Metals	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)	CP-51/Soil Cleanup Guidance		Sample ID, Date Collected, and Depth									
				Residential Supplemental Soil Cleanup Objectives	Commercial Supplemental Soil Cleanup Objectives										
						SB13A	SB13B	SB14A	SB14B	SB15A	SB15B	SB16A	SB16B	SB17A	SB17B
Aluminum	NS	NS	NS	NS	NS	9/6/2016 0 - 2.0	7/0 - 9.0	9/7/2016 0 - 2.0	5/5 - 7.5	9/6/2016 0 - 2.0	9/8/2016 7.5 - 9.5	9/7/2016 0 - 2.0	9/8/2016 7.0 - 9.0		
Antimony	NS	NS	NS	NS	NS	4,200	11,000	14,000	24,000	4,600	3,800	6,300	9,900		
Arsenic	13	16	16	NS	NS	4.4	4.2	1.6	2.4	ND	1.3	ND	ND		
Barium	350	400	400	NS	NS	150	75			2.8		4.7	0.74		
Beryllium	7.2	590	72	NS	NS	0.25	0.32	0.34	0.54	0.43		49	32		
Cadmium	2.5	9.3	4.3	NS	NS	0.56	ND	3	4.9	ND	0.27	0.29	ND		
Calcium	NS	NS	NS	NS	NS	5,600	9,900	5,400	18,000	1,700	26,000	3,000	ND		
Chromium	30	1,500	180	NS	NS	13	15	71	89	19	75	21	14		
Cobalt	NS	NS	NS	NS	NS	3.8	11	23	20	4.3	7.8	4.2	5.8		
Copper	50	270	270	NS	NS	41	140			88	190	35	12		
Iron	NS	NS	NS	NS	NS	10,000	23,000	130,000	100,000	19,000	96,000	13,000	16,000		
Lead	63	1,000	400	NS	NS	140	93			300	680	140	7.1		
Magnesium	NS	NS	NS	NS	NS	1,600	4,700	5,300	6,200	1,400	4,600	2,300	2,500		
Manganese	1,600	10,000	2,000	NS	NS	130	270	900	880	160	370	210	110		
Mercury	0.18	2.8	0.81	NS	NS	0.67	0.34			0.6	2	0.29	ND		
Nickel	30	310	310	NS	NS	11	16	220	130	16	34	16	18		
Potassium	NS	NS	NS	NS	NS	ND	1,100	840	2,100	ND	630	ND	1,400		
Selenium	3.9	1500	180	NS	NS	ND	ND	ND	ND	ND	5.3	ND	ND		
Silver	2	NS	180	NS	NS	ND	ND	2.4	4.6	0.25	0.62	ND	ND		
Sodium	NS	NS	NS	NS	NS	ND	720	500	6,100	890	900	ND	ND		
Thallium	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND		
Vanadium	NS	NS	NS	NS	NS	14	46	56	72	33	21	24	19		
Zinc	109	10,000	10,000	NS	NS	150	110	1,600	3,600	350	300	120	20		

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-e Remedial Program Soil Cleanup Objectives (December 14, 2006)  
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 NS = No Standard  
**Bold = Concentration exceeds Restricted-Residential Use (Track 2) Soil Cleanup Objectives**  
Underline = Concentration exceeds Unrestricted Use (Track 1) Soil Cleanup Objectives

DDC Project Number: SE823

Work Order Letter No. 11904-LBA-4-10833

Table 4. Summary of Target Analyte List (TAL) Metals Detected in Soil  
Supplemental Phase II Subsurface Corridor Investigation for Storm and Combined Sewers in 229th Street  
Queens, New York

TAL Metals	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)	CP-57/Soil Cleanup Guidance		Sample ID, Date Collected, and Depth													
				Residential Supplemental Cleanup Objectives	NS	SB17A	SB17B	SB18A	SB18B	SB19A	SB19B	SB20A	SB20B						
						9/8/2016 0 - 2.0	9/8/2016 10.0 - 12.0	9/7/2016 0 - 2.0	9/8/2016 7.0 - 9.0	9/8/2016 0 - 2.0	9/8/2016 8.5 - 10.5	9/8/2016 0 - 2.0	9/8/2016 10.0 - 12.0						
Aluminum	NS	NS	NS	NS	NS	6,200	7,700	4,400	4,000	3,400	5,900	7,900	4,900						
Antimony	NS	NS	NS	NS	NS	5.2	4.1	ND	0.7	3.2	0.6	1.2	3.1						
Arsenic	13	16	16	NS	NS	58	90	42	19	17	31	42	57						
Barium	350	400	400	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND						
Beryllium	7.2	590	72	NS	NS	ND	ND	0.68	ND	ND	ND	ND	ND						
Cadmium	2.5	9.3	4.3	NS	NS	ND	2,900	2,900	ND	ND	ND	2,800	ND						
Calcium	NS	NS	NS	NS	NS	18	32	14	7.9	9.8	13	18	23						
Chromium	30	1,500	160	NS	NS	4.8	6.8	3.7	5.5	4.2	3.4	7.1	6						
Cobalt	NS	NS	NS	NS	NS	33	39	38	8	15	6.9	21	23						
Copper	50	270	270	NS	NS	14,000	18,000	9,500	8,400	7,100	8,000	21,000	15,000						
Iron	NS	NS	NS	NS	NS	82	95	97	ND	30	ND	48	ND						
Lead	63	1,000	400	NS	NS	1,400	2,500	1,800	1,500	1,200	2,400	3,000	2,600						
Magnesium	NS	NS	NS	NS	NS	150	220	160	72	70	75	120	280						
Manganese	1,600	10,000	2,000	NS	NS	0.21	0.21	0.24	ND	0.34	ND	ND	0.33						
Mercury	0.18	2.8	0.81	NS	NS	15	22	33	14	8.5	14	17	16						
Nickel	30	310	310	NS	NS	ND	930	ND	710	ND	1,400	1,600	1,100						
Potassium	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND						
Selenium	3.9	1500	180	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND						
Silver	2	1500	180	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND						
Sodium	NS	NS	NS	NS	NS	ND	ND	ND	370	ND	ND	ND	330						
Thallium	NS	NS	NS	NS	NS	16	24	17	ND	12	15	24	27						
Vanadium	NS	NS	NS	NS	NS	140	120	100	17	33	24	33	46						
Zinc	109	10,000	10,000	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)  
 SCOs = Soil Cleanup Objectives as per the NYSDEC Regulations 6 NYCRR Subpart 375-6 Remedial Program Soil Cleanup Objectives (December 14, 2006)  
 CP57/Soil Cleanup Guidance = Supplemental Soil Cleanup Objectives, NYSDEC, October, 2010  
 NS = No Standard  
**Bold = Concentration exceeds Restricted-Residential Use (Track 2) Soil Cleanup Objectives**  
Underline = Concentration exceeds Unrestricted Use (Track 1) Soil Cleanup Objectives

DOC Project Number: SE823

Work Order Letter No. 11904-LBA-4-10833

Table 5. Summary of Pesticides Detected in Soil  
Supplemental Phase II Subsurface Corridor Investigation for Storm and Combined Sewers in 229th Street  
Queens, New York

Pesticides	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)	CP-51/Soil Cleanup Guidance		Sample ID, Date Collected, and Depth									
				Residential Supplemental Soil Cleanup Objectives		SB13A	SB13B	SB14A	SB14B	SB15A	SB15B	SB16A	SB16B	9/8/2016	7.0 - 9.0
						9/6/2016 0 - 2.0	9/8/2016 7.0 - 9.0	9/7/2016 0 - 2.0	9/7/2016 5.5 - 7.5	9/6/2016 0 - 2.0	9/8/2016 7.5 - 9.5	9/7/2016 0 - 2.0	9/8/2016 0 - 2.0		
p,p'-DDD	0.0033	92	13	NS	0.011	0.0055	0.023	0.022	0.018D	0.028	0.71	ND	ND	ND	ND
p,p'-DDE	0.0033	62	8.9	NS	0.014	ND	ND	0.028	0.028	0.16	ND	0.0033D	ND	ND	ND
p,p'-DDT	0.0033	47	7.9	NS	0.0055D	ND	ND	0.0054D	0.0059D	ND	ND	0.0087	ND	ND	ND
α-Chlordane	0.094	24	4.2	NS	ND	ND	0.028	0.028	0.028	ND	ND	0.013D	ND	ND	ND
γ-Chlordane	NS	NS	NS	NS	ND	ND	0.0093D	0.021	0.021	ND	ND	ND	ND	ND	ND
Chlordane (Total)	NS	NS	NS	NS	ND	ND	0.037	0.049	0.049	ND	ND	0.013	ND	ND	ND
Heptachlor Epoxide	NS	NS	NS	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/kg)  
 ND = Compound not detected above method detection limit (see attached lab report for MDLs)  
 D = Dilution data. Result was obtained from the analysis of a dilution  
 SCOs = Soil Cleanup Objectives as per the NYSDEC Regulations 6 NYCRR Subpart 375-6 Remedial Program Soil Cleanup Objectives (December 14, 2006)  
 CP51/Soil Cleanup Guidance = Supplemental Soil Cleanup Objectives, NYSDEC, October, 2010  
 NS = No Standard  
 Underline = Concentration exceeds Unrestricted Use (Track 1) Soil Cleanup Objectives

DDC Project Number: SE823

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Table 5. Summary of Pesticides Detected in Soil  
Supplemental Phase II Subsurface Corridor Investigation for Storm and Combined Sewers in 229th Street  
Queens, New York

Pesticides	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)	CP-51/Soil Cleanup Guidance		Sample ID, Date Collected, and Depth									
				Residential Supplemental Soil Cleanup Objectives		SB17A	SB17B	SB18A	SB18B	SB19A	SB19B	SB20A	SB20B		
				9/6/2016 0 - 2.0	9/8/2016 10.0 - 12.0	9/7/2016 0 - 2.0	9/8/2016 7.0 - 9.0	9/6/2016 0 - 2.0	9/8/2016 8.5 - 10.5	9/6/2016 0 - 2.0	9/8/2016 10.0 - 12.0				
p,p'-DDD	0.0033	92	13	NS	ND	ND	ND	ND	ND	0.0038D	ND	ND	ND	ND	
p,p'-DDE	0.0033	62	8.9	NS	0.031	0.014	ND	ND	ND	0.093	ND	ND	ND	ND	
p,p'-DDT	0.0033	47	7.9	NS	0.024	0.0054D	ND	ND	ND	0.21	ND	ND	ND	ND	
α-Chlordane	0.094	24	4.2	NS	ND	ND	ND	0.12D	ND	ND	ND	ND	ND	ND	
γ-Chlordane	NS	NS	NS	NS	ND	ND	ND	0.064	ND	ND	ND	ND	ND	ND	
Chlordane (Total)	NS	NS	NS	NS	ND	ND	ND	0.18	ND	ND	ND	ND	ND	ND	
Heptachlor Epoxide	NS	NS	NS	NS	ND	ND	ND	0.013	ND	ND	ND	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)

D = Dilution data. Result was obtained from the analysis of a dilution

SCOs = Soil Cleanup Objectives as per the NYSDEC Regulations 6 NYCRR Subpart 375-6 Remedial Program Soil Cleanup Objectives (December 14, 2006)

CP51/Soil Cleanup Guidance = Supplemental Soil Cleanup Objectives, NYSDEC, October, 2010

NS = No Standard

Underline = Concentration exceeds Unrestricted Use (Track 1) Soil Cleanup Objectives

DDC Project Number: SE823

Work Order Letter No. 11904-LBA-4-10833

Table 5. Summary of Polychlorinated Biphenyls (PCBs) Detected in Soil  
Supplemental Phase II Subsurface Corridor Investigation for Storm and Combined Sewers in 229th Street  
Queens, New York

PCBs*	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)	CP-51/Soil Cleanup Guidance		Sample ID, Date Collected, and Depth									
				Residential Supplemental Soil Cleanup Objectives		SB13A	SB13B	SB14A	SB14B	SB15A	SB15B	SB16A	SB16B		
Aroclor-1254	NS	NS	NS	NS		0 - 2.0	7.0 - 9.0	0 - 2.0	5.5 - 7.5	0 - 2.0	7.5 - 9.5	0 - 2.0	7.0 - 9.0		
Aroclor-1260	NS	NS	NS	NS		ND	ND	0.33	0.22	ND	ND	ND	ND		
Aroclor-1262	NS	NS	NS	NS		ND	ND	ND	ND	ND	ND	0.059	ND		
Aroclor-1268	NS	NS	NS	NS		ND	ND	0.11	ND	ND	0.04	ND	ND		
Aroclor (Total)	0.1*	1*	1*	NS		0.035	ND	ND	0.22	0.12	ND	ND	ND		
				NS		0.035	ND	0.44	0.22	0.12	0.04	0.059	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)  
 \* 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)  
 CP51/Soil Cleanup Guidance = Supplemental Soil Cleanup Objectives, NYSDEC, October, 2010  
 NS = No Standard  
 Underline = Concentration exceeds Unrestricted Use (Track 1) Soil Cleanup Objectives

DDC Project Number: SE823

Work Order Letter No. 11904-LBA-4-10833

Table 5. Summary of Polychlorinated Biphenyls (PCBs) Detected in Soil  
Supplemental Phase II Subsurface Corridor Investigation for Storm and Combined Sewers in 229th Street  
Queens, New York

PCBs*	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)	CP-51/Soil Cleanup Guidance		Sample ID, Date Collected, and Depth									
				Residential Supplemental Soil Cleanup Objectives											
					SB17A	SB17B	SB18A	SB18B	SB19A	SB19B	SB20A	SB20B			
					9/6/2016 0 - 2.0	9/8/2016 10.0 - 12.0	9/7/2016 0 - 2.0	9/8/2016 7.0 - 9.0	9/6/2016 0 - 2.0	9/8/2016 8.5 - 10.5	9/6/2016 0 - 2.0	9/8/2016 10.0 - 12.0			
Aroclor-1254	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Aroclor-1260	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Aroclor-1262	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Aroclor-1268	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Aroclor (Total)	0.1*	1*	1*	NS	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/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)

CP51/Soil Cleanup Guidance = Supplemental Soil Cleanup Objectives, NYSDEC, October, 2010

NS = No Standard

Underline = Concentration exceeds Unrestricted Use (Track 1) Soil Cleanup Objectives

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**Table 7. Summary of Waste Classification Results in Soil**  
**Supplemental Phase II Subsurface Corridor Investigation for Storm and Combined Sewers in 229th Street**  
**Queens, New York**

Analyte	Resource Conservation and Recovery Act (RCRA) Hazardous Waste Levels	Sample ID, Date Collected, and Depth									
		SB13WC	SB14WC	SB15WC	SB16WC	SB17WC	SB18WC	SB19WC	SB20WC		
		9/8/2016	9/8/2016	9/8/2016	9/8/2016	9/8/2016	9/8/2016	9/8/2016	9/8/2016		
		0 - 9.0	0 - 7.5	0 - 9.5	0 - 9.0	0 - 12.0	0 - 9.0	0 - 10.5	0 - 12.0		
RCRA (Including TCLP Metals)											
pH	2 - 12.5*	7.9	6.9	8.2	7.9	7.3	7.0	10.0	7.9		
Ignitability	>140 °F**	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG		
Paint Filter Test	NS	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG		
Reactive Cyanide	NS	ND	ND	ND	ND	ND	ND	ND	ND		
Reactive Sulfide	NS	ND	ND	ND	ND	ND	ND	ND	ND		
Arsenic	5	ND	ND	ND	ND	ND	ND	ND	ND		
Barium	100	0.86	3.2	0.78	0.42	0.5	0.3	ND	0.55		
Cadmium	1	ND	ND	ND	ND	ND	ND	ND	ND		
Chromium	5	ND	ND	ND	ND	ND	ND	ND	ND		
Lead	5	0.14		0.45	0.073	0.06	ND	ND	ND		
Mercury	0.2	ND	ND	ND	ND	ND	ND	ND	ND		
Nickel	NS	ND	ND	ND	ND	ND	ND	ND	ND		
Selenium	1	ND	ND	ND	ND	ND	ND	ND	ND		
Silver	5	ND	ND	ND	ND	ND	ND	ND	ND		
TPH DRO/GRO (mg/kg)											
TPH - Gasoline Range Organics	NS	ND	ND	ND	ND	ND	ND	ND	ND		
TPH - Diesel Range Organics	NS	ND	98	140	ND	ND	ND	ND	ND		

**Notes:**

All concentrations are in parts per million, milligrams per kilogram, or milligrams per liter (ppm, mg/kg, or mg/L), otherwise noted

TCLP = Toxicity Characteristic Leaching Procedure

TPH = Total Petroleum Hydrocarbons

NS = No Standard

ND = Compound not detected above method detection limit (see attached lab report for MDL's)

\*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 140 °F

°F = Degrees Fahrenheit

NEG = Negative (flash point was not detected below 140 °F) or Negative (Paint was not detected from Paint Filter Test)

Shaded cells indicate results are below detection limit (MDL) and are not reported.

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**Table 8. Summary of Target Compound List (TCL) Volatile Organic Compounds (VOCs) Detected in Groundwater  
Supplemental Phase II Subsurface Corridor Investigation for Storm and Combined Sewers in 229th Street  
Queens, New York**

TCL VOC	NYSDEC Class GA Groundwater Standards and Guidance Values	Sample ID, Date Collected, and Depth	
		TWP04	TWP DUP01
		9/8/2016	9/8/2016
No VOCs were detected	NS	ND	ND

**Notes:**

**All concentrations are reported in micrograms per liter (ug/L)**

ND = Compound not detected above method detection limit (see attached lab report for MDLs)

NS = No standard

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**Table 9. Summary of Target Compound List (TCL) Semi-Volatile Organic Compounds (SVOCs) Detected in Groundwater**  
**Supplemental Phase II Subsurface Corridor Investigation for Storm and Combined Sewers in 229th Street**  
**Queens, New York**

TCL SVOCs	NYSDEC Class GA Groundwater Standards and Guidance Values	Sample ID, Date Collected, and Depth	
		TWP04	TWP DUP01
No SVOCs were detected	NS	9/8/2016	9/8/2016
		ND	ND

**Notes:**

**All concentrations are reported in micrograms per liter (ug/L)**

ND = Compound not detected above method detection limit (see attached lab report for MDLs)

NS = No standard

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**Table 10. Summary of Target Analyte List (TAL) Metals Detected in Groundwater**  
**Supplemental Phase II Subsurface Corridor Investigation for Storm and Combined Sewers in 229th Street**  
**Queens, New York**

TAL Metals	NYSDEC Class GA Groundwater Standards and Guidance Values	Sample ID, Date Collected, and Depth			
		TWP04	TWP04 F	TWP DUP01	TWP DUP01F
		9/8/2016	9/8/2016	9/8/2016	9/8/2016
Aluminum	NS	ND	ND	ND	ND
Antimony	3	ND	ND	ND	ND
Arsenic	25	ND	ND	ND	ND
Barium	1000	ND	ND	ND	ND
Beryllium	3	ND	ND	ND	ND
Cadmium	5	ND	ND	ND	ND
Calcium	NS	120,000	110,000	110,000	110,000
Chromium	50	ND	ND	ND	ND
Cobalt	NS	2.8	2.1	2.8	2.5
Copper	200	ND	ND	ND	ND
Iron	300	ND	ND	ND	ND
Lead	25	ND	ND	ND	ND
Magnesium	35,000	9,200	8,800	8,500	8,500
Manganese	300	ND	ND	ND	ND
Mercury	0.7	ND	ND	ND	ND
Nickel	100	ND	ND	ND	ND
Potassium	NS	9,100	8,200	8,200	7,900
Selenium	10	ND	ND	ND	ND
Silver	50	ND	ND	ND	ND
Sodium	20,000	140,000	120,000	120,000	120,000
Thallium	0.5	ND	ND	ND	ND
Vanadium	NS	ND	ND	ND	ND
Zinc	2,000	ND	ND	ND	ND

**Notes:**

All concentrations are reported in micrograms per liter (ug/L)

F = Filtered sample

ND = Compound not detected above method detection limit (see attached lab report for MDLs)

NS = No standard

Shading = Concentration Exceeds NYSDC Class GA Groundwater Standards and Guidance Values as per NYSDC Final Groundwater Standards and Guidance Values (TOC), June 1998.

**Table 11. Summary of Pesticides Detected in Groundwater  
 Supplemental Phase II Subsurface Corridor Investigation for Storm and Combined Sewers in 229th Street  
 Queens, New York**

Pesticides	NYSDEC Class GA Groundwater Standards and Guidance Values	Sample ID, Date Collected, and Depth	
		TWP04	TWP DUP01
		9/8/2016	9/8/2016
Heptachlor Epoxide	0.03	0.022	0.025

**Notes:**

**All concentrations are reported in micrograms per liter (ug/L)**

ND = Compound not detected above method detection limit (see attached lab report for MDLs)

NS = No standard

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**Table 12. Summary of Polychlorinated Biphenyls (PCBs) Detected in Groundwater**  
**Supplemental Phase II Subsurface Corridor Investigation for Storm and Combined Sewers in 229th Street**  
**Queens, New York**

PCBs*	NYSDEC Class GA Groundwater Standards and Guidance Values	Sample ID, Date Collected, and Depth	
		TWP04	TWP DUP01
		9/8/2016	9/8/2016
No PCBs were Detected	NS	ND	ND

**Notes:**

**All concentrations are reported in micrograms per liter (ug/L)**

\* Refers to the total concentration of PCBs in the sample

ND = Compound not detected above method detection limit (see attached lab report for MDLs)

NS = No standard

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**Table 13. Groundwater Quality Compared to New York City Department of Environmental Protection  
Limitations for Effluent to Sanitary or Combined Sewers  
Supplemental Phase II Subsurface Corridor Investigation for Storm and Combined Sewers in 229th Street  
Queens, New York**

Parameter <sup>1</sup>	NYC DEP Limitations to Sanitary or Combined Sewers		Sample ID, Date Collected and Depth	
			TWP04	
			9/8/2016	
Non-Polar Material <sup>2</sup>	50	mg/L	ND mg/L	
Flash Point - Liquid/Solid	> 140	°F	> 141 °F	
pH	>5 and <12		7.8	
Cadmium (Instantaneous or Composite)	2 or 0.69	mg/L	ND mg/L	
Chromium Hexavalent (VI)	5	mg/L	ND mg/L	
Copper	5	mg/L	0.029 mg/L	
Lead	2	mg/L	0.02 mg/L	
Mercury	0.05	mg/L	ND mg/L	
Nickel	3	mg/L	0.025 mg/L	
Zinc	5	mg/L	0.042 mg/L	
Benzene	134	ug/L	ND ug/L	
Carbon tetrachloride	NS	ug/L	ND ug/L	
Chloroform	NS	ug/L	ND ug/L	
1,4-Dichlorobenzene	NS	ug/L	ND ug/L	
Ethylbenzene	380	ug/L	ND ug/L	
MTBE (Methyl-Tert-Butyl-Ether)	50	ug/L	ND ug/L	
Naphthalene	47	ug/L	ND ug/L	
Phenol	NS	ug/L	ND ug/L	
Tetrachloroethene	20	ug/L	ND ug/L	
Toluene	74	ug/L	ND ug/L	
1,2,4-Trichlorobenzene	NS	ug/L	ND ug/L	
1,1,1-Trichloroethane	NS	ug/L	ND ug/L	
Xylenes (Total)	74	ug/L	ND ug/L	
PCBs (Total) <sup>3</sup>	1	ug/L	ND ug/L	
Total Suspended Solids <sup>4</sup>	350	mg/L	44 mg/L	
CBOD <sup>5</sup>	NS	mg/L	ND mg/L	
Chloride <sup>5</sup>	NS	mg/L	280 mg/L	
Total Nitrogen <sup>5</sup>	NS	mg/L	16 mg/L	
Total Solids <sup>5</sup>	NS	mg/L	1,000 mg/L	

**Notes:**

NS = No Standard

ND = Compound not detected above method detection limit (see attached lab report for MDLs)

<sup>1</sup> All handling and preservation of collected samples and laboratory analyses of samples was performed in accordance with 40 CFR Part 136.

<sup>2</sup> Analysis for non-polar materials was performed by EPA method 1664.

<sup>3</sup> Analysis for polychlorinated biphenyls (PCBs) was performed according to EPA method 608 with method detection limit ≤ 65 parts per trillion. Analysis for PCBs is required if discharge ≥ 10,000 gallons per day (gpd) and duration of discharge > 10 days.

<sup>4</sup> For discharge ≥ 10,000 gpd, the total suspended solids (TSS) limit is 350 mg/l. For discharge < 10,000 gpd, the limit is determined on a case by case basis.

<sup>5</sup> Analysis for Carbonaceous Biochemical Oxygen Demand (CBOD), Chloride, Total Solids, and Total Nitrogen are required if proposed discharge ≥ 10,000 gpd.

**Table 14. Summary of Quality Control/Quality Assurance Results**  
**Supplemental Phase II Subsurface Corridor Investigation for Storm and Combined Sewers in 229th Street**  
**Queens, New York**

Analyte		
	TB01	TB02
	9/8/2016	9/8/2016
TCL VOCs		
No VOCs were Detected	ND	ND

**Notes:**

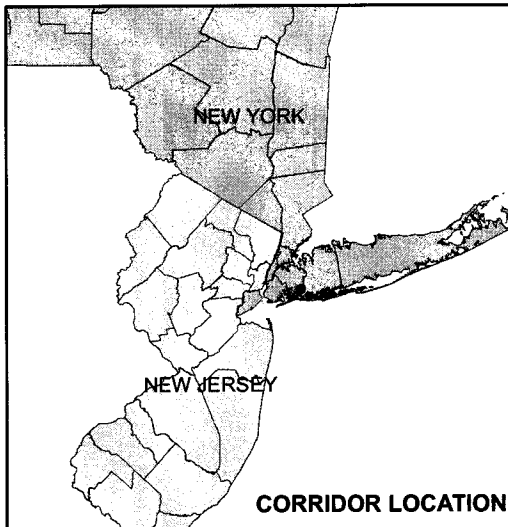
**All concentrations are reported in micrograms per liter (ug/L)**

**ND = Compound not detected above method detection limit (see attached lab report for MDLs)**

**DDC Project Number: SE823**

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**FIGURE 1 – TOPOGRAPHIC CORRIDOR LOCATION MAP**



**Legend**

Updated Corridor Section

Original Corridor Limits

**NYC** Department of  
**DDC** Design and  
Construction

Louis Berger

DDC PROJECT NO. SE823 WOL NO.: 11904-LBA-4-10833

**TOPOGRAPHIC CORRIDOR LOCATION MAP**  
SUPPLEMENTAL PHASE II SUBSURFACE CORRIDOR  
INVESTIGATION FOR STORM AND  
COMBINED SEWERS IN 229TH STREET AREA  
BETWEEN 145TH AVENUE AND 149TH AVENUE  
QUEENS, NEW YORK

Source: USGS Quadrangles Jamaica and Lynbrook, New York, 1995

SCALE: 1" = 1000' DATE: 9/26/2016 FIGURE: 1



**FIGURE 2 – SOIL BORING LOCATION PLAN**



### Legend

- Soil Boring Location
- Soil Boring/Temporary Well Location
- ▭ Updated Corridor Section
- ▭ Original Corridor Limits



Department of  
Design and  
Construction



Louis Berger

DDC PROJECT NO. SE823

WOL NO.: 11904-LBA-4-10833

**BORING LOCATION PLAN**  
SUPPLEMENTAL PHASE II SUBSURFACE CORRIDOR  
INVESTIGATION FOR STORM AND  
COMBINED SEWERS IN 229TH STREET AREA  
BETWEEN 145TH AVENUE AND 149TH AVENUE  
QUEENS, NEW YORK

SCALE: 1" = 400'

DATE: 9/26/2016

FIGURE: 2

**APPENDIX A**  
**BORING LOCATION PLAN**



147th Avenue

227th Street

228th Street

229th Street

230th Street


SB14  
32'9"

171'0"


SB13  
53'0" 40'6"

SB16  
34'8"

231'0"



Department of  
Design and  
Construction

Louis Berger

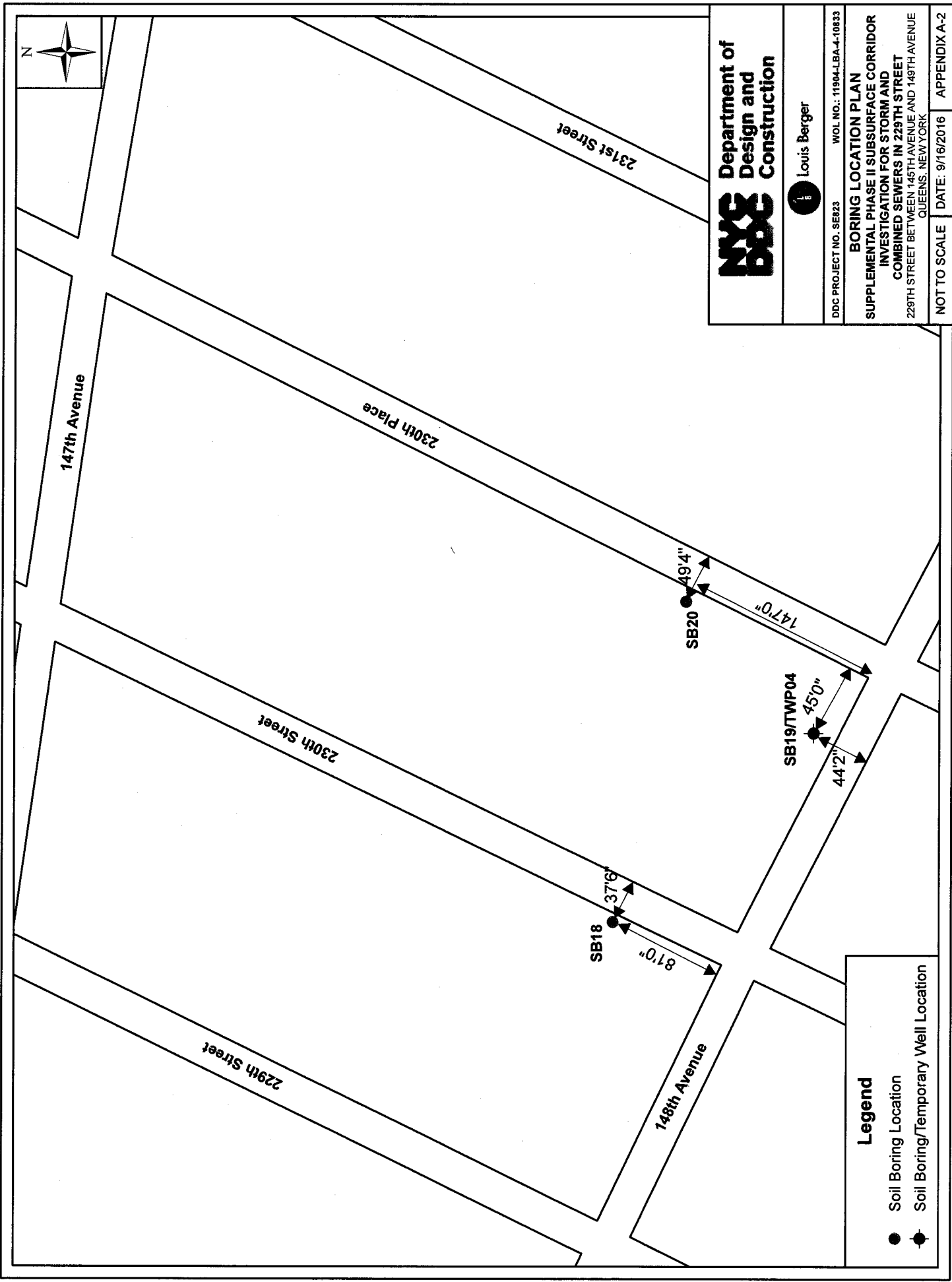
DDC PROJECT NO. SE823 WOL NO.: 11904-LBA-4-10833

**BORING LOCATION PLAN**  
SUPPLEMENTAL PHASE II SUBSURFACE CORRIDOR  
INVESTIGATION FOR STORM AND  
COMBINED SEWERS IN 229TH STREET  
229TH STREET BETWEEN 145TH AVENUE AND 149TH AVENUE  
QUEENS, NEW YORK

NOT TO SCALE DATE: 9/16/2016 APPENDIX A-1

**Legend**

- Soil Boring Location



**Legend**

- Soil Boring Location
- ◆ Soil Boring/Temporary Well Location

**NYC** Department of Design and Construction

**1** Louis Berger


DDC PROJECT NO. SE823 WOL NO.: 11904-LBA-4-10833

**BORING LOCATION PLAN**  
**SUPPLEMENTAL PHASE II SUBSURFACE CORRIDOR**  
**INVESTIGATION FOR STORM AND**  
**COMBINED SEWERS IN 229TH STREET**  
 229TH STREET BETWEEN 145TH AVENUE AND 149TH AVENUE  
 QUEENS, NEW YORK

NOT TO SCALE DATE: 9/16/2016 APPENDIX A-2

## **APPENDIX B**

### **GEOLOGIC BORING LOGS**

 <b>Louis Berger</b>		<h1 style="text-align: center;">Drilling Log</h1> <p style="text-align: center;">Page 1 of 2</p>		<b>BORING NO.: SB13</b>				
				<b>LOCATION: Queens, NY</b>				
<b>CLIENT:</b> New York City Department of Design and Construction				<b>PROJECT NO.:</b> 2011040.159				
<b>PROJECT:</b> Supplemental SCI for Storm and Combined Sewers in 229th Street				<b>FMS ID#:</b> SE823				
<b>DRILLING CONTRACTOR:</b> Aquifer Drilling and Testing, Inc.				<b>WOL #:</b> 11904-LBA-4-10833				
<b>DRILLING METHOD:</b> Direct Push				<b>DATE STARTED:</b> 9/6/2016				
<b>BOREHOLE DATA</b>		<b>WELL DATA</b>		<b>DATE FINISHED:</b> 9/8/2016				
<b>Diameter (in):</b> 2		<b>Well Diameter (in):</b> N/A		<b>DRILLER:</b> C. Iodice				
<b>Total Depth (ft.):</b> 10		<b>Total Depth (ft.):</b> N/A		<b>LBA INSPECTOR:</b> O. Sohail				
<b>Depth to Refusal (ft):</b> N/A		<b>Screen Length (ft):</b> N/A		<b>NORTHING (ft):</b> 178799.46				
<b>Depth to Water (ft.):</b> 9		<b>Depth to Water (ft.):</b> N/A		<b>EASTING (ft):</b> 1052124.78				
<b>Depth to Rock (ft.):</b> N/A		<b>Slot Size (in):</b> N/A		<b>SURFACE ELEVATION (ft):</b> N/A				
<b>NOTES:</b> Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart. Soil boring was pre-cleared to 6 ft bg.								
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, trace Silt, trace coarse to fine Gravel; dry.	Collected grab sample SB13A from 0 to 2.0 ft bg and collected composite sample SB13WC from 0 to 9.0 ft bg
	2		FILL			<1	Dusky yellowish brown (10YR 2/2) medium to fine SAND, trace Silt; dry.	
	4		FILL			<1	Dusky yellowish brown (10YR 2/2) medium to fine SAND, trace Silt, trace coarse to fine Gravel (15% fill material - bricks); dry.	



Louis Berger

# Drilling Log

Page 2 of 2

BORING NO.: SB13

LOCATION: Queens, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 2011040.159

PROJECT: Supplemental SCI for Storm and Combined Sewers in 229th Street

FMS ID#: SE823

DRILLING CONTRACTOR: Aquifer Drilling and Testing, Inc.

WOL #: 11904-LBA-4-10833

DRILLING METHOD: Direct Push

DATE STARTED: 9/6/2016

**BOREHOLE DATA****WELL DATA**

DATE FINISHED: 9/8/2016

Diameter (in): 2

Well Diameter (in): N/A

DRILLER: C. Iodice

Total Depth (ft.): 10

Total Depth (ft.): N/A

LBA INSPECTOR: O. Sohail

Depth to Refusal (ft): N/A

Screen Length (ft): N/A

NORTHING (ft): 178799.46

Depth to Water (ft.): 9

Depth to Water (ft.): N/A

EASTING (ft): 1052124.78

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 ft bg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
	8		SP			<1	Dusky yellowish brown (10YR 2/2) medium to fine SAND, trace Silt, trace coarse to fine Gravel; dry.	Sand, Collected grab sample SB13B from 7.0 to 9.0 ft bg
	10		SM			<1	Dusky yellowish brown (10YR 2/2) medium to fine SAND, some Silt, trace Clay; wet.	Silty Sand
	12						Total Depth of Boring 10 feet.	



 <b>Louis Berger</b>		<h1 style="text-align: center;">Drilling Log</h1> <p style="text-align: center;">Page 1 of 2</p>		<b>BORING NO.: SB14</b>				
				<b>LOCATION: Queens, NY</b>				
<b>CLIENT:</b> New York City Department of Design and Construction				<b>PROJECT NO.:</b> 2011040.159				
<b>PROJECT:</b> Supplemental SCI for Storm and Combined Sewers in 229th Street				<b>FMS ID#:</b> SE823				
<b>DRILLING CONTRACTOR:</b> Aquifer Drilling and Testing, Inc.				<b>WOL #:</b> 11904-LBA-4-10833				
<b>DRILLING METHOD:</b> Hand Auger				<b>DATE STARTED:</b> 9/7/2016				
<b>BOREHOLE DATA</b>		<b>WELL DATA</b>		<b>DATE FINISHED:</b> 9/7/2016				
<b>Diameter (in):</b> 6		<b>Well Diameter (in):</b> N/A		<b>DRILLER:</b> C. Iodice				
<b>Total Depth (ft.):</b> 7.5		<b>Total Depth (ft.):</b> N/A		<b>LBA INSPECTOR:</b> O. Sohail				
<b>Depth to Refusal (ft):</b> N/A		<b>Screen Length (ft):</b> N/A		<b>NORTHING (ft):</b> 178922.40				
<b>Depth to Water (ft.):</b> 7.5		<b>Depth to Water (ft.):</b> N/A		<b>EASTING (ft):</b> 1052367.01				
<b>Depth to Rock (ft.):</b> N/A		<b>Slot Size (in):</b> N/A		<b>SURFACE ELEVATION (ft):</b> N/A				
<b>NOTES:</b> Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart. Soil boring was advanced to terminal depth using a hand auger. Soil boring was pre-cleared to 6 ft bg.								
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, trace Silt; dry.	Top Soil (Fill)
			FILL			<1	Dark yellowish brown (10YR 4/2) coarse to fine SAND, little Silt, trace medium to fine Gravel; dry.	Sand (Fill), Collected grab sample SB14A from 0 to 2.0 ft bg and collected composite sample SB14WC from 0 to 7.5 ft bg
	2		FILL			<1	Dark yellowish brown (10YR 4/2) medium to fine SAND, trace Silt (30% fill material - bricks, wood); moist.	



Louis Berger

# Drilling Log

Page 2 of 2

BORING NO.: SB14

LOCATION: Queens, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 2011040.159

PROJECT: Supplemental SCI for Storm and Combined Sewers in 229th Street

FMS ID#: SE823

DRILLING CONTRACTOR: Aquifer Drilling and Testing, Inc.

WOL #: 11904-LBA-4-10833

DRILLING METHOD: Hand Auger

DATE STARTED: 9/7/2016

**BOREHOLE DATA****WELL DATA**

DATE FINISHED: 9/7/2016

Diameter (in): 6

Well Diameter (in): N/A

DRILLER: C. Iodice

Total Depth (ft.): 7.5

Total Depth (ft.): N/A

LBA INSPECTOR: O. Sohail

Depth to Refusal (ft): N/A

Screen Length (ft): N/A

NORTHING (ft): 178922.40

Depth to Water (ft.): 7.5

Depth to Water (ft.): N/A

EASTING (ft): 1052367.01

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 advanced to terminal depth using a hand auger. Soil boring was pre-cleared to 6 ft bg.


Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
			SP			<1	Dark yellowish brown (10YR 4/2) medium to fine SAND; moist to wet.	Sand, Collected grab sample SB14B from 5.5 to 7.5 ft bg
	8						Total Depth of Boring 7.5 feet.	▽
	10							
	12							

 <b>Louis Berger</b>		<h1>Drilling Log</h1> <p>Page 1 of 2</p>		<b>BORING NO.: SB15</b>				
				<b>LOCATION: Queens, NY</b>				
<b>CLIENT:</b> New York City Department of Design and Construction				<b>PROJECT NO.:</b> 2011040.159				
<b>PROJECT:</b> Supplemental SCI for Storm and Combined Sewers in 229th Street				<b>FMS ID#:</b> SE823				
<b>DRILLING CONTRACTOR:</b> Aquifer Drilling and Testing, Inc.				<b>WOL #:</b> 11904-LBA-4-10833				
<b>DRILLING METHOD:</b> Direct Push				<b>DATE STARTED:</b> 9/6/2016				
<b>BOREHOLE DATA</b>		<b>WELL DATA</b>		<b>DATE FINISHED:</b> 9/8/2016				
<b>Diameter (in):</b> 2		<b>Well Diameter (in):</b> N/A		<b>DRILLER:</b> C. Iodice				
<b>Total Depth (ft.):</b> 10		<b>Total Depth (ft.):</b> N/A		<b>LBA INSPECTOR:</b> O. Sohail				
<b>Depth to Refusal (ft):</b> N/A		<b>Screen Length (ft):</b> N/A		<b>NORTHING (ft):</b> 178649.95				
<b>Depth to Water (ft.):</b> 9.5		<b>Depth to Water (ft.):</b> N/A		<b>EASTING (ft):</b> 1052426.92				
<b>Depth to Rock (ft.):</b> N/A		<b>Slot Size (in):</b> N/A		<b>SURFACE ELEVATION (ft):</b> N/A				
<b>NOTES:</b> Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart. Soil boring was pre-cleared to 6 ft bg.								
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, trace Silt, trace medium to fine Gravel; dry.	<b>Sand (Fill), Collected grab sample SB15A from 0 to 2.0 ft bg and collected composite sample SB15WC from 0 to 9.5 ft bg</b>
	2		FILL			<1	Dusky yellowish brown (10YR 2/2) medium to fine SAND, trace Silt, trace medium to fine Gravel (30% fill material - bricks); dry.	
			FILL			<1	Dusky yellowish brown (10YR 2/2) medium to fine SAND, trace Silt, trace medium to fine Gravel; dry.	
	4		FILL			<1	Dusky yellowish brown (10YR 2/2) to black (N1) medium to fine SAND, trace Silt (20% fill material - asphalt); dry.	
			FILL			<1	Dusky yellowish brown (10YR 2/2) to black (N1) medium to fine SAND, trace Silt, trace medium to fine Gravel (10% fill material - bricks, asphalt); dry.	

 <b>Louis Berger</b>		<h1 style="text-align: center;">Drilling Log</h1> <p style="text-align: center;">Page 2 of 2</p>		<b>BORING NO.: SB15</b>				
				<b>LOCATION: Queens, NY</b>				
<b>CLIENT:</b> New York City Department of Design and Construction				<b>PROJECT NO.:</b> 2011040.159				
<b>PROJECT:</b> Supplemental SCI for Storm and Combined Sewers in 229th Street				<b>FMS ID#:</b> SE823				
<b>DRILLING CONTRACTOR:</b> Aquifer Drilling and Testing, Inc.				<b>WOL #:</b> 11904-LBA-4-10833				
<b>DRILLING METHOD:</b> Direct Push				<b>DATE STARTED:</b> 9/6/2016				
<b>BOREHOLE DATA</b>		<b>WELL DATA</b>		<b>DATE FINISHED:</b> 9/8/2016				
<b>Diameter (in):</b> 2		<b>Well Diameter (in):</b> N/A		<b>DRILLER:</b> C. Iodice				
<b>Total Depth (ft.):</b> 10		<b>Total Depth (ft.):</b> N/A		<b>LBA INSPECTOR:</b> O. Sohail				
<b>Depth to Refusal (ft):</b> N/A		<b>Screen Length (ft):</b> N/A		<b>NORTHING (ft):</b> 178649.95				
<b>Depth to Water (ft.):</b> 9.5		<b>Depth to Water (ft.):</b> N/A		<b>EASTING (ft):</b> 1052426.92				
<b>Depth to Rock (ft.):</b> N/A		<b>Slot Size (in):</b> N/A		<b>SURFACE ELEVATION (ft):</b> N/A				
<b>NOTES:</b> Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart. Soil boring was pre-cleared to 6 ft bg.								
Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
	8		FILL			<1	Dusky yellowish brown (10YR 2/2) to black (N1) medium to fine SAND, trace Silt (30% fill material - concrete, bricks); dry to wet.	Collected grab sample SB15B from 7.5 to 9.5 ft bg  <div style="text-align: center;">▽</div>
	10							
	12						Total Depth of Boring 10 feet.	

 <b>Louis Berger</b>		<h1 style="text-align: center;">Drilling Log</h1> <p style="text-align: center;">Page 1 of 2</p>		<b>BORING NO.: SB16</b>				
				<b>LOCATION: Queens, NY</b>				
<b>CLIENT:</b> New York City Department of Design and Construction				<b>PROJECT NO.:</b> 2011040.159				
<b>PROJECT:</b> Supplemental SCI for Storm and Combined Sewers in 229th Street				<b>FMS ID#:</b> SE823				
<b>DRILLING CONTRACTOR:</b> Aquifer Drilling and Testing, Inc.				<b>WOL #:</b> 11904-LBA-4-10833				
<b>DRILLING METHOD:</b> Direct Push				<b>DATE STARTED:</b> 9/7/2016				
<b>BOREHOLE DATA</b>		<b>WELL DATA</b>		<b>DATE FINISHED:</b> 9/8/2016				
<b>Diameter (in):</b> 2		<b>Well Diameter (in):</b> N/A		<b>DRILLER:</b> C. Iodice				
<b>Total Depth (ft.):</b> 10		<b>Total Depth (ft.):</b> N/A		<b>LBA INSPECTOR:</b> O. Sohail				
<b>Depth to Refusal (ft):</b> N/A		<b>Screen Length (ft):</b> N/A		<b>NORTHING (ft):</b> 178846.86				
<b>Depth to Water (ft.):</b> 9		<b>Depth to Water (ft.):</b> N/A		<b>EASTING (ft):</b> 1052621.75				
<b>Depth to Rock (ft.):</b> N/A		<b>Slot Size (in):</b> N/A		<b>SURFACE ELEVATION (ft):</b> N/A				
<b>NOTES:</b> Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart. Soil boring was pre-cleared to 6 ft bg.								
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, trace Silt; dry.	Top Soil (Fill)
			FILL			<1	Dark yellowish brown (10YR 4/2) medium to fine SAND, trace Silt, trace coarse to fine Gravel; dry.	Sand (Fill), Collected grab sample SB16A from 0 to 2.0 ft bg and collected composite sample SB16WC from 0 to 9.0 ft bg
			FILL			<1	Dark yellowish brown (10YR 4/2) medium to fine SAND, trace Silt (15% fill material - concrete); dry.	
			FILL			<1	Dark yellowish brown (10YR 4/2) medium to fine SAND, trace Silt, trace medium to fine Gravel; dry.	



 <b>Louis Berger</b>		<h1 style="text-align: center;">Drilling Log</h1> <p style="text-align: center;">Page 1 of 3</p>		<b>BORING NO.: SB17</b>				
				<b>LOCATION: Queens, NY</b>				
<b>CLIENT:</b> New York City Department of Design and Construction				<b>PROJECT NO.:</b> 2011040.159				
<b>PROJECT:</b> Supplemental SCI for Storm and Combined Sewers in 229th Street				<b>FMS ID#:</b> SE823				
<b>DRILLING CONTRACTOR:</b> Aquifer Drilling and Testing, Inc.				<b>WOL #:</b> 11904-LBA-4-10833				
<b>DRILLING METHOD:</b> Direct Push				<b>DATE STARTED:</b> 9/6/2016				
<b>BOREHOLE DATA</b>		<b>WELL DATA</b>		<b>DATE FINISHED:</b> 9/8/2016				
<b>Diameter (in):</b> 2		<b>Well Diameter (in):</b> N/A		<b>DRILLER:</b> C. Iodice				
<b>Total Depth (ft.):</b> 15		<b>Total Depth (ft.):</b> N/A		<b>LBA INSPECTOR:</b> O. Sohail				
<b>Depth to Refusal (ft):</b> N/A		<b>Screen Length (ft):</b> N/A		<b>NORTHING (ft):</b> 178636.40				
<b>Depth to Water (ft.):</b> 12		<b>Depth to Water (ft.):</b> N/A		<b>EASTING (ft):</b> 1052591.54				
<b>Depth to Rock (ft.):</b> N/A		<b>Slot Size (in):</b> N/A		<b>SURFACE ELEVATION (ft):</b> N/A				
<b>NOTES:</b> Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart.								
Soil boring was pre-cleared to 6 ft bg.								
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, trace Silt, trace medium to fine Gravel (10% fill material - roots, bricks); dry.	<b>Sand (Fill), Collected grab sample SB17A from 0 to 2.0 ft bg collected composite sample SB17WC from 0 to 12.0 ft bg</b>
			FILL			<1	Dusky yellowish brown (10YR 2/2) medium to fine SAND, trace Silt, trace medium to fine Gravel; dry.	
			FILL			<1	Dusky yellowish brown (10YR 2/2) medium to fine SAND, trace Silt, trace medium to fine Gravel; dry.	



Louis Berger

# Drilling Log

Page 2 of 3

BORING NO.: SB17

LOCATION: Queens, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 2011040.159

PROJECT: Supplemental SCI for Storm and Combined Sewers in 229th Street

FMS ID#: SE823

DRILLING CONTRACTOR: Aquifer Drilling and Testing, Inc.

WOL #: 11904-LBA-4-10833

DRILLING METHOD: Direct Push

DATE STARTED: 9/6/2016

**BOREHOLE DATA****WELL DATA**

DATE FINISHED: 9/8/2016

Diameter (in): 2

Well Diameter (in): N/A

DRILLER: C. Iodice

Total Depth (ft.): 15

Total Depth (ft.): N/A

LBA INSPECTOR: O. Sohail

Depth to Refusal (ft): N/A

Screen Length (ft): N/A

NORTHING (ft): 178636.40

Depth to Water (ft.): 12

Depth to Water (ft.): N/A

EASTING (ft): 1052591.54

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 ft bg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
			SP			<1	Light brown (5YR 5/6) medium to fine SAND, trace Silt, trace fine Gravel; dry.	Sand
	8							
	10		SP			<1	Light brown (5YR 5/6) medium to fine SAND, trace Silt, trace fine Gravel; dry.	Collected grab sample SB17B from 10.0 to 12.0 ft bg
	12							



 <b>Louis Berger</b>		<h1 style="text-align: center;">Drilling Log</h1> <p style="text-align: center;">Page 3 of 3</p>		<b>BORING NO.: SB17</b>				
				<b>LOCATION: Queens, NY</b>				
<b>CLIENT:</b> New York City Department of Design and Construction				<b>PROJECT NO.:</b> 2011040.159				
<b>PROJECT:</b> Supplemental SCI for Storm and Combined Sewers in 229th Street				<b>FMS ID#:</b> SE823				
<b>DRILLING CONTRACTOR:</b> Aquifer Drilling and Testing, Inc.				<b>WOL #:</b> 11904-LBA-4-10833				
<b>DRILLING METHOD:</b> Direct Push				<b>DATE STARTED:</b> 9/6/2016				
<b>BOREHOLE DATA</b>		<b>WELL DATA</b>		<b>DATE FINISHED:</b> 9/8/2016				
<b>Diameter (in):</b> 2		<b>Well Diameter (in):</b> N/A		<b>DRILLER:</b> C. Iodice				
<b>Total Depth (ft.):</b> 15		<b>Total Depth (ft.):</b> N/A		<b>LBA INSPECTOR:</b> O. Sohail				
<b>Depth to Refusal (ft):</b> N/A		<b>Screen Length (ft):</b> N/A		<b>NORTHING (ft):</b> 178636.40				
<b>Depth to Water (ft.):</b> 12		<b>Depth to Water (ft.):</b> N/A		<b>EASTING (ft):</b> 1052591.54				
<b>Depth to Rock (ft.):</b> N/A		<b>Slot Size (in):</b> N/A		<b>SURFACE ELEVATION (ft):</b> N/A				
<b>NOTES:</b> Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart. Soil boring was pre-cleared to 6 ft bg.								
Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
			SM			<1	Dusky yellowish brown (10YR 2/2) medium to fine SAND, some Silt, trace Clay; wet.	Silty Sand
			SP			<1	Light brown (5YR 5/6) medium to fine SAND, trace Silt, trace Gravel; wet.	Sand
	14							
	16						Total Depth of Boring 15 feet.	
	18							



Louis Berger

# Drilling Log

Page 1 of 2

**BORING NO.: SB18****LOCATION: Queens, NY****CLIENT:** New York City Department of Design and Construction**PROJECT NO.:** 2011040.159**PROJECT:** Supplemental SCI for Storm and Combined Sewers in 229th Street**FMS ID#:** SE823**DRILLING CONTRACTOR:** Aquifer Drilling and Testing, Inc.**WOL #:** 11904-LBA-4-10833**DRILLING METHOD:** Direct Push**DATE STARTED:** 9/7/2016**BOREHOLE DATA****WELL DATA****DATE FINISHED:** 9/8/2016**Diameter (in):** 2**Well Diameter (in):** N/A**DRILLER:** C. Iodice**Total Depth (ft.):** 10**Total Depth (ft.):** N/A**LBA INSPECTOR:** O. Sohail**Depth to Refusal (ft):** N/A**Screen Length (ft):** N/A**NORTHING (ft):** 178622.33**Depth to Water (ft.):** 9**Depth to Water (ft.):** N/A**EASTING (ft):** 1052802.89**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 ft bg.

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, trace Silt (30% fill material - roots); dry.	Sand (Fill)
			FILL			<1	Dark yellowish brown (10YR 4/2) to black (N1) coarse to fine SAND, trace Silt (20% fill material - bricks, ash); dry.	Collected grab sample SB18A from 0 to 2.0 ft bg and collected composite sample SB18WC from 0 to 9.0 ft bg
			FILL			<1	Dark yellowish brown (10YR 4/2) coarse to fine SAND, trace Silt, trace medium to fine Gravel; dry.	

# Drilling Log

Page 2 of 2

**BORING NO.: SB18**

**LOCATION:** Queens, NY

**CLIENT:** New York City Department of Design and Construction

**PROJECT NO.:** 2011040.159

**PROJECT:** Supplemental SCI for Storm and Combined Sewers in 229th Street

FMS ID#: SE823

**DRILLING CONTRACTOR:** Aquifer Drilling and Testing, Inc.

**WOL #:** 11904-LBA-4-10833

**DRILLING METHOD:** Direct Push

**DATE STARTED:** 9/7/2016

## BOREHOLE DATA

## WELL DATA

Diameter (in): 2

<b>Well Diameter (in):</b>	N/A
----------------------------	-----

**DATE FINISHED:** 9/8/2016

**DRILLER:** C. Iodice

<b>Total Depth (ft.):</b>	10
---------------------------	----

<b>Total Depth (ft.):</b>	N/A
---------------------------	-----

**DRILLER:** C. Iodice

**LBA INSPECTOR:** O. Sohail

**Depth to Refusal (ft):** N/A

<b>Screen Length (ft):</b>	N/A
----------------------------	-----

**NORTHING (ft):** 178622.33

**Depth to Water (ft.):** 9

**Depth to Water (ft.):** N/A

**EASTING (ft):** 1052802.89

**Depth to Rock (ft.):** N/A





<b>Slot Size (in):</b>	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 ft.bg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
			SP-SM			<1	Light brown (5YR 5/6) coarse to fine SAND, little Silt, trace medium to fine Gravel; moist.	Sand
	8		SP-SM			<1	Light brown (5YR 5/6) coarse to fine SAND, little Silt, trace fine Gravel; moist to wet.	Collected grab sample SB18B from 7.0 to 9.0 ft bg ▽
	10						Total Depth of Boring 10 feet.	

 <b>Louis Berger</b>		<h1 style="text-align: center;">Drilling Log</h1> <p style="text-align: center;">Page 1 of 3</p>		<b>BORING NO.: SB19</b>				
				<b>LOCATION: Queens, NY</b>				
<b>CLIENT:</b> New York City Department of Design and Construction				<b>PROJECT NO.:</b> 2011040.159				
<b>PROJECT:</b> Supplemental SCI for Storm and Combined Sewers in 229th Street				<b>FMS ID#:</b> SE823				
<b>DRILLING CONTRACTOR:</b> Aquifer Drilling and Testing, Inc.				<b>WOL #:</b> 11904-LBA-4-10833				
<b>DRILLING METHOD:</b> Direct Push				<b>DATE STARTED:</b> 9/6/2016				
<b>BOREHOLE DATA</b>		<b>WELL DATA</b>		<b>DATE FINISHED:</b> 9/8/2016				
<b>Diameter (in):</b> 2		<b>Well Diameter (in):</b> N/A		<b>DRILLER:</b> C. Iodice				
<b>Total Depth (ft.):</b> 15		<b>Total Depth (ft.):</b> N/A		<b>LBA INSPECTOR:</b> O. Sohail				
<b>Depth to Refusal (ft):</b> N/A		<b>Screen Length (ft):</b> N/A		<b>NORTHING (ft):</b> 178458.24				
<b>Depth to Water (ft.):</b> 10.5		<b>Depth to Water (ft.):</b> N/A		<b>EASTING (ft):</b> 1052957.24				
<b>Depth to Rock (ft.):</b> N/A		<b>Slot Size (in):</b> N/A		<b>SURFACE ELEVATION (ft):</b> N/A				
<b>NOTES:</b> Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart. Soil boring was pre-cleared to 6 ft bg.								
Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
	0		FILL			<1	Dusky yellowish brown (10YR 2/2) medium to fine SAND, trace Silt; dry.	<b>Sand (Fill),</b> <b>Collected</b> <b>grab sample</b> <b>SB19A from</b> <b>0 to 2.0 ft bg</b> <b>and</b> <b>collected</b> <b>composite</b> <b>sample</b> <b>SB19WC</b> <b>from 0 to</b> <b>10.5 ft bg</b>
	1							
	2							
	3							
	4							
	5							
	6							



Louis Berger

# Drilling Log

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BORING NO.: SB19

LOCATION: Queens, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 2011040.159

PROJECT: Supplemental SCI for Storm and Combined Sewers in 229th Street

FMS ID#: SE823

DRILLING CONTRACTOR: Aquifer Drilling and Testing, Inc.

WOL #: 11904-LBA-4-10833

DRILLING METHOD: Direct Push

DATE STARTED: 9/6/2016

**BOREHOLE DATA****WELL DATA**

DATE FINISHED: 9/8/2016

Diameter (in): 2

Well Diameter (in): N/A

DRILLER: C. Iodice

Total Depth (ft.): 15

Total Depth (ft.): N/A

LBA INSPECTOR: O. Sohail

Depth to Refusal (ft): N/A

Screen Length (ft): N/A

NORTHING (ft): 178458.24

Depth to Water (ft.): 10.5

Depth to Water (ft.): N/A

EASTING (ft): 1052957.24


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 ft bg.

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) coarse to fine SAND, trace Silt (15% fill material - brick, concrete); dry.	
	8		SP			<1	Light brown (5YR 5/6) medium to fine SAND, trace Silt, trace medium to fine Gravel; moist.	Sand, Collected grab sample SB19B and SBDUP01 from 8.5 to 10.5 ft bg
	10		SP			<1	Light brown (5YR 5/6) medium to fine SAND, trace Silt, trace medium to fine Gravel; wet.	

 <b>Louis Berger</b>		<h1>Drilling Log</h1> <p>Page 3 of 3</p>		<b>BORING NO.: SB19</b>				
				<b>LOCATION: Queens, NY</b>				
<b>CLIENT:</b> New York City Department of Design and Construction				<b>PROJECT NO.:</b> 2011040.159				
<b>PROJECT:</b> Supplemental SCI for Storm and Combined Sewers in 229th Street				<b>FMS ID#:</b> SE823				
<b>DRILLING CONTRACTOR:</b> Aquifer Drilling and Testing, Inc.				<b>WOL #:</b> 11904-LBA-4-10833				
<b>DRILLING METHOD:</b> Direct Push				<b>DATE STARTED:</b> 9/6/2016				
<b>BOREHOLE DATA</b>		<b>WELL DATA</b>		<b>DATE FINISHED:</b> 9/8/2016				
<b>Diameter (in):</b> 2		<b>Well Diameter (in):</b> N/A		<b>DRILLER:</b> C. Iodice				
<b>Total Depth (ft.):</b> 15		<b>Total Depth (ft.):</b> N/A		<b>LBA INSPECTOR:</b> O. Sohail				
<b>Depth to Refusal (ft):</b> N/A		<b>Screen Length (ft):</b> N/A		<b>NORTHING (ft):</b> 178458.24				
<b>Depth to Water (ft.):</b> 10.5		<b>Depth to Water (ft.):</b> N/A		<b>EASTING (ft):</b> 1052957.24				
<b>Depth to Rock (ft.):</b> N/A		<b>Slot Size (in):</b> N/A		<b>SURFACE ELEVATION (ft):</b> N/A				
<b>NOTES:</b> Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart. Soil boring was pre-cleared to 6 ft bg.								
Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
	14		SP			<1	Light brown (5YR 5/6) medium to fine SAND, trace Silt, trace medium to fine Gravel; wet.	
	16						Total Depth of Boring 15 feet.	



Louis Berger

# Drilling Log

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BORING NO.: SB20

LOCATION: Queens, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 2011040.159

PROJECT: Supplemental SCI for Storm and Combined Sewers in 229th Street

FMS ID#: SE823

DRILLING CONTRACTOR: Aquifer Drilling and Testing, Inc.

WOL #: 11904-LBA-4-10833

DRILLING METHOD: Direct Push

DATE STARTED: 9/6/2016

**BOREHOLE DATA****WELL DATA**

DATE FINISHED: 9/8/2016

Diameter (in): 2

Well Diameter (in): N/A

DRILLER: C. Iodice

Total Depth (ft.): 15

Total Depth (ft.): N/A

LBA INSPECTOR: O. Sohail

Depth to Refusal (ft): N/A

Screen Length (ft): N/A

NORTHING (ft): 178562.95

Depth to Water (ft.): 12

Depth to Water (ft.): N/A

EASTING (ft): 1053064.55

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 ft bg.

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, trace Silt, trace medium to fine Gravel; dry.	Sand (Fill)
	2							
			FILL			<1	Dusky yellowish brown (10YR 2/2) to black (N1) medium to fine SAND, trace Silt, trace medium to fine Gravel (15% fill material - asphalt); dry.	Collected grab sample SB20A from 0 to 2.0 ft bg and collected composite sample SB20WC from 0 to 12.0 ft bg
	4		FILL			<1	Dusky yellowish brown (10YR 2/2) medium to fine SAND, trace Silt, trace medium to fine Gravel; dry.	





 <b>Louis Berger</b>		<h1 style="text-align: center;">Drilling Log</h1> <p style="text-align: center;">Page 3 of 3</p>		<b>BORING NO.: SB20</b>				
				<b>LOCATION: Queens, NY</b>				
<b>CLIENT:</b> New York City Department of Design and Construction				<b>PROJECT NO.:</b> 2011040.159				
<b>PROJECT:</b> Supplemental SCI for Storm and Combined Sewers in 229th Street				<b>FMS ID#:</b> SE823				
<b>DRILLING CONTRACTOR:</b> Aquifer Drilling and Testing, Inc.				<b>WOL #:</b> 11904-LBA-4-10833				
<b>DRILLING METHOD:</b> Direct Push				<b>DATE STARTED:</b> 9/6/2016				
<b>BOREHOLE DATA</b>			<b>WELL DATA</b>		<b>DATE FINISHED:</b> 9/8/2016			
<b>Diameter (in):</b> 2			<b>Well Diameter (in):</b> N/A		<b>DRILLER:</b> C. Iodice			
<b>Total Depth (ft.):</b> 15			<b>Total Depth (ft.):</b> N/A		<b>LBA INSPECTOR:</b> O. Sohail			
<b>Depth to Refusal (ft):</b> N/A			<b>Screen Length (ft):</b> N/A		<b>NORTHING (ft):</b> 178562.95			
<b>Depth to Water (ft.):</b> 12			<b>Depth to Water (ft.):</b> N/A		<b>EASTING (ft):</b> 1053064.55			
<b>Depth to Rock (ft.):</b> N/A			<b>Slot Size (in):</b> N/A		<b>SURFACE ELEVATION (ft):</b> N/A			
<b>NOTES:</b> Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart. Soil boring was pre-cleared to 6 ft bg.								
Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
	14		SP			<1	Light brown (5YR 5/6) medium to fine SAND, trace SILT, trace fine Gravel; wet.	
	16						Total Depth of Boring 15 feet.	
	18							

## **APPENDIX C**

### **LABORATORY ANALYTICAL RESULTS**

NOTE: Laboratory Analytical Results are available in the office of  
Engineer in Charge, Design 1; Phone: 718-391-2187.

**BMP - PAGES**

**SPECIFICATIONS FOR CONSTRUCTION OF  
BEST MANAGEMENT PRACTICE (BMP) AND  
MITIGATION AREA**

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**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**

LOWER BROOKVILLE AREA INFRASTRUCTURE IMPROVEMENTS  
QUEENS, NY

SPECIFICATIONS FOR

CONTRACT SE823

SPECIFICATIONS FOR SEDIMENT AND EROSION CONTROL, AND  
LANDSCAPING FOR  
THE CONSTRUCTION SITES

November 2016

Prepared for the NYC Department of Design and Construction

By Hazen and Sawyer, D.P.C./AKRF Engineering, P.C.  
A Joint Venture

DIVISION VII - DETAILED SPECIFICATIONS –  
CONTRACT SE823

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CONTRACT SE823

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DIVISION VII - DETAILED SPECIFICATIONS –  
CONTRACT SE823

SEWER CONSTRUCTION  
DIVISION VII

SPECIFIC PROVISIONS

7.01 LOCATION OF WORK

Work under this Contract is to be performed within Idlewild Park, in Queens, New York. Specifically, the work will occur southeast of the intersection of 226th Street and 148th Avenue. The site is on property owned and regulated by the City of New York.

7.02 WORK INCLUDED

The work under this Contract includes the erosion and sediment control measures during the construction of two new storm sewer. The following descriptions of work included under this Contract are general descriptions only and shall not be construed as a complete description of the work to be performed.

A. The principal items of work include:

1. Storm Sewer and Combined Sewer Networks

This entails excavation of trenches and layout of storm sewer and combined sewer pipelines. The specifications and plans for this work are included elsewhere in these Contract Documents, not in this set.

2. Erosion and sediment control measures during construction

This shall entail the erosion and sediment control measures during the construction of the storm sewer outfall. Specifications and plans for this work are included in this set.

3. Site Restoration

The entire Project site will be restored upon project completion as per the Contract Drawings. Specifications and plans for this work are included in this Addendum and elsewhere in these Contract Documents.

**DIVISION VII - DETAILED SPECIFICATIONS –**  
**CONTRACT SE823**

**B. Involved Agencies and Firms**

Before bidding, the contractor shall become familiar with the following involved agencies and firms and their respective responsibilities in the project:

1. New York City Department of Design and Construction (NYCDDC)

The NYCDDC will administer and inspect the Contractor's work with regard to all aspects of the Contract, including managing the overall project schedule, sequencing of the project and construction. The NYCDDC will handle permit compliance in relation to the sewer outfall construction. Whenever reference is made in these specifications to "the Engineer", it means the Resident Engineer on site, hired by NYCDDC.

2. New York City Department of Environmental Protection (DEP)

This City agency will maintain the facilities where the outfall is to be re-constructed under this project.

3. New York State Department of Environmental Conservation (NYSDEC)

This State Agency will be issuing a tidal wetland permit authorizing work in regulated areas to be performed under this Contract. This Agency has the regulatory authority to inspect the work site in order to ensure that permit requirements are not violated.

4. Hazen and Sawyer, D.P.C.

This engineering firm is the design consultant for all the work contained in these specifications. They are engaged by NYCDDC.

5. United States Army Corp of Engineers

This Federal Agency issues permits for all work within Federal jurisdiction wetlands. This agency has the regulatory authority to inspect the work site in order to ensure that permit requirements are not violated.

DIVISION VII - DETAILED SPECIFICATIONS –  
CONTRACT SE823

6. Restoration Specialist (Construction Monitor)

The Restoration Specialist shall be retained by the Contractor. The Restoration Specialist shall supervise all restoration and landscaping work performed by the Contractor and his/her Subcontractors for the duration of the project, in accordance with the plans, specifications and directions of the Engineer. The individual or firm filling this position will be responsible for oversight of the complete sewer installation. This individual or firm will be familiar with the erosion and sediment control plan for the entire outfall site, and oversee all work in wetland areas and ensuring that the work adheres to permit requirements. The Restoration Specialist is responsible for compliance with the permit as it relates to sewer construction. The exact powers of the Restoration Specialist (Construction Monitor) are stipulated in the wetland permit.

C. Qualifications of Contractor/Subcontractor

1. The Contractor shall have performed at least three (3) contracts that involved the installation and maintenance of soil erosion and sediment control devices during construction of a project.

To support the Contractor's contention that he/she is qualified, the Contractor shall be able to provide the following information in a Statement of Qualifications, as detailed in the paragraph below.

Provide specific details on the projects (i.e., location, size cost, client, etc.). Provide client contact person's name and telephone number. Describe regulatory requirements of the erosion control devices. Describe any problems encountered during construction and operation of the devices. Discuss corrective actions taken to remedy the problem. Describe any violations issued by regulatory agencies. How were the violations resolved? Provide chronological photos recording the progress of construction and operation of the erosion control devices, including preconstruction through operation during site construction and restoration after construction.

Within three (3) days upon request by the City the Contractor shall identify a Certified Professional in Erosion and Sediment Control who will be responsible for implementation of this aspect of the project. The Contractor shall also provide a copy of the certification for the person so identified.

DIVISION VII - DETAILED SPECIFICATIONS –  
CONTRACT SE823

2. The Contractor must be able to complete and submit to DCC the Statement of Qualifications described in this Section within three (3) calendar days after requested to do so by DCC.

7.03 NOT USED

7.04 STANDARD SEWER AND WATER MAIN SPECIFICATIONS

a. Roadway Repair and Resurfacing

Unless otherwise specified, all work, materials, and equipment shall conform to the applicable sections of the City of New York Department of Transportation Standard Highway Specifications.

b. Sewer Work

Unless otherwise specified, all work, materials, and equipment shall conform to the applicable sections of the New York City Department of Environmental Protection Bureau of Water and Sewer Operations Standard Sewer and Water Main Specifications.

7.05 INSPECTION BY THE CITY, STATE AND FEDERAL GOVERNMENT

The Contractor shall provide proper facilities for inspection and access to the work at all times, whenever it is in preparation and progress, for authorized representatives of the City, State and Federal Governments, the latter two in the presence of the Engineer.

7.06 EXISTING UTILITIES

All subsurface utility and structure information shown on the Contract Drawings were obtained from various plans and maps and field investigations, however, it is not guaranteed to be complete or accurate. It shall be the Contractor's responsibility to locate all such necessary utilities or structures by the digging of test pits prior to the start of construction and/or by contracting the Joint Underground Locating Service (JULS). No separate payment will be made for test pits or any other work related to locating existing utilities. During the progress of the work, the Contractor shall protect from damage any existing utilities or services within the work areas until, if required, they have been re-routed, disconnected or capped off.

DIVISION VII - DETAILED SPECIFICATIONS –  
CONTRACT SE823

7.07

PERMITS REQUIRED

The Contractor is advised that NYCDDC has filed a joint application for permit with the New York State Department of Environmental Conservation (NYSDEC), the United States Army Corps of Engineers (USACE), the New York State Department of State (NYS DOS) and the New York City Department of City Planning. No work shall commence until the above-mentioned permit has been obtained for this project. As the application is being processed, it shall be the Contractor's responsibility to obtain and update the said permit.

The Contractor shall also become familiar with the following permit approvals which will be obtained by NYCDDC:

- New York State Department of Environmental Conservation – Excavation and Fill in Navigable Waters;
- New York State Department of Environmental Conservation – 401 Water Quality Certification;
- New York State Department of Environmental Conservation – Tidal Wetlands;
- New York State Department of Environmental Conservation – SPDES General Permit GP-0-15-002;
- U.S. Army Corps of Engineers Nationwide Permit 7 – Outfall Structures and Associated Intake Structures;
- New York State Department of State - Coastal Consistency Concurrence;
- New York City Planning Commission Waterfront Revitalization (Coastal Zone) Consistency Determination.

The Contractor shall obtain all necessary permits as outlined in NYCDOT Standard Specifications, Section 1.06.23.

The Contractor is responsible for performing all work in compliance with all permit requirements, including the 5-year monitoring requirement required by the NYSDEC/USACE permits. No separate or additional payment shall be made to the Contractor for complying with the above requirements, and obtaining and updating of said permits. The cost of such work shall be deemed included in the prices bid for all contract items of work.

DIVISION VII - DETAILED SPECIFICATIONS –  
CONTRACT SE823

7.08 LAND FOR CONTRACTOR'S USE

It is the responsibility of the Contractor to acquire land for staging area and/or use as a construction equipment and material storage yard. Staging area, stock pile sites, and other storage locations shall be protected from erosion and stormwater runoff.

7.09 LICENSED SURVEYOR FOR ENGINEER'S USE

A. Work Included

The Contractor shall engage the services of a New York State licensed surveyor as approved by the Engineer and reporting directly to the Engineer to make such surveys, as-builts, soundings, cross sections or other measurements as may be required by the Engineer for wetland mitigation construction. Surveying services included in the item are for the sole use of the Engineer. The surveyor may be used by the Engineer to verify grades, but surveying services needed for activities not related to wetland mitigation construction is the responsibility of the Contractor and is not provided under this item.

The Contractor for this Contract shall include in his total bid a per diem cost for the services performed by the Licensed Surveyor. This cost shall be shown on the Bid Schedule of Prices as Item No. BMP-7.09.

The cost proposals shall include unit prices on a per diem basis and shall include all necessary equipment, including vehicles for the Surveyors.

The cost proposals shall be submitted to the Engineer for evaluation and selection.

B. Measurement and Payment

Measurement for payment shall be on a per diem basis. One day shall consist of any eight (8) hour time period from 7:00 AM to 6:00 PM Monday through Friday plus travel time, not including holidays. The per diem rate shall include the services of a three man surveying crew. The Engineer shall be present during the progress of Work and the Engineer shall deem as to whether a full eight hour period had been employed in completing the Work, and as to whether the Contractor has utilized his crew at the productivity output required to complete the Work as anticipated. The surveyor will submit invoices to the Engineer, which will be forwarded to the Contractor for prompt payment. Payments shall be made for invoiced costs only, with no payment for overhead and profit.

DIVISION VII - DETAILED SPECIFICATIONS –  
CONTRACT SE823

7.10 CONSTRUCTION - SPECIAL REQUIREMENTS

A. Field Measurements

The Contractor shall take all necessary measurements in the field to determine the exact dimensions for all work and verify all pertinent data and dimensions shown on the Contract Drawings.

B. Excavated Material

Unsuitable excavated material shall be removed from the site together with all debris encountered in the excavations and the costs of such removal and disposal shall be included in the unit price bid for the applicable items in this Contract.

C. Access Requirements

The Contractor is advised that he shall provide access to the sites of the work for all other Contractors and that access to the sites of the work performed under all contracts shall be closely coordinated and scheduled with all other Contractors at the various sites during the life of this Contract.

D. Connections to Existing Piping

Connections to existing piping shall be made to permit ready disconnection of equipment with minimum disturbance of adjoining piping and equipment. The Contractor shall be responsible for the exact alignment of all piping with the existing piping and associated equipment and under no circumstances will pipe springing be allowed.

E. Noise Control

The Contractor shall implement noise control measures during construction including limits on the hours of operation and compliance with sound level standards. Those measures will comply with NYC and Federal noise requirements. The Contractor shall comply with the NYC Noise Code. No separate payment shall be made for this work; the cost thereof shall be included in the bid price for other items.

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F. Dust Control

During construction, all appropriate fugitive dust control, including watering of exposed areas and using dust covers for trucks shall be employed. These measures include satisfying Section 1402.2-9.11 of the New York City Air Pollution Code. To prevent fugitive dust from construction activities from becoming airborne, the following measures are proposed:

- Use of water or surfactant to control dust in the construction operations and during the clearing and grading of land;
- Application of water to dirt paths, materials, stockpiles, and other surfaces that can generate airborne dust over extended periods. Construction of accessways would be built with properly sized stone or concrete equivalent over filtering material;
- Covering open-body trucks transporting materials likely to generate airborne dust at all times when in motion; and
- Prompt removal of earth or other material from paved streets where earth or other material has been deposited by trucking or earth-moving equipment, erosion by water, or other means.

No separate payment shall be made for this work; the cost thereof shall be included in the bid price for other items.

G. Sequence of Construction

All work shall be completed in accordance with the Contract Drawings and upon approval of the Engineer and Restoration Specialist. All work shall be done in a manner to minimize disturbance to the natural area and existing vegetation. Stake out and receive approval from the Engineer and Restoration Specialist for the limits of work before beginning any clearing.

1. Install perimeter erosion control measures around the work area. If clearing is required for installation of a particular measure, all measures not requiring clearing shall be installed first. Clearing of the necessary land for installation of the particular measure may then proceed.



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2. Install stabilized construction entrance. The Contractor shall maintain the stabilized construction entrance to prevent the deposition of materials onto the public roadway. All materials deposited onto the public roadway shall be removed immediately.
3. Install the proposed sewer pipe, as per Contract Documents.
4. Project area shall be rough graded to 18" below the finished surface, backfilled to finished grade with suitable clean sand as per Contract Specifications, fine graded, and prepared for planting.
5. Stabilize the project area with erosion control mat as directed by the Restoration Specialist.
6. Perform landscaping as per the Contract Drawings.
7. Once all areas have been stabilized, remove temporary perimeter erosion and sediment control measures. Stabilize and landscape the areas within the footprint of the temporary perimeter erosion and sediment control measures.

7.11

TRANSPORTATION AND HANDLING OF MATERIALS AND EQUIPMENT

A. General

1. Contractor shall make all arrangements for transportation, delivery, handling and rigging of equipment and materials required for prosecution and completion of the work.
2. Working space on the site is limited. Equipment shall not be delivered to the site until it can be moved directly to the area where it will be utilized.
3. If necessary to move stored materials and equipment during construction, the Contractor shall move or cause to be moved materials and equipment without any additional compensation.
4. The Contractor shall take all necessary provisions to prevent inadvertent deposition and spillage of excavated soils or other materials that are being transported from the project site. The

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Contractor must employ the use of the truck tracing pad, wheel washing stations or other equipment deemed necessary to prevent spillage and deposition from vehicles from other construction equipment.

B. Delivery

1. The Contractor shall arrange deliveries of products in accordance with construction schedules and in ample time to facilitate inspection prior to installation.
2. Coordinate deliveries to avoid conflict with work and conditions at the site and to accommodate the following:
  - a. Work of other Contractors.
  - b. Limitations of storage space.
  - c. Availability of equipment and personnel for handling products.
3. Do not have products delivered to project site until related Working Drawings have been approved by the Engineer.
4. Do not have products delivered to site until required storage facilities have been provided.
5. Do not have products delivered to site until the manufacturer's recommended storage instructions have been submitted and approved.
6. Have products delivered to site in manufacturer's original, unopened, labeled containers. Keep Engineer informed of delivery of all equipment to be incorporated in the work.
7. Partial deliveries of component parts of equipment shall be clearly marked to identify the equipment, to permit easy accumulation of parts and to facilitate assembly.
8. Immediately upon delivery, inspect shipments to assure:
  - a. Product complies with requirements of Contract Documents and approved submittals.

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- b. Quantities are correct.
- c. Containers and packages are intact, labels are legible.
- d. Products are properly protected and undamaged.

**C. Product Handling**

- 1. The Contractor shall provide equipment and personnel necessary to handle products by methods to prevent soiling or damage to products or packaging.
- 2. Provide additional protection during handling as necessary to prevent scraping, marring or otherwise damaging products or surrounding surfaces.
- 3. Handle products by methods to prevent bending or overstressing.
- 4. Lift heavy components only at designated lifting points.
- 5. Materials and equipment shall at all times be handled in a safe manner and as recommended by manufacturer or supplier so that no damage will occur to them. Do not drop, roll or skid products off delivery vehicles. Hand carry or use suitable materials handling equipment.

**D. Removing and Hauling Equipment and Materials**

- 1. The Contractor shall inspect all items including all boxes, crates and packages containing equipment and materials for damage that may have occurred during shipment prior to its removal from the truck or other conveyance. Any damage shall be reported immediately to the Engineer.
- 2. The Contractor shall then carefully remove the equipment and materials from the truck or trucks on which it is shipped. The equipment and materials shall then be transported to the place of installation at the job site. The Contractor shall be liable for loss or damage to the equipment and materials that may occur while being unloaded, transported, stored or installed.
- 3. All equipment that arrives at the job site during normal working hours shall be unloaded as soon as practicable.

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7.12 PROTECTION OF MATERIALS AND EQUIPMENT AT THE SITE

The Contractor shall make every effort to minimize extended storage periods of materials and equipment at the Site by judiciously scheduling deliveries to coincide with construction needs.

Storage of any mechanical or electrical equipment out of doors at any time is absolutely prohibited regardless of the protection furnished. Storage of mechanical and electrical equipment within structures at the Site will not be permitted unless the structures are enclosed.

All mechanical equipment shall be coated, wrapped and otherwise protected from snow, rain, drippings of any sort, dust, mud, condensed water vapor, etc. during shipment, storage, and installation and until placed in service.

Should storage of mechanical equipment become necessary before it can be stored at the Site, the Contractor shall provide storage in a weatherproof warehouse.

Materials may be stored out of doors if supported above ground surface on wood runners and protected with approved, effective and durable covers.

All storage and protection of materials and equipment at the Site shall be subjected to the approval of the Engineer.

All costs for equipment protection including warehousing or other work to meet the scheduled completion date shall be deemed to be included under the Contract and no additional payment will be made.

7.13 FINAL CLEANING

A. Final Cleaning Under This Contract

1. At the completion of the work, the Contractor for this Contract shall remove all rubbish from and about the site of the work, and all temporary structures, construction signs, tools, scaffolding, materials, supplies and equipment which he or any of his subcontractors may have used in the performance of the work. The Contractor shall broom clean paved surfaces and rake clean other surfaces of grounds.

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2. The Contractor shall thoroughly clean all materials, equipment and structures installed under this Contract; all marred surfaces shall be touched up to match adjacent surfaces.
3. The Contractor shall clean all landscaped areas of all debris and any objectionable material, as determined by the Engineer, and shall remove all such debris off-site.
4. The Contractor shall remove all temporary erosion control measures and replace with final features as shown on the plans and other Contract Documents contained herein, as directed by the Engineer.

**B. Cleaning Materials and Methods**

**The Contractor shall:**

1. Use only cleaning materials recommended by manufacturer of surface to be cleaned.
2. Use each type of cleaning material on only those surfaces recommended by the cleaning material manufacturer.
3. Use only materials which will not create hazards to health or property.
4. The Contractor shall only use cleaning methods approved by the Engineer.

**C. Payment for Final Cleaning**

No separate payment will be made for the aforementioned work, the cost thereof shall be included in the price bid for other items of this Contract.

**7.14 OSHA REQUIREMENTS**

The Contractor shall comply with all applicable OSHA rules and regulations regarding hazardous materials. The Contractor's specific attention is called to OSHA Regulation 29 CFR, Part 1920.120.

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7.15 NO SEPARATE PAYMENT

No separate payment shall be made for the work specified in the Specific Provisions. All costs shall be included in the various Contract items unless otherwise specified.

7.16 NOT USED

7.17 DETAILED WORK DESCRIPTION

Storm Sewers

This shall entail the construction of two new storm sewers within Idlewild Park, southeast of the intersection of 226<sup>th</sup> Street and 148<sup>th</sup> Avenue in Queens, New York. The specifications and plans for this work are included elsewhere in these Contract Documents, not in this set.

Specification Section

**Specific Provisions**

7.09 Licensed Surveyor

**Landscaping and Restoration**

7.400 Work Included  
7.401 Landscaping for Terrestrial Zone and Wetland Zone  
7.404-A Restoration Specialist (Construction Monitor)  
7.404-B Erosion and Sediment Control Licensed/Certified Professional  
7.407-A Erosion Control Mat - Straw  
7.418 Clean Sand For Restored Area

**Erosion and Sedimentation Control Measures**

7.500 Soil Erosion and Sedimentation Control Measures  
7.501 Maintenance of Erosion Control Measures  
7.504-A Silt Fence  
7.509-A Stabilized Construction Entrance

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LANDSCAPING AND RESTORATION WORK

7.400

Work Included

Under landscaping and restoration work, the Contractor shall provide labor, materials, tools and equipment necessary to complete the execution of the work in complete accordance with the Specifications and all Contract Drawings. The work shall include items of work specified under the following sections.

<u>Section Number</u>	<u>Title</u>
7.401	Landscaping for Terrestrial Zone and Wetland Zone
7.404-A	Restoration Specialist (Construction Monitor)
7.404-B	Erosion and Sediment Control Licensed/Certified Professional
7.407-A	Erosion Control Mat - Straw
7.418	Clean Sand For Restored Area

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7.401 LANDSCAPING FOR TERRESTRIAL ZONE AND WETLAND ZONE

A. Work Included

Under these items, the Contractor shall furnish all labor, materials, equipment and services necessary for the proper execution of all landscaping work, as specified herein and as shown on the Contract Drawings, including all incidental and appurtenant work required for a complete job. In addition, the contractor will also furnish and deliver Permanent Seed Mix as directed by the Engineer.

B. General Requirements

1. Reference Standards

- a. American Association of Nurserymen, Inc., (American National Standards Institute) Nursery Stock (Z60.1)
- b. American Joint Committee on Horticultural Nomenclature Standardized Plant Names.
- c. A Checklist of New York State Plants, Contributions to a Flora of New York State, Checklist III, Bulletin #458, Richard S. Mitchell, State Botanist, New York State Museum, 1986.
- d. Gleason, The Late Henry A. and Arthur Cronquist. 1991. Manual of the Vascular Plants of Northeastern United States and Adjacent Canada, 2<sup>nd</sup> ed, New York Botanical Garden.
- e. Mitchell, Richard S. and Gordon C. Tucker. 1997. A Revised Checklist of New York State Plants, Bull. #490, New York State Museum.

C. Quality Assurance

1. Source Quality Control:

- a. If private nursery sources are used, they must be within a 250-mile radius of the planting site. All specified plants shall have also been grown in the same USDA climatic zone as that of the planting site.



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All seed and original stock material for herbaceous plants shall have been collected from locally adapted ecotypes within a one-hundred mile radius of the project site. Plant material may have to be contract grown in order to meet this requirement.

No substitutions of specified plants will be accepted without prior approval of the Engineer or his/her duly authorized representative.

- b. General. Ship landscape material with certificates of inspection when required by governmental authorities. Comply with governing regulations applicable to landscape material.
  - c. Packaged Material. Package standard products with manufacturer's certified analysis. For other material, such as topsoil, provide analysis by recognized laboratory made in accordance with methods established by the Association of Official Agricultural Chemists, wherever applicable, or as further specified.
  - d. All seed shall be interagency certified under the auspices of a State Seed Improvement Cooperative and must bear their seals of certification on bag. Permanent seed shall be 75% Pure Live Seed minimum. Weed content of seed lots shall not exceed 0.25 percent. All seed shall be free of noxious weeds. Provide fresh, clean, new-crop seed complying with the tolerance for purity and germination established by the Official Seed Analysts of North America. Provide seed of the species, proportions and minimum percentages of purity, germination, and maximum percentage of weed seed.
  - e. Comply with governing regulations applicable to wetland and landscape materials including certification that tidal wetland plants have been acclimated to 15 to 25 parts per thousand salinity for a period of not less than two (2) weeks prior to installation.
2. Trees and plants shall be specified as in the Contract Documents. Nurseries which collect plants from the wild shall be rejected. No substitutions shall be permitted, except as authorized in writing by Engineer. If specified landscape material is not obtainable, submit proof of non-availability to Engineer, together with proposal for

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use of equivalent material. All plants specified within this Contract are native to the State of New York. Species native to this region, but not listed as native within *A Checklist of New York State Plants*, may be accepted on a case-by-case basis.

3. The Contractor shall provide trees and plants of quantity, size, genus, species and variety shown and scheduled in the Contract Documents for landscape work and complying with recommendations and requirements of ANSI Z60.1 "American Standard for Nursery Stock" and the Manual of Vascular Plants of the Northeastern United States and Adjacent Canada. The Contractor shall provide healthy, vigorous stock, grown in a recognized nursery in accordance with good horticultural practice and free of disease, insects, eggs, larvae and defects such as knots, sun-scald, injuries abrasions, or disfigurement. Contractor shall submit certification that wetland plants are procured at least six months prior to scheduled planting.
4. All plants furnished under this Item shall be true to name. Plant names shall agree with the nomenclature of Standardized Plant Names as adopted by the American Joint Committee on Horticultural Nomenclature, 1942 Edition. Size and grading shall conform to those of the American Association of Nurserymen. All wetland plants shall come from Queens stock or within 250-mile radius of Queens.
5. Certified analyses by a recognized laboratory shall be submitted by the Contractor for approval by the Engineer for topsoil before delivery to the site. Analyses must include mechanical analysis, magnesium, nitrogen, potassium, and phosphorus levels, soluble salts, pH and organic matter. Standards and formatting for topsoil analyses shall conform to those of Cornell Cooperative Extension of Nassau County. Associated costs and additional guidelines for topsoil analyses shall be as specified under NYCDOT Specifications.
6. Inspection:
  - a. The Engineer shall inspect trees and shrubs at place of growth before planting, for compliance with requirements for genus, species, variety, size and quality. Contractor shall be responsible for all inspection costs beyond a 50-mile radius from New York City.

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- b. Plant materials shall be inspected by the Engineer upon arrival at the job site and prior to planting. Any materials not in compliance with specifications shall not be accepted and shall be removed from the job site immediately.
- c. The Engineer retains the right to further inspect trees for size and condition of balls and root systems, insects, injuries and latent defects, and to reject unsatisfactory or defective material at any time during progress of work. The Contractor shall remove rejected trees immediately from project site.
- d. Tagged samples of plant materials shall be delivered to the site and planted in locations approved by the Engineer. These tagged samples shall be maintained, protected and used as standards for comparison with the plants furnished for the work.
- e. The Contractor shall be responsible for all certificates of inspection of plant material that may be required by Federal, State or other authorities to accompany each shipment of plants. On arrival, the certificates shall be filed with the Engineer. The Engineer shall receive a copy of each shipping invoice immediately after the delivery has arrived at the job site.

D. Submittals

The General Contractor shall submit the following information (as listed in 1. through 4.) for approval within ten working days following the date in the Notice to Commence Work:

- 1. Subcontractors. Subcontractors proposed for landscaping and associated restoration and site work must be approved by the Engineer prior to start of work. The Contractor shall submit at least three (3) alternative Subcontractors to the Engineer for review and approval. The Subcontractors proposed shall be evaluated on the following criteria, prioritized in descending order:
  - a. The Contractor shall submit a minimum of three (3) projects similar in scope and type (i.e., location, size, cost, client, plant species, time of planting, etc.) within the last five years whereby the Contractor was directly responsible for the installation, restoration and maintenance of native habitats and wetlands. References and xerographic

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reproductions of photographs of the projects shall be submitted. Projects shall not be more than five years old. Provide client contact person's name and telephone number. Describe any problems encountered during construction and corrective action taken to remedy the problem. Describe any violations issued by NYSDEC or any other regulatory agency. How were the violations resolved. Enclose copies of applicable wetland permits. Provide chronological photos recording the progress of the restoration and/or creation efforts, including preconstruction through completion. Include any required sign-offs from client and provide a list of all plants replaced on site.

- b. Demonstrated capacity to accomplish the work in the required time including qualification of experienced foreman and key personnel.
  - c. Experience in digging and transplanting field stock.
  - d. Experience with agencies, such as the Department of Parks and Recreation, Central Park Conservancy, and the Botanic Gardens.
  - e. Experience with State or Federal Agencies, particularly with experience in conducting mitigation pursuant to USACE or NYSDEC requirements.
  - f. Wetland/landscape contractor shall have performed at least three (3) contracts that involved the installation and maintenance of soil erosion and sediment control devices during construction of the project. The projects shall be at least three (3) years old and successful.
  - g. Other references or experience deemed appropriate to obtaining approval.
- 2. List of growers/nurseries.
  - 3. Certified arborist or nurseryman, experienced in tree pruning and removal.
  - 4. List of all materials and certificates specified within this Item.

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The General Contractor shall submit the following information (as listed in 5 through 8) prior to construction:

5. Certificates:
  - a. All necessary State, Federal and other inspection certificates as may be required by law.
  - b. Two (2) copies to the Engineer of manufacturers' or vendors' certified analysis for soil treatments and fertilizer materials shall be submitted with samples.
  - c. Certification and guarantee that all plant material is true to name and in conformance with these specifications.
  - d. The invoice or a written statement showing the size and grade of materials received or shipped, together with the source and health of the plant material and verification that balled and burlapped plants were sprayed with an anti-desiccant within 48 hours prior to digging. No plants shall be accepted that have been collected from property other than that owned or leased by a nursery.
  - e. Certification that all herbaceous plant material was grown from seed or stock collected from locally adapted ecotypes within a one-hundred mile radius of the project site.
  - f. Certificates from seed vendors: certified statement for each seed mixture required, stating botanical and common name, percentage by weight and percentages of purity, germination, and weed seed for each species.
6. Planting Schedule. Submit proposed planting schedule within one month of official Notice to Commence Work, indicating dates for each type of landscape work during normal seasons and as specified in the Contract for such work in area of site. Included shall be a schedule of nursery visits for the Restoration Specialist to tag plant material. Correlate from date of substantial completion. Once accepted, revise dates only as approved in writing by the Engineer, after documentation of reasons for delays.
7. List of equipment, methods of operation, and maintenance plant, including methods for protection of existing vegetation.

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8. **Manufacturer's Literature.** Manufacturer's literature for all materials furnished shall be submitted with samples of same.
9. The Contractor is required to perform a separate germination test on the seed mixes to be used on this project prior to submitting the seed mix and supplier. The results of the germination test shall be included in with the information submitted to the Engineer for review and acceptance. The Contractor is advised that these tests can run two-months or more and should be prepared to have these tests completed in sufficient time for the next seeding season. Seed shall conform to all applicable state and federal regulations and to test provisions of the Association of Official Seed Analysts. There shall be no exceptions.
10. The Landscape Subcontractor shall submit a watering and weeding plan and maintenance schedule prior to the installation of plant material, to be approved by the Engineer with consultation from the Restoration Specialist. The plan shall include proposed methods of watering and weeding, including but not limited to tree gators (bags), sprinklers, drip hoses, irrigation, tanker vehicles and hand watering, etc., as well as manual weeding and weeding tools. No additional payment will be made for watering and weeding during installation and during the three year guarantee period.  
  
The approved plan and schedule do not relieve the Contractor in any way from any aspect of the replacement of dead plant material. The Landscape Subcontractor may alter the maintenance schedule based on weather and field conditions.
11. The Contractor shall submit a sequence of construction for work to the Engineer for approval. The proposed sequence of work shall conform with any Special Conditions stated in any USACE Permit or NYSDEC Permit specific to this project.
12. Final planting plan, based on the post-excavation field topographic survey, including location of actual planting areas and densities for each ecological community, sediment control fence, and other required work.
13. Sediment control fence and goose exclusion fencing plan layout and details illustrating fence height, location of posts.
14. Submit a monitoring plan that meets the requirements of Section 7.404-A.G. The monitoring plan shall include hydrology, vegetation, and soils monitoring to document that the mitigation

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and restoration areas meet the criteria established in the USACE 1987 Wetland Delineation Manual. An action plan for addressing failures or deviation from goals shall also be included. The monitoring plan shall also satisfy the following specific requirements:

- a. The National Wetlands Mitigation Action Plan (December 2002).
- b. Compensatory Mitigation Guidelines and Mitigation Checklist for Review of Mitigation Plans, USACE, New York District, 2004, Section I Monitoring Plan and Report, and Section J Maintenance and Adaptive Management Plan.
- c. New York State Salt Marsh Restoration and Monitoring Guidelines. NYSDEC, December 2000, Section 7 Salt Marsh Restoration – Recommended Monitoring Plan.
- d. The monitoring plan shall conform with any Special Conditions stated in any USACE Permit or NYSDEC Permit specific to this project.

E. Product Delivery, Storage and Handling

1. Delivery of Materials:
  - a. Packaged Materials. Deliver packaged materials in unopened bags or containers, each bearing the name, warranty, and trademark of the producer and the composition, analysis and the weight of the material. Contractor shall notify the Engineer 48 hours in advance of delivery of all plant material.
  - b. Trees and Plants. The Contractor shall provide trees and plants of the stock type and quantities shown on the Contract Drawings. Do not prune prior to delivery unless otherwise approved by the Engineer. Do not bend or bind-tie trees or plants in such a manner as to damage bark, break branches or destroy natural shape. Provide protective covering during delivery, and insure that all balled and burlapped stock, container stock, tube stock, and/or bare root material is handled properly and is not dropped.

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- c. All plant materials shall be protected from drying out and from wind damage during delivery.
- d. The Contractor shall deliver trees and plants after preparations for planting have been completed and plant immediately. If planting is delayed more than 6 hours after delivery, set trees and plants in shade, protect from wind, weather and mechanical damage, and keep roots moist by covering with mulch, burlap or other acceptable means of retaining moisture. Water as necessary.
- e. The Contractor shall not remove container grown stock from container until planting time.
- f. Material should be planted in the ground immediately after delivery to site. Plants should be covered with damp-not wet-leaf compost while awaiting ground installation. Do not allow the plants to dry out or freeze.
- g. Fertilizer delivered to the job site shall be in original, unopened containers bearing the manufacturer's chemical analysis and essential information. Fertilizer containers shall be protected from exposure to precipitation and direct sunlight.
- h. All materials shall be stored in upland areas that are protected from weather.
- i. Seeding:
  - 1. Seed shall be clean and fresh and delivered to the site in the original, unopened bags showing the net weight, composition of mix, suppliers name and guarantee of analysis. Seed shall be delivered and stored in original unopened packages, kept dry, and not opened until needed for use. Damaged or faulty packages shall not be used and will be rejected. Seed shall have been harvested for planting in the current growing season, and shall have been packed within the last 9 months.
  - 2. All seed shall be interagency certified under the auspices of a State Seed Improvement Cooperative and shall bear their seals of certification on each 50 pound bag. Permanent seed shall be 75% pure live seed minimum.



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3. Seed materials will be inspected by the Engineer upon arrival at the job site and prior to planting. Any materials not in compliance with specifications will not be accepted and shall be removed from the job site immediately.
  4. All seed materials shall be protected from drying out and from wind damage during delivery.
  5. Furnish seed in sealed, standard containers with germination and purity percentages clearly labeled.
  - j. Plant Material: Provide healthy, vigorous growing specimens exhibiting uniform growth and form characteristic of their species that satisfy the project specifications. Plants shall be free of chlorosis, yellowing, blemished or damaged parts.
  - k. Label all flats of plants and all separate plants with a securely attached waterproof tag, bearing legible designation of botanical and common name, written with waterproof ink.
2. Storage of Materials
- a. Store and cover materials to prevent deterioration. Remove packaged materials which have become wet or show deterioration or water marks from the site and replace at no additional cost to the City.
  - b. Seed that is wet or moldy or that has been otherwise damaged in transit or storage shall be replaced at no additional cost to the City.

F. Job Conditions

Terrestrial and Wetland Buffer Zone Plantings: Unless otherwise directed by the Engineer, evergreen material shall be planted and transplanted from April 1st to May 15th and from September 1st to October 15th. Deciduous material shall be planted and transplanted from March 1st to May 30th and from October 15th to December 1st. Container-grown herbaceous material shall be planted and transplanted from March 1st to May 30th and from August 15th to September 15th (SEE PLANTING SCHEDULE). Perform actual planting when conditions are suitable. No plant material shall be planted when the ground is frozen or in excessively moist

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condition. All material labeled as fall planting hazard shall be installed during the spring only. Notify the Engineer before proceeding with any planting operations.

**Wetland Plantings:**

1. Time of Planting and Transplanting. All wetland plantings shall be installed in time frames indicated under the above Terrestrial and Wetland Buffer Zone Planting section. Perform actual planting when conditions are suitable. No plant material shall be planted when the ground is frozen or in excessively moist condition. Notify the Engineer before proceeding with any planting operations.
2. The Contractor shall proceed with and complete landscape work as rapidly as portions of site become available, working within seasonal limitations for each kind of landscape work required.
3. Utilities. The Contractor shall determine location of underground utilities and perform work in a manner which will avoid possible damage. Hand excavate, as required. Maintain grade stakes set by others until removal is approved by the Engineer.
4. Excavation. When conditions detrimental to plant growth are encountered, such as rubble fill, adverse draining conditions, or obstructions, notify the Engineer.
5. Preservation and Restoration of Existing Trees and Shrubs.
  - a. In order to avoid surface and subsurface root damage and soil compaction, the Contractor shall not be permitted to stockpile materials of any nature under the drip line of existing trees and shrubs. This directive shall apply to all areas within or outside the Contract limit line.
  - b. The Contractor shall assume the responsibility for any remedial work such as root and top pruning required and/or necessary to prevent loss of plant material when this article is violated or when trees or shrubs are injured by construction equipment.
  - c. Compensatory pruning and fertilizing of existing trees and shrubs shall be performed to compensate for damage of roots incurred. Fertilize in areas around undamaged roots only and not adjacent to the trunk or main stem. Fertilizer

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shall be applied in the fall unless otherwise approved by Engineer.

- d. Tree pruning shall be performed in accordance with NYCDOT Standard Highway Specification Section 4.18.
- e. No separate payment will be made for fertilizing and pruning of trees and shrubs in stockpile areas or when trees or shrubs are injured by construction equipment, but the cost thereof will be deemed to be included in the various prices bid for the items for which such pruning and fertilizing are necessary.
- f. No existing trees, shrubs or herbaceous plants shall be removed, except as specifically required by this Contract or as specified on Contract Documents, or as specifically approved in writing by the Engineer.
- g. Any areas or items of existing landscape which are removed or damaged shall be replaced by the Contractor at no additional cost to the City. The Contractor shall match the existing condition prior to damage or as directed by the Engineer.
- h. All existing landscape features including trees, shrubs, perennial, meadows, lawns, wetlands, paving, walls, stairs, etc. shall be protected by the Contractor, utilizing methods approved by the Engineer prior to start of work.

G. Guarantee

1. Landscape Guarantee and Replacements

- a. Guarantee. All landscaping work shall have a replacement guarantee for a period of three (3) years beginning at the date of acceptance of the Landscaping work or the date of substantial completion, whichever is later, and shall be considered as included under monies shown within the guarantee provisions of Schedule A.
- b. Operations. The Contractor shall, for a period of three (3) years, cultivate, weed, mulch, prune, and water all trees, shrubs, herbaceous plants, vines permanent seeded areas under this Contract, to the satisfaction of the Engineer. The Contractor shall replace, according to the original

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specifications, any plant material which is dead or in a dying condition at the request of the Engineer. The Engineer shall be the sole judge as to the condition of the plants. The guarantee and maintenance applies to all planted and grassed areas, meadows, paved and other landscaped areas.

- c. Replacement. Any plant material that is dead or not showing satisfactory growth, as determined by the Engineer, shall be promptly removed and replaced by the Contractor during normal planting season specified in Section 7.401.2E. Initial replacement of dead material and the repair of bare areas will take place one year following the acceptance of plant material. The replacement shall be of the same variety, size and character as specified for the original planting. Unless a written waiver of this clause is issued, under the terms of the guarantee, replacement plants shall be chosen only by the Engineer.

At the end of the guarantee period, and upon written request, an inspection will be made by the Engineer. If mortality exceeds ten percent or if bare areas occur, the Contractor shall replace plant material.

H. Materials

1. Clean Sand

- a. Sand from site stripping shall be used if the material meets specifications listed in 7.418. A material test(s) shall be made at Contractor's expense to determine if the specifications for all the tests listed in (7.418) have been met. A material test shall be required and shall serve as a representative analysis for every 200 cubic yards of material utilized.
- b. Additional clean sand shall be furnished from sources off the Contract site. Material shall comply with the requirements of Specification section 7.418.

2. Fertilizer

Fertilizer shall be provided as indicated on the Contract Drawings: Osmocote, granular, slow-release in the specified time frame releases and analyses. Fertilizer shall be furnished in standard

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containers, with name, weight and guarantee analysis of contents clearly marked thereon. Appropriate containers to disperse specified amounts of fertilizer into planting holes shall be supplied and used by the Contractor.

3. Plant Material

- a. The Contractor shall furnish all plant material shown. Plant material must be true to name and size and conform with the following standards:
  - i. American Joint Committee on Horticultural Nomenclature, Standardized Plant Names (Published by Mount Pleasant Press J. Horace McFarland Company, Harrisburg, PA.).
  - ii. American Association of Nurseryman, "Horticultural Standards" (Published by American Association of Nurserymen, Inc., 635-636 Southern Building, Washington, D.C.).
- b. Nursery grown plants shall mean plants propagated by seed, division, tissue culture or cloned from existing stock at a nursery, which are healthy, vigorous plants, cultivated in accordance with sound horticultural practice. All plants shall be nursery grown unless collected from natural areas owned or leased for that purpose by the nursery. All plants shall have been grown under the same climatic conditions as those of the planting site. All herbaceous plants shall come from seeds or stock collected within a one-hundred mile radius of the project site. Only those nurseries within a 250-mile radius of the planting site will be accepted as plant sources. In some cases plant material may be obtained outside the 250-mile radius on a case-by-case basis.
- c. All plants and all balled and burlapped plants shall be freshly dug; neither heeled-in nor plants from cold storage will be accepted. All plants shall have been transplanted or root pruned at least once in the past three years.
- d. All plants shall conform to the measurements specified in the plant list on the Contract Drawings. All plants shall be typical of their species and shall have a normal, healthy habit of growth and be of first quality, sound, vigorous, well-branched and densely foliated. Plants that meet the

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requirements specified in the plant list, but that do not possess a normal balance between height and spread will not be accepted. No damaged or diseased plants will be accepted.

- e. Plug Stock Plants: Provide plug stock plants grown in an approved nursery in accordance with good horticultural practice, with healthy root systems developed by transplanting or root pruning. Plug stock shall be grown in 2-inch cavity trays. Tidal plug stock plants shall be acclimated in the nursery to salinity levels between 15 and 25 ppt for a period of not less than two (2) weeks prior to installation. Plugs shall be propagated and grown in cells and not as bare root stock or as bedded plants. The extracted root system shall conform to the shape and dimensions of the growing cells without sloughing soil or growth media as determined by on-site inspection. Materials not conforming to the dimensions of the cell may be rejected without compensation to the Contractor. The extracted root system of the plugs shall have the majority of the roots in the vertical orientation. Roots shall be white in coloration and firm to the touch. Roots shall not have a strong sulfide odor (rotten egg smell) or be black in color. If the horizontal roots are thick and flattened and the roots stays in a thick net shape of the original cell when the media is shaken loose, the plant may be determined to be "pot bound " and shall be rejected without compensation to the Contractor. Species shall be as shown on the Contract Drawings.

4. Mulch

Mulch shall be organic mulch free from deleterious materials and suitable for top dressing of trees, shrubs or plants and shall be shredded hardwood bark, decayed hardwood chips, leaf mold, pine straw, partially decayed leaves, cottonseed hulls, peanut hulls or other organic products. Mulch must be aged at least one year, should not contain elm wood chips, or be from diseased trees. No shredded bark pieces shall be greater than 3" in length and 3" in width. Mulch for seeded areas shall be clean, seed-free salt hay. Mulch shall be free of roots or other parts of invasive exotic plants that may take root in restored area.

5. Temporary Seed Mixtures

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Soil stockpiles and cleared and graded areas shall receive oat seed (avena sativa) for temporary stabilization as required during the spring and summer months.

Temporary seeding shall be oat seed (Avena sativa) at a rate of 30 lbs per acre or 0.7 lbs per 1,000 sq. ft. If area is seeded during months of September through November, certified "Aroostook" winter rye (cereal rye) shall be used at a rate of 50 lbs per acre or 1.25 lbs per 1,000 sq. ft.

6. Permanent Seed Mixture

Seed mixture shall be as specified on the Contract Drawings unless otherwise directed by the Engineer.

Nurse/Cover seed for the permanent seed mixture shall consist of oats (Avena sativa) during spring seeding season and certified "Aroostook" winter rye (cereal rye) during fall seeding season. Nurse/cover seed shall be added to the permanent seed mix at a rate of 10 lbs per acre or 0.23 lbs per 1,000 sq. ft..

7. Erosion Control Mat (Blanket)

The erosion control fabric used in planted areas shall conform to Detailed Specification 7.407-A - Erosion Control Mat - Straw.

I. Execution

Installation/Application/Performance For Terrestrial and Wetland Buffer Zone Plants

1. Workmanship. The Contractor shall complete all work in the best manner, so that the work as a whole is of uniform quality and appearance. The Contractor shall conform to the requirements specified hereafter.
2. Preparation.
  - a. Areas described and shown on plans shall be rough graded to 18" below the finished surface, backfilled to finished grade with suitable clean sand, as specified in BMP 7.418, fine graded, prepared for planting and landscaped.
  - b. Subgrade shall be kept free of masonry, concrete, metal waste materials, and debris.

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- c. Remove stones over 1-1/2 inches in any dimension, as well as sticks, rubbish and other extraneous matter.
  - d. The planting beds and pits shall be worked up well, and shall be free of other vegetation and large clods of soil.
  - e. Apply fertilizer at rate specified in Contract Drawings during planting and seeding operations.
3. Delivery: Plants shall be packed, transported, and handled with utmost care to insure adequate protection against injury. When transported in closed vehicles, plants shall receive adequate ventilation to prevent sweating. When transported in open vehicles, plants shall be protected by tarpaulins or other suitable cover material. All bare root plants shall be adequately protected from drying out and immediately after inspection shall be heeled in moist soil. Balled and burlapped plants shall be set on the ground and the ball covered with soil. Until planted, all material shall be properly maintained and kept adequately moist, to the satisfaction of the Engineer.
4. Inspection: Inspection may be made before digging if the Engineer directs, but no plant material shall be planted by the Contractor until inspected by the Engineer at the site of the work. Plant material will be rejected if delivered with broken or damaged root balls, or if damaged on site by rough handling. All rejected material shall be immediately removed from the site and replaced with acceptable material at no additional cost to the City. Final inspection shall be made upon completion of the Contract.
5. Installation:
- a. Planting Operations.
    - 1. Layout: All trees, shrubs and herbaceous shall be laid out in random and naturalistic arrangements, as specified in the Contract Drawings unless otherwise directed by the Engineer. Herbaceous plugs shall be planted at 2 foot on center spacing. All plant and planting area locations shall be staked prior to planting by the Engineer. Place no plantings within two (2) feet of pavements or structures, unless otherwise indicated.



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2. Loosen sand to a depth of six (6) inches. Loosen sand with rototiller, backhoe or discer. The soil-loosening operation shall be conducted in such a way as to back its way out of the site. After this, no more heavy machinery shall be allowed on the planting beds.
3. Rototill/cultivate soils to a depth equal to the depth of the root ball and two times the diameter of the root ball. Set the tree/shrub on the undisturbed solid ground in the center of the area.
4. Obstructions below Ground: Remove any rock, rubble, masonry, concrete, metal, stones over one inch or other underground obstructions to the depth necessary to permit proper planting.
5. Disposal: Remove and dispose of all excess excavations and unsuitable materials. Dispose in accordance with all local laws and regulations at Contractor's cost.
6. Plant Beds: All plant material shall be planted in clean sand.
7. Bare root material shall be adequately protected from drying out and immediately heeled in after inspection. The bundles of heeled-in plants shall be set upright on the ground, covered with mulch, and kept adequately moist until the time of installation. Until the time of planting, all plant material shall be stored in an approved location, securely fenced and maintained, to the satisfaction of the Engineer, at no additional cost to the City. All plants not planted immediately shall be watered as necessary to maintain optimal health until planting.
8. Setting Plants: Plant all plants to the same depth as their place of growth, unless otherwise directed. Center the plants in their planting pits. Set in the natural upright position at such a level that, after settlement, a normal or natural relationship of the crown of the plant with the ground surface shall be established. Be careful not to exert any pressure that will damage any portion of the plant.

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9. Avoid compacting the sand. Do not leave plants exposed to sun or wind prior to planting. Take special care to avoid desiccation of fibrous-rooted plants.
  10. The Contractor shall be liable for any damage to property caused by planting operations and the Contractor shall, without any additional cost, restore to original condition or replace all trees, plant beds, lawns, meadows and all construction disturbed or damaged in performing the work of this Contract.
6. Method of Work. Submit a list of proposed methods of execution of work under this section for review by the Engineer when proposed methods are different from, or supplementary to, those specified herein.

J. Temporary Seed

1. Soil stockpiles shall be seeded with a temporary seed mixture if they will be in place for greater than 30 days. Cleared and graded areas shall also be seeded with a temporary seed mixture to temporarily stabilize them, if they will not be landscaped or planted (final) for more than 30 days. A temporary seed mixture shall be used to stabilize stockpiles and portions of the site where construction activities have temporarily or permanently ceased no more than 7 days after the construction activity in that portion of the site has temporarily or permanently ceased. This requirement does not apply if earth-disturbing activities will be resumed within fourteen (14) days.
2. If temporary seeding is not made within 24 hours of construction/disturbance, the soil must be scarified prior to seeding.
3. Method of seeding – seed shall be evenly applied with broadcast seeder, drill or cultipack seeder.
4. If temporary seeding is made under favorable soil and site conditions during the optimum seeding dates (March 15 – May 15 or September 1 – October 15) mulch is not required. Any temporary seeding outside of those dates shall be hydroseeded with

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a mulch binder. Alternatively, the temporarily seeded area can be mulched with a straw of oat or wheat stalks (not hay) applied at a rate of 2 tons per acre (100 - 200 bales / acre) uniformly distributed over the sown seeds and held in place through the use of a straw crimper.

5. Any area with fail to establish vegetative cover adequate to prevent rill erosion will be reseeded as soon as such areas are identified.

K. Permanent Seed

1. Seed materials shall be inspected by the Engineer upon arrival at the job site and prior to planting. Any materials not in compliance with specifications shall not be accepted and shall be removed from the job site immediately.
2. All seed materials shall be protected from drying out and from wind damage during delivery.
3. All areas shown to receive seed on Contract Drawings and all areas which are disturbed and not indicated to be planted or paved shall be seeded.
4. Seedbed Preparation – Scarify all compacted areas and remove all debris and obstacles such as rocks and stumps.
5. Do not broadcast seed by mechanical application when the wind velocity is such as to prevent uniform seed distribution.
6. Time of Seeding – Permanent seeding shall be done within 15 days of final construction activities. Optimum seeding times are in the Spring from March 15 – May 15 and in Fall from September 1 – October 15. If construction is completed during mid-summer, permanent seeding may be done if watering will be provided.
7. Method of Seeding – Seed shall be broadcast by hand or mechanically using a drop-hopper. Seeds shall be blended thoroughly with a sand filler and uniformly broadcast over the entire area then gently hand raked 1/8 to 1/4 inch into the soil.
8. Following the seeding operation, 10-10-10 fast release fertilizer shall be broadcast at a rate of 400 lbs/acre throughout the seeded area by hand or mechanically using a cyclone broadcaster. Seed shall be watered as recommended by the seed manufacturer to achieve specified growth coverage.

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9. Seeded areas shall be covered with biodegradable erosion control mat. Alternatively mulching straw of oat or wheat stalks (not hay) shall be applied at a rate of 2 tons per acre (100 - 200 bales / acre) uniformly distributed over the sown seeds and held in place through the use of a straw crimper.
10. Seeding shall be deemed acceptable when 85% coverage of the seeded area with the seeded species has been achieved. Any area not meeting this requirement shall be reseeded with the original seed mix.
11. Areas seeded with temporary cover grass shall be rototilled and/or harrowed prior to seeding with permanent seed mix during the allowed time period.

L. Final Acceptance

Plants must be thriving. Planting beds must be evenly mulched and free of invasive nonnative plant species. Paving/landscape interface must be a smooth, crafted transition free from defects such as gaps, sharp edges or sudden level changes.

M. Final Cleanup

At time of final inspection of work, and before final acceptance, clean any paved areas that are dirty or stained due to work of this Section by sweeping or washing, and remove any defacements or stains. Remove construction equipment, excess materials and tools. Remove from site any debris and dispose of off-site, in accordance with all local laws, and at the Contractor's expense. The Contractor shall also cut all perimeter grass and weeds before final acceptance.

N. Measurement and Payment

The quantity to be measured for payment under this section shall be the total amount of trees, shrubs, herbaceous plants and seeded areas furnished, planted and maintained.

The contract price per unit for Landscaping Work shall be as indicated on the BID SCHEDULE OF PRICES Item Nos. BMP-7.401-I through BMP-7.401-J inclusive. The price bid shall be a separate unit price per tree, shrub and herbaceous plant specified within the Contract Drawings, and shall include the costs of all excavating and preparing planting pits and beds, adding soil amendments, furnishing plants, digging, inspecting,

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planting, pruning, staking, guying, anchoring, wrapping, mulching, fertilizing, furnishing seed, seeding, liming, disking, raking, tilling harrowing, mowing, material, and maintaining all plant material and seeded areas. The price bid shall also include the costs of all rough and fine grading, all specified soils necessary and required for the satisfactory completion of all landscaping work and all other work incidental thereto in accordance with the plans and specifications to the satisfaction of the Engineer.

The contract price per square foot of seeding shall be as indicated on the BID SCHEDULE OF PRICES Item No. BMP-7.401-I.

PLANT MATERIAL SUMMARY FOR LANDSCAPING WORK

<u>Item</u>	<u>Description</u>
BMP-7.401-I inclusive	Seeding
BMP-7401-J inclusive	Herbaceous Plants – Plugs

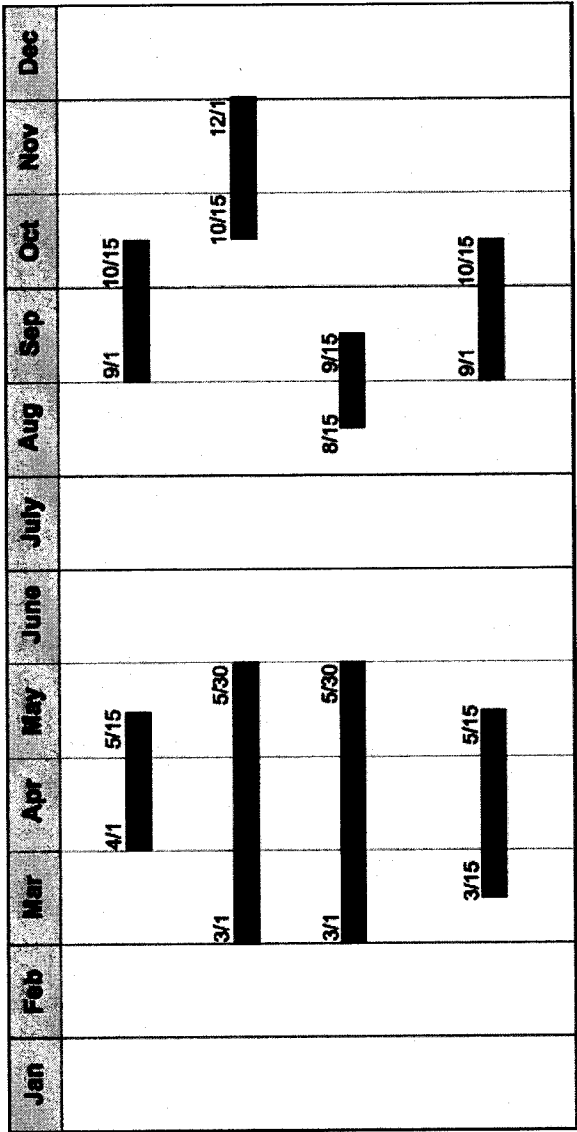
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H&S File: 6300Camastro Fig5C1-PlantingSchedule.cdr 9-11-08

Division VII - Detailed Specifications - Contract  
Landscaping and Restoration Work

**Terrestrial and Wetland Zone  
Planting, Transplanting and Seeding Schedule**



Evergreen Material

Deciduous Material

Container-Grown Herbaceous  
Material

Permanent Seeding

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7.402

**SOD**

NO TEXT ON THIS PAGE

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7.403

**TOPSOIL FOR RESTORED AREA**

NO TEXT ON THIS PAGE



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7.404-A RESTORATION SPECIALIST (CONSTRUCTION MONITOR)

A. Description of Work

The Contractor is advised that the portions of work within this Contract pertaining to the construction of the outfall, wetland restoration and all other work in the project area shall require the supervisory expertise of a Restoration Specialist. The Restoration Specialist shall supervise all restoration work performed by the Contractor and his/her Subcontractors for the duration of the project, in accordance with the plans, specifications and directions of the Engineer.

The Restoration Specialist shall also be responsible for overseeing the implementation of the project's soil erosion control plan. In addition, the Restoration Specialist shall be cognizant of all conditions of the NYSDEC freshwater wetlands permit for the project, as they relate to work in the wetlands. Furthermore, the Restoration Specialist shall be responsible for overseeing all installation of plant material. The Restoration Specialist shall be responsible for preparing a restoration plan for any property disturbed by sanitary or storm sewer construction. The Restoration Specialist shall report to the NYCDDC, as represented on-site by the Engineer. The qualifications of the Restoration Specialist shall be approved by the NYCDDC and on-site prior to the start of any work.

B. Qualifications

The Restoration Specialist utilized to perform the work required must have performed at least three (3) projects similar in scope and type to the required work in the previous five (5) years. The Restoration Specialist shall be a Registered Landscape Architect or have equivalent professional experience. Prior to the start of work, the Contractor shall be required to submit the names and resumes of at least three prospective candidates to the NYCDDC. The NYCDDC shall approve the qualifications of the prospective candidates or alternatively ask for more choices, if the NYCDDC deems the candidates to be not qualified.

C. Site Monitoring

The Restoration Specialist shall monitor the Contractor's in-place erosion and sediment control devices, including, but not limited to, construction (limiting) fences, silt fences, etc., and shall notify the Contractor when maintenance or repair of these devices is necessary. The Restoration Specialist shall monitor related/adjacent construction to insure that these activities do not adversely impact restoration activities or the success of the restoration work.

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D. Restoration Supervision

The Restoration Specialist shall supervise all aspects of the wetland and upland installation including Wildlife Control and removal, in-stream sediment removal work, plant and sod salvage, and perimeter restoration work. The Restoration Specialist shall oversee all landscaping activities including installation of plant material related to the restoration of wetland areas.

E. Design and Design Review

The Restoration Specialist shall prepare, design and review design work as needed during construction. This work shall include but not be limited to the following:

- a. research and prepare design revision/modification drawings,
- b. research and prepare revisions/modifications to detailed specifications,
- c. prepare supplemental field sketches,
- d. review and critique design modification drawings and supplemental drawings.

The Restoration Specialist shall undertake this work when directed by the NYCDDC as represented on-site by the Engineer.

F. Photo Documentation

The Restoration Specialist shall keep a digital photograph log of the project. The photo log will follow the progress of the project, in a clear and understandable progression, and shall incorporate before, in progress and completed photographs of the work area and natural area restorations within the project. Fixed photopoints shall be used at each site to ensure that before and after photographs are taken from the same location and angle. The photo log will be utilized by NYCDDC for required reports, etc.

The Restoration Specialist shall use a digital camera with a minimum resolution of 4.1 megapixels for use during all phases of the project for photo-documentation purposes. The Restoration Specialist shall assemble the completed photo log onto CD's and transmit the complete photo log to the Engineer.

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G. Monitoring Reports

The Restoration Specialist shall prepare and submit a Monitoring Report to the NYCDDC representative, its agent, or the Engineer following the completion of all planting and associated restoration activities. The Restoration Specialist shall continue to submit an annual Monitoring Report until the guarantee period(s) for the plant material has expired. Six (6) copies of each report submittal shall be required.

The Restoration Specialist shall examine, monitor and report on the various components of the restoration and shall incorporate color photographs, color photocopies, graphs, etc., as appropriate. All information shall be reported in a concise format. The Monitoring Report shall:

- report on all construction activities related to restoration and stabilization,
- report the conditions of the vegetation planted within this Contract,
- quantify survival and cover rates and compare to permit requirements,
- recommend replacement species,
- report observed impacts to existing vegetation,
- report success rates in controlling erosion and sedimentation,
- report voluntary recruitment,
- present recommendations,
- give general commentary for increasing the success of future DDC restoration projects.

H. As-Built Plans and Information

No as-builts are required for the work under these specifications.

I. Measurement and Payment

The quantity to be measured for payment under this section shall be the total number of hours necessary for the supervision of all restoration work

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within this Contract, site monitoring, design and diagram review, photo documentation, preparation of monitoring reports and completion of the as-built plans in accordance with the plans, specifications and direction of the Engineer, performed prior to the date of Substantial Completion.

For supplying all labor, materials and equipment necessary for Restoration Specialist, the Contractor shall receive a unit price bid.

The contract price per unit for Restoration Specialist shall be as indicated on the BID SCHEDULE OF PRICES Item No. BMP-7.404-A. The unit price bid shall include the costs for all labor, materials, equipment and incidental expenses necessary or required to complete the work in accordance with the plans and specifications to the satisfaction of the NYCDDC representative, its agent, or Engineer.

No separate or additional payment will be made for work performed in accordance with the requirements of this section during the Maintenance and Guarantee Period specified for the Landscaping work. In addition, said work shall be considered a part of the Maintenance and Guarantee and subject to the provisions thereof should the Contractor fail to complete this work as specified.

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7.404-B EROSION AND SEDIMENT CONTROL LICENSED/CERTIFIED  
PROFESSIONAL

A. Description of Work

The Contractor is advised to retain the services of an independent Licensed/Certified professional with practical experience in the principles and practices of erosion and sediment control and Stormwater Management to prepare and certify a site specific Stormwater Pollution Prevention Plan (SWPPP) in compliance with the New York State Department of Environmental Conservation (NYSDEC) Pollutants Discharge Elimination System (SPDES) General Permit for Stormwater water Runoff from Construction Activities, GP-0-15-002, issued pursuant to Article 17, Titles 7, 8, and Article 70 of the Environmental Conservation Law (ECL). The Certified Professional shall be approved by NYCDDC and be present on-site prior to the start of any work.

Within thirty (30) days after the contract is registered, The Contractor shall submit a complete SWPPP and Notice of Intent (NOI) to NYCDDC's Infrastructure – Engineering Support Unit for review and comments. The Contractor through his Licensed/Certified Professional shall make all necessary revisions required and resubmit the SWPPP and the NOI for acceptance and signature. Work shall not begin until a permit identification number is issued by the NYSDEC, and an initial inspection is conducted by the Licensed/Certified Professional certifying that the appropriate control measures specified in the SWPPP have been adequately implemented to the satisfaction of the Resident Engineer and the Project Manager of the Engineering Support Unit.

B. Qualifications

The Licensed/Certified Professional employed to perform the required work must have previous experience in work of this nature and in completing the necessary submittals required under this Contract. The Certified Professional shall be a Professional Engineer or a Landscape Architect licensed to practice in New York State, or a Soil and Water Conservation Society Certified Professional in Erosion and Sediment Control (CPESC). Prior to the start of work, the Contractor is required to submit the names and resumes of at least three (3) prospective candidates to the NYCDDC for approval. The NYCDDC shall make a selection or alternatively ask for more choices, if they deem the candidates to be unqualified.

C. Site Monitoring, Inspection and Reports

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The Certified Professional shall monitor disturbed areas and the Contractor's in-place erosion and sediment control devices, including Silt Fence and Stabilized Construction Entrance, and shall notify the Contractor when maintenance or repair of these devices is necessary.

Following the start of construction activities, site inspections shall be conducted by a Certified Professional at least once a week and within 24 hours of rainfall events of 0.5 inches or greater. For construction sites where soils disturbance is greater than five (5) acres at one time, the Certified Professional shall conduct at least two (2) site inspections every seven (7) calendar days and within twenty-four (24) hours of the end of each rainfall event of 0.5 inches or greater. The two inspections shall be separated by a minimum of two (2) full calendar days. Subsequent to each inspection, a Certified Professional shall prepare an inspection report and submit the original to the Resident Engineer and one copy to the Infrastructure-Engineering Support Unit. At a minimum, the inspection report shall include, but not limited to, the following information:

1. Date and Time of inspection;
2. Name and Title of person performing the inspection;
3. A description of the weather and soil conditions (e.g. dry, wet, saturated) at the time of the inspection;
4. A description of the condition runoff at all points of discharged from the construction site. This shall include identification of any discharges of sediment from the construction site. Include discharges from conveyance systems (i.e. pipes, culverts, ditches, etc.) and overland flow;
5. A description of the condition of all natural surface waterbodies located within or immediately adjacent to the properties boundaries of the construction site which receive runoff from disturbed areas. This shall include identification of any discharges of sediment to the surface waterbody;
6. Record of any evidence of soil erosion on the site, potential for pollutants entering the drainage systems, problems at discharge points (such as turbidity in receiving water) and signs of soil and mud transport from the site to the public road at the limits of the project;
7. Identification of all erosion and sediment control practices that need repair or maintenance;
8. Identification of all erosion and sediment practices that were not installed properly or are not functioning as designed and need to be reinstalled or replaced;
9. Description and sketch of areas with active soil disturbance activity, areas that have been disturbed but are inactive at the time

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- of the inspection, and areas that have been stabilized (temporary and/or final) since the last inspection;
10. Current phase of construction of all post-construction stormwater management practices and identification of all construction that is not in conformance with the SWPPP and technical standards;
  11. Corrective actions that must be taken to install, repair, replace or maintain erosion and sediment control practices; and to correct deficiencies identified with the construction of post-construction stormwater management practices;
  12. Identification and status of all corrective actions that were required by previous inspection;
  13. Digital photographs, with date stamp, that clearly show the condition of all practices that have been identified as needing corrective actions. The Qualified Inspector shall attach paper color copies of the digital photographs to the inspection report being maintained onsite within seven (7) calendar days of the date of the inspection. The qualified inspector shall also take digital photographs with date stamp, that clearly show the condition of the practice(s) after the corrective actions has been completed. The qualified inspector shall attach paper color copies of the digital photographs to the inspection report that documents the completion of the corrective action work within seven (7) calendar days of that inspection.
  14. Within one business day of the completion of an inspection, the Qualified Inspector shall notify the Contractor and the Resident Engineer of any corrective actions that need to be taken. The Contractor shall begin implementing the corrective actions within one business day of this notification; and
  15. All the inspection reports shall be signed by the Licensed Professional.

The Contractor shall retain a signed copy of the General Permit GP-0-15-002, NOI, SWPPP, signed MS4 SWPPP Acceptance form, NOI Acknowledgment Letter and all original inspection reports required by this general permit at the construction site in a prominent place for public viewing from the date of initiation of construction activities to the date of final stabilization and the Notice of Termination (NOT) has been submitted to the NYSDEC. These documents must be made available to the permitting authority upon request. Prior to starting construction, the Contractor shall certify that the SWPPP was prepared in accordance with the requirements of the permit and it meets all federal, state and local erosion and sediment control requirements.

In addition, the Contractor and Subcontractors shall identify at least one Trained Contractor who is an employee of the company that will be

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responsible for a day to day implementation of the SWPPP. The name and telephone number of this person should be listed in the SWPPP. The Trained Contractor shall be a Professional Engineer, Registered Landscape Architect, or have received a DEC-endorsed four (4) hours of Erosion and Sediment Control training. After receiving the initial training, the Trained Contractor shall attend a four (4) hours training every three (3) years. The Contractor shall ensure that at least one Trained Contractor is on site on a daily basis when soil disturbance activities are being performed.

Performing implementation of a SWPPP on a permitted construction project without a Trained Contractor on site daily is a violation of Part III.A.6 of the SPDES General Permit GP-0-15-002. Stormwater controls must be maintained in good operating condition until all disturbed soils are permanently stabilized. Control devices in need of repair should be repaired promptly after identification.

Prior to filing of the Notice of Termination (NOT), or at the end of the permit term, the Contractor shall have the Licensed Professional perform a final site inspection. The Licensed Professional shall certify that the site has undergone final stabilization using either vegetative or structural stabilization methods and that all temporary erosion and sediment controls (such as silt fence and stabilized construction entrance) not needed for long term erosion control have been removed. Subsequently, the Contractor shall submit a complete NOT to the Engineering Support Unit to terminate the permit coverage.

Additionally, the Licensed Professional must identify all permanent Stormwater management structures that have been constructed, and provide the owner(s) of such structures with a manual describing the operation and maintenance practices that will be necessary in order for the structures to function as designed after the site has been stabilized.

The Licensed Professional must also certify that the permanent structures have been constructed as described in the SWPPP.

D. Contractor's Liability.

The Contractor shall be liable for any discharge that either causes or contributes to a violation of water quality standards as contained in Parts 700 through 705 of Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York. Should any storm water runoff from the site violate the water quality standards, the Contractor will be directed to take immediate steps, at his own expense, to rectify the



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situation and prevent any further sediment from entering the storm sewer system.

In the event that pollutants are discharged to the storm water system due to the Contractor's negligence, the Resident Engineer will direct the Contractor to cease any or all construction activities contributing to the release of these pollutants. The Contractor shall be held responsible, at his own cost, for any and all necessary actions to remedy the damage.

Furthermore, failure of the Contractor and Sub-contractor(s) to strictly adhere to any permit requirements shall constitute a permit violation that could result in substantial criminal, civil, and administrative penalties.

It is the Contractor's responsibility to pay all the SPDES permit fees which shall consist of the yearly regulatory fee, the initial authorization fee per acre of land disturbed and per acre of future impervious area. The Contractor shall be liable for all penalties incurred due to his failure to pay these fees on time.

E. Measurement and Payment

The quantity to be measured for payment under this section shall be the total number of days necessary to prepare the required reports to secure the permits; conduct the inspection and supervision of all erosion and sediment control works within this Contract, site monitoring, photo documentation, and preparation of monitoring reports in accordance with the plans, specifications and direction of the resident engineer, performed prior to the date of substantial completion.

The Contractor shall receive a unit price bid for supplying all labor, materials and equipment required by the Certified Professional.

The contract price per unit for the Licensed/Certified Professional shall be as indicated on the Bid Schedule of Price for Item No. BMP-7.404-B. The unit price bid shall include, but not be limited to, the cost of furnishing all the labor, materials, fees, permits and testing required to prepare the SWPPP, provide and construct all erosion and sediment control devices in accordance with the approved SWPPP; inspect and monitor the work; comply with NYSDEC permitting requirements and all necessary incidentals to complete the work all in accordance with the specifications and the directions of the Engineer.

\* \* \* \* \*

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7.405

**VECTOR, PEST AND WILDLIFE CONTROL**

NO TEXT ON THIS PAGE

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7.406

**WOOD CHIPS**

NO TEXT ON THIS PAGE

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7.407–A EROSION CONTROL MAT - STRAWA. Description of Work

Under this item, the Contractor shall furnish and place erosion control mat for slope protection within areas designated on the plans or where directed by the Engineer.

B. Material

The Erosion Control Mat shall be 100% biodegradable and meet the following requirements:

Netting	One Side Only, Organic Leno Weave Jute, 100% Biodegradable 0.5" x 1.0" opening
Matrix	100% Agriculture Straw 0.55 lbs/yd <sup>2</sup> 298.4 g/m <sup>2</sup>
Thread	1.5" stitch space, Completely biodegradable

Index Value Properties

<u>Property</u>	<u>Test Method</u>	<u>Typical</u>
Mass/Unit Area	ASTM D6475	10.0 oz/yd <sup>2</sup>
Thickness	ASTM D6525	0.40 in
Tensile Strength-MD	ASTM D6818	106 lb/ft
Elongation-MD	ASTM D6818	16.7%
Tensile Strength-TD	ASTM D6818	118 lb/ft
Elongation-TD	ASTM D6818	26.8%
Light Penetration	ASTM D6567	6%
Water Absorption	ASTM D1117	322%
Unvegetated Shear Stress	ASTM D6460	1.55 lbs/ft <sup>2</sup>
Slope		3:1 or flatter

The Erosion Control Mat shall be ECS-1B manufactured by East Coast Erosion Blankets, Bernville, PA; Bionet S75BN manufactured by Tensar North American Green, Poseyville, IN; S1000BD manufactured by Enviroscape Erosion Control Materials, Deshler, OH; or approved equal.

Wire Staples shall consist of 12-inch lengths of No. 11 gauge wire bent to form a "U" or other wire staples as approved.

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C.

Method

Erosion control mat shall be placed on topsoil perpendicular to slope contours where directed by the Engineer. Erosion control mat shall be laid without stretching so that it lies loosely on the soil and in contact with the soil at all points and shall be pressed firmly into the soil surface by rolling or tamping. If seeding is required, it shall be done prior to the installation of the erosion control mat.

The upper end of each roll of erosion control mat shall be turned and buried to a depth of six (6) inches, with the soil firmly tamped against it. Erosion control matting shall have a minimum lap of six (6) inches on all sides. Ends of rolls shall also have a minimum lap of six (6) inches with the upgrade section on top.

Check slots shall be constructed at intervals of 50 feet, unless otherwise directed by placing a fold of erosion control mat six (6) inches vertically into the ground with replaced soil tamped firmly against it.

Erosion control mat shall be held tightly to the soil by staples driven firmly into the ground. Staples shall be spaced not more than three (3) feet apart, along the sides and center of the erosion control mat and not more than one (1) foot apart at roll ends, check slots and at other critical areas as determined by the Engineer.

D.

Maintenance

The Contractor shall maintain the areas of erosion control mat installation until final acceptance of the contract. Maintenance shall consist of providing protection for erosion control mat and repair of areas damaged by equipment, erosion, fire, or other causes, as well as re-establishment of the grade and conditions of the area as specified.

E.

Measurement and Payment

The quantity to be measured for payment under this Section shall be the number of square feet of surface area on which erosion control mat has been installed in accordance with the plans and specifications and directions of the Engineer.

The Contract price per square feet of Erosion Control Mat - Straw shall be as indicated on the BID SCHEDULE OF PRICES Item No. BMP-7.407-A. The bid price shall include the costs for all labor, material, equipment and incidental in accordance with the plans and specifications to the satisfaction of the Engineer.

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**7.408**

**HERBICIDE APPLICATION**

NO TEXT ON THIS PAGE

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**7.409    MYCORRHIZAL INOCULANTS**

NO TEXT ON THIS PAGE

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**7.410      PLANT PROTECTION FENCE**

NO TEXT ON THIS PAGE



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7.411

**WATERING AND WEEDING DURING GUARANTEE PERIOD**

NO TEXT ON THIS PAGE

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7.412

**SLOPE STABILIZATION**

NO TEXT ON THIS PAGE

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7.413

**TEMPORARY GOOSE EXCLUSION FENCE**

NO TEXT ON THIS PAGE

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7.414

**BMP AS-BUILT PLANS**

NO TEXT ON THIS PAGE

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**7.415      VINE AND INVASIVE PLANT REMOVAL**

NO TEXT ON THIS PAGE

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**7.416**

**GALVINIZED CHICKEN WIRE**

NO TEXT ON THIS PAGE

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7.417

**DEBRIS EXCLUSION FENCE**

NO TEXT ON THIS PAGE

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7.418 CLEAN SAND FOR RESTORED AREA

A. Description of Work

Under this item, the Contractor shall provide clean sand for fill in accordance with the plans and directed by the Engineer.

The Contractor shall be liable for any damage to property caused by fill operations and all areas of construction disturbed shall be restored to their original condition to the satisfaction of the Engineer.

The Contractor shall supply information detailing source location of clean sand from off-site and provide a sample of sand to be used for inspection by the Engineer and Restoration Specialist prior to delivery of sand stockpile to site.

B. Material

Material shall consist of sand, free of organic material, loam, debris, frozen soil or other deleterious material which may be compressible. The sand shall be of uniform quality, friable, free from hard clods, stiff clay, hard pan, partially disintegrated stone, stones, lime, cement, ashes, slag, concrete, tar residues, tarred paper, gasoline, motor oil, or other petroleum hydrocarbons, boards, brush, weeds, stalks, roots, sods, chips, sticks or any other undesirable material. Invasive, nonnative seed shall not be allowed in the clean sand material.

Clean sand should conform to the following gradation requirements:

U.S. Standard Sieve Size	Percent Passing by Weight
No. 8	100
No. 10	15-100
No. 40	0-70
No. 60	0-12

Uniformly graded sands, defined as having a uniformity coefficient ( $C_u = D_{60}/D_{10}$ ) less than 6, are unacceptable.

Tests shall be required and shall serve as a representative analysis for every 200 cubic yards of material utilized.

Clean sand shall comply with the following requirements: No sand shall be delivered in a frozen or muddy condition.

1. Invasive, Nonnative Plant Species: Clean sand shall be free of



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invasive nonnative plant propagules.

C. Measurement and Payment

The quantity of clean sand to be paid for under this item shall be the number of cubic yards of clean sand furnished from off-contract site sources (i.e. suppliers approved by the engineer), mixed, placed and incorporated in the completed work in accordance with the plans and specifications to the satisfaction of the Engineer, measured in trucks used for delivery, at the site of the work. The quantity of clean sand to be paid for under this item shall be measured in cubic yards in trucks used for delivery. No clean sand shall be furnished until ordered by the Engineer. Delivery ticket with name and address of vendor, date and estimated volume must be supplied to the Engineer prior to truck measurement.

The contract price per unit for Clean Sand shall be as indicated on the BID SCHEDULE OF PRICES Item No. BMP-7.418. The bid price shall be a unit price per cubic yard of Clean Sand, and shall include the cost of all labor, materials and equipment necessary to prepare topsoil areas, furnish, mix, place and incorporate topsoil and compost, and all other work incidental thereto, in accordance with the plans and specifications to the satisfaction of the Engineer.

\* \* \* \* \*

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7.500

SOIL EROSION AND SEDIMENTATION CONTROL MEASURES

Under soil erosion and sedimentation control work, the Contractor shall provide all labor, materials, tools and equipment necessary to complete the execution of the work in complete accordance with the Specifications and all Contract Drawings. All Soil Erosion and Sedimentation Control work shall be done in conformance with and subject to the renewed State Pollutant Discharge Elimination System (SPDES) General Permits for Discharges Stormwater from Construction Activity, GP-0-15-002, the latest edition of the "New York Guidelines for Urban Erosion and Sediment Control" published by the Empire State Chapter of the Soil and Water Conservation Society, and the New York State Department of Transportation Standard Specification Part 107-12 -Soil, Erosion and Air Pollution Statement, including, but not limited to, the following methods of erosion and sedimentation control.

1. Slopes left exposed will, within 30 working days of completion of any phase of grading, be planted or otherwise provided with ground cover device, or structures sufficient to restrain erosion.
2. A ground cover sufficient to restrain erosion must be planted or otherwise provided within 15 working days on that portion of the tract (disturbed area) upon which further active construction is not being undertaken.

The Contractor shall submit for approval by the Engineer, and NYSDEC, a written Erosion and Sedimentation Control Plan, prepared by a Certified Professional in Erosion and Sediment Control (CPESC), who is a Professional Engineer (P.E.) or under the supervision of a P.E. The Erosion and Sediment Control Plan must be signed and sealed by that CPESC and/or the supervising P.E. The Plan shall comply with all conditions of the applicable freshwater wetland permit issued by NYSDEC.

The Erosion and Sedimentation Control Plan shall conform to the guidelines as set forth in the latest edition of the "New York Guidelines for Urban Erosion and Sediment Control" published by the Empire State Chapter of the Soil and Water Conservation Society and he/she shall implement the followings:

- No stockpiling of excavated material would be allowed in a manner or location that would permit erosion and its subsequent sedimentation in wetlands or other natural areas.
- No storage of soil shall be permitted within the Contract limits.

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Soil is deemed to be for this requirement any sediment including material such as topsoil fill, sand, any excavated material, boulders, stones, cold patch, etc.

- Storm sewers will be installed in a sequence and manner that reduces the time during which the tops of excavated areas would be exposed and vulnerable to erosion.
- At the end of each day's work, the street where sewers are being installed will be cleaned and swept to reduce the amount of soil that could potentially impact downstream areas as sediment. The Contractor shall be required to have a street sweeper on the site.
- Use truck tracking pads at the construction access locations to remove sediment from the tires of the trucks and other construction equipment prior to driving on the adjacent streets.
- Utilize sediment basins, sediment traps and/or sediment filters in the erosion control plan to capture sediment from run-off and from water produced by dewatering operations.
- Use portable sediment tanks to remove sediment from water generated by dewatering operations. All water from dewatering shall be treated before discharge into any surface water bodies, unless the turbidity of the effluent is less than the ambient level of the receiving water body as measured by the turbidity meter in standard units (i.e. NTU's).
- The Contractor shall supply all portable equipment.
- Use silt fence as shown on Contract Drawings, unless otherwise directed by the Engineer.
- Schedule work in wet areas, such as the mitigation site, during relatively dry summer months.
- Employ water diversions to direct the stream away from the area being worked on, so as to create drier conditions for in-stream work.
- Use temporary pumping sump to control water level at site.
- Prior to the start of construction activities, such as sewer installation, inspect all erosion control measures and continually monitor them, especially after each storm event.

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- If the Contractor uses dewatering methods which produce effluent discharges, the Contractor shall monitor each discharge effluent and receiving water body. Discharges shall not cause substantial visible contrast to the natural condition in any receiving water body. A meter which records turbidity in standard units (i.e. NTUs) shall be utilized to establish ambient conditions in each water prior to discharge. If any monitored turbidity level exceeds the ambient level of the receiving water body, the Contractor shall insure (e.g., by reducing the flow rate or otherwise adjusting the dewatering system) that no substantial visible contrast to the natural condition in the receiving water body occurs. The action(s) taken, or the decision not to take any action, shall be recorded in the monitors log.

The Contractor shall not receive any payment for the preparation of the Erosion and Sedimentation Control Plan. Installation of the Erosion and Sedimentation features and maintenance of them will result in payment for their respective items as described in Section 7.501 through 7.516. The work shall take place at the mitigation site only and is not payment for street work or the installation of sewers; with the exception of the Erosion and Sediment Control Licensed Professional (Section 7.404-B). The Erosion and Sediment Control Licensed Professional shall oversee construction and the installation of the sewers for the entire project.

The work shall include items of work specified under the following sections:

<u>Section Number</u>	<u>Title</u>
7.501	Maintenance of Erosion Control Measures
7.504-A	Silt Fence
7.509-A	Stabilized Construction Entrance

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7.501

MAINTENANCE OF EROSION CONTROL MEASURES

Maintenance/repair of the erosion and sediment control measures shall be performed by the Contractor only as directed by the Engineer.

When, in the judgment of the Engineer, Restoration Specialist, and NYCDDC Construction Monitor, the soil erosion control measures have deteriorated to a point of not functioning adequately because of storm events, the Contractor shall be notified to make the necessary repairs.

If the Engineer deems that the erosion control device was not adequately installed in the first place, repair of such a device shall be the sole responsibility of the Contractor.

Damage to the erosion control measures caused by the construction activity of the Contractor is the responsibility of the Contractor. If the Engineer determines that the damage is the result of the Contractor's construction activity, then the Engineer shall order that the devices are repaired. The Contractor shall make the repairs at his/her own expense.

In the event that the erosion control measures are damaged as a result of vandalism by the general public, the Contractor shall notify his insurance company and put forth his claim for remuneration to the said damage.

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7.502

**CONSTRUCTION LIMIT FENCE**

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**7.503A STAKED STRAW BALES**

NO TEXT ON THIS PAGE

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7.504-A SILT FENCE

A. Description of Work

The Contractor shall furnish all materials, labor, and equipment necessary to construct silt fence specified herein and as shown on the Contract Drawings, including all incidental and appurtenant work required for a complete job.

Upon furnishing and installing the approved silt fence but prior to commencing any other work on-site, the Contractor shall notify the Engineer and arrange for an on-site inspection.

The silt fence shall be maintained in good condition and repaired as necessary by the Contractor during the construction and post-construction/site stabilization phases as directed by the Engineer.

B. Materials and Methods

1. Welded Wire Fence: The welded wire fence shall be a welded wire fence with a minimum height of 20 inches. The fence shall be constructed of wire fabric fastened to the middle rails and to vertical line posts.

Wire fabric shall be of No. 14 gauge wire with a mesh of approximately 4 inches. The upper edge of the fabric shall be twisted and barbed. The fabric shall be securely fastened to vertical line posts by means of ties and spaced not more than 12 inches apart on rails and not more than 14 inches apart on line posts.

The silt fence shall be located where indicated on the Contract Drawings. The fence shall be adjusted to avoid interference with trees and to maintain access to houses.

Line posts shall be spaced not more than 6 feet on centers. Posts shall be securely set in the ground. Line posts shall extend at least 16 inches below finished grade. Post locations shall be adjusted to avoid tree roots as appropriate.

2. Filter Fabric: Filter fabric shall be securely attached to the vertical line posts and wire fabric.

The filter fabric shall be purchased and delivered in a continuous roll and cut on-site to the length of the barrier(s) to avoid the use of joints. Dimensions of the roll shall be thirty-six (36) inches by one hundred (100) feet in length. When joints are necessary, filter cloth shall be spliced together only at a line post, with a minimum 6-inch overlap, and securely sealed. The filter fabric shall be Fabric MUTUAL MISF 1776 as manufactured by Mutual Industries Inc.,



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Fabric # GTF190SF as manufactured by Thrace Linq, Fabric # Geotex2130 as manufactured by Propex, or approved equal.

A trench shall be excavated approximately 6 inches wide and 6 inches deep along the line of posts and upslope from the barrier. The filter fabric shall be extending into the trench, the trench backfilled, and the soil compacted over the filter fabric.

Silt fences shall be removed when they have served their useful purpose, but not before the upslope area has been permanently stabilized.

C. Maintenance

The silt fences shall be inspected periodically (at least once per week), or as directed by the Engineer. Any required repairs shall be made immediately.

Filter fabric shall be inspected at least once per week and immediately after each rainfall and at least daily during prolonged rainfall. Any required repairs shall be made immediately. Should the fabric decompose or become ineffective prior to the end of the expected usable life while the barrier is still necessary, the fabric shall be replaced promptly.

D. Measurement and Payment

The quantity to be measured for payment under this section shall be the total number of linear feet of silt fence, installed and maintained in accordance with the plans, specifications and directions of the Engineer. The welded wire fence and filter fabric which together make up the silt fence shall be measured as one erosion and sediment control feature.

The bid price shall constitute full compensation for all labor, materials and equipment and incidental expenses necessary to complete the work in accordance with the plans and specifications and to the satisfaction of the Engineer.

*Payment will be made under:*

Item No.	Item	Pay Unit
BMP-7.504A	Silt Fence	LF

\* \* \* \* \*

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7.505

**SAND BAGS**

NO TEXT ON THIS PAGE

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7.506

**SEDIMENT TRAP WITH FILTER**

NO TEXT ON THIS PAGE

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7.507

**SEDIMENT FILTER**

NO TEXT ON THIS PAGE

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7.508

**SEDIMENT BASIN**

NO TEXT ON THIS PAGE

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7.509-A STABILIZED CONSTRUCTION ENTRANCE

A. Description of Work

The Contractor shall furnish all materials, labor, and equipment necessary to construct the stabilized construction entrance specified herein and within the limits as shown on the Contract Drawings, including all incidental and appurtenant work required for a complete job.

Upon furnishing and installing the stabilized construction entrance but prior to commencing any other work on-site, the Contractor shall notify the Engineer and arrange for an on-site inspection.

The entrance shall be maintained in good condition and repaired as necessary by the Contractor during the construction phases as directed by the Engineer.

B. Materials and Methods

1. The entrance areas shall be cleared and stripped of all vegetation, roots and other objectionable material prior to installation of the access way as specified.
2. Provide surface drainage and divert excess runoff to stabilized areas as required and as directed by the Engineer.
3. Rock - use NYSDOT Size No. 3 coarse aggregate.
4. Thickness - not less than six (6) inches for rock.
5. Width shall be twenty-four (24) feet minimum.
6. Filter cloth shall be placed over the entire area prior to placing of stone. Filter cloth shall be as specified below.

Filter cloth underliner shall be suitable for heavy duty construction traffic and have the following minimum properties:

Grab tensile strength	220 lbs.
Elongation at failure	220%
Mullen Burst Strength	430%
Puncture Strength	120 lbs.
Equivalent opening size	40-80 mm

Filter cloth shall be TenCate Mirafi 600X, Beltech 315, TerraTexHD or approved equal.

7. Surface water - All surface water flowing or diverted toward construction entrances shall be piped across the entrance. If piping is impractical, a mountable berm with 5:1 slopes will be permitted.

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8. Maintenance - the entrance shall be maintained in a condition which will prevent tracking or flowing of sediment onto public rights-of-way. All sediment spilled, dropped, washed or tracked onto public rights-of-way must be removed immediately.
9. When truck washing is required, it shall be done on an area stabilized with stone and which drains into an approved sediment trapping device.
10. Periodic inspection and needed maintenance shall be provided after each rain.
11. After completion of the project, the stabilized construction entrance shall be removed and regraded to its original condition. Prior to grading and planting, the area shall be tilled to lessen the compaction of the soils.

C. Maintenance

1. Maintenance of the stabilized construction entrance will include periodic inspection of the surface condition. Top dress with new gravel as needed. Any areas producing sediment should be treated immediately.
2. After completion of the project, the stabilized construction entrance shall be removed and the areas regraded to their original elevations. Prior to seeding and planting, the areas shall be tilled to lessen the compaction of the soils.
3. For those stabilized construction entrances that are in the beds of accessways, the rock can stay in place for use in accessways.

D. No Separate Payment

The contract price per unit for the Stabilized Construction Entrance shall be as indicated on the BID SCHEDULE OF PRICES, Item No. BMP-7.509-A. The bid price shall constitute full compensation for all labor, materials and equipment and incidental expenses necessary to complete the work in accordance with the plans and specifications and to the satisfaction of the Engineer.

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**UI - PAGES****UTILITY INTERFERENCES SECTION**

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**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: November 30, 2016

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-17).  
Verizon (Pages UI-18 through UI-22)  
Time Warner Cable (Pages UI-23 through UI-24).
  - D. Schedule U-3 Page UI-25 (as per the Private Utilities reference document for UI SECTION called "CET SPECIFICATIONS AND SKETCHES", dated November 2010), and Test Pits(Pages UI-26 through UI-29) in this Section UI-Pages; and,
  - E. Utility drawings (15 Sheets) consisting of:
    - \* Con Edison – Conduit and Duct Occupancy Plate (6 sheets)
    - \* Con Edison - Low Tension Mains and Service Plate (7 sheets)
    - \* Verizon – Existing Facility Plate (1 sheet)
    - \* Time Warner Existing Facility Plate (1 sheet)All Fifteen (15) 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 7<sup>th</sup> day after receipt of the arbitrator's decision, or on the 30<sup>th</sup> 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**

<b><u>COMPANY NAME</u></b>	<b><u>CONTACT NAME</u></b>	<b><u>CONTACT TELEPHONE</u></b>
CON EDISON	THERESA KONG	212-460-4834
VERIZON	AUBREY MAKHANLALL	718-977-8165
TIME WARNER	JOHN PIAZZA	718-888-4261

**SCHEDULE U-2**

UTILITY INTERFERENCE  
FOR INFORMATION ONLY  
ENGINEER'S ESTIMATE OF QUANTITY AND TYPES OF INTERFERENCE  
FOR CONSOLIDATED EDISON

SE823

CONST OF HIGH LVL STORM SANITARY &amp; COMB SEWERS &amp; WM WORK IN 229TH ST

CET ITEM	DESCRIPTION	UNITS	ESTIMATED QUANTITY
CET 101.1	UTILITIES CROSSING TRENCH FOR SEWERS UP TO AND INCL 24" DIAMETER (TYPE .1)	EA	1
CET 104.1	UTILITIES CROSSING TRENCH FOR SEWERS OVER 48" TO 54" DIAMETER (TYPE .1)	EA	1
CET 108.1	UTILITIES CROSSING TRENCH FOR WATERMAIN UP TO AND INCL 12" DIAMETER (TYPE .1)	EA	1
CET 225.1A	INSTALLATION AND REMOVAL OF CATCH BASINS WITH UTILITY INTERFERENCES	EA	4
CET 350	OVERHEAD ACCOMMODATION, PROTECTION OF OVERHEAD FACILITIES AND APPURTENANCES	LS	1
CET 351	INSTALL AND REMOVE "A" FRAME ON UTILITY POLES	EA	33
CET 352E	SPECIAL CARE OPERATION - TREE REMOVAL	EA	15
CET 400	TEST PITS FOR UTILITY FACILITIES	CY	10
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



**CON EDISON SCOPE OF WORK  
SUPPORT AND PROTECTION  
SE823  
CONST OF HIGH LVL STORM SANITARY & COMB SEWERS & WM WORK IN 229TH ST**

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<b>CET 101.1</b>	<b>UTILITIES CROSSING TRENCH FOR SEWERS UP TO AND INCL. 24" DIAMETER (TYPE .I)</b>	<b>EA</b>
	<i>At the following locations:</i>	
	230th Pl. Between 145th Ave. and 146ave	
	<b>Total Quantity for CET 101.1 = 1</b>	
<b>CET 104.1</b>	<b>UTILITIES CROSSING TRENCH FOR SEWERS OVER 48" TO 54" DIAMETER (TYPE .I)</b>	<b>EA</b>
	<i>At the following locations:</i>	
	230th Pl. Between 145th Ave. and 146ave	
	<b>Total Quantity for CET 104.1 = 1</b>	
<b>CET 108.1</b>	<b>UTILITIES CROSSING TRENCH FOR WATERMAIN UP TO AND INCL. 12" DIAMETER (TYPE .J)</b>	<b>EA</b>
	<i>At the following locations:</i>	
	230th Pl. Between 145th Ave. and 146ave	
	<b>Total Quantity for CET 108.1 = 1</b>	
<b>CET 225.1A</b>	<b>INSTALLATION AND REMOVAL OF CATCH BASINS WITH UTILITY INTERFERENCES</b>	<b>EA</b>
	<i>At the following locations:</i>	
	145th Ave. and 230th Pl.	
	228th Str Between 147th Ave. and 148th Ave.	
	146th Ave. and 229th Str (2)	
	<b>Total Quantity for CET 225.1A = 4</b>	
<b>CET 350</b>	<b>OVERHEAD ACCOMMODATION, PROTECTION OF OVERHEAD FACILITIES AND APPURTENANCES</b>	<b>LS</b>
	<i>At the following locations:</i>	
	Various	
	AS SHOWN ON CONTRACT DOCUMENTS	
	<b>Total Quantity for CET 350 = 1</b>	

**CON EDISON SCOPE OF WORK  
SUPPORT AND PROTECTION  
SE823  
CONST OF HIGH LVL STORM SANITARY & COMB SEWERS & WM WORK IN 229TH ST**

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CET 351

INSTALL AND REMOVE "A" FRAME ON UTILITY POLES

EA

*At the following locations:*

148th Ave. and 227th Str (2)  
 227th Str Between 147th Ave. and 148th Ave. (6)  
 147th Ave. and 227th Str (2)  
 147th Ave. Between 227th Str and 228th Str  
 147th Ave. and 228th St  
 147th Ave. Between 228th Str and 229th Str  
 147th Ave. and 229th Str (2)  
 147th Ave. and 230th Pl.  
 146th Ave. and 229th St. (2)  
 229th Str Between 145th Ave. and 146th Ave. (5)  
 145th Ave. and 228th Str (2)  
 145th Ave. Between 229th Str and 230th Str (2)  
 145th Ave. and 230th Str  
 145th Ave. Between 230th Str and 230th Pl. (2)  
 145th Ave. and 230th Pl.  
 148th Ave. and 230th Pl.  
 228th Str Between 147th Ave. and 148th Ave.

Total Quantity for CET 351 = 33

CET 352E

SPECIAL CARE OPERATION - TREE REMOVAL

EA

*At the following locations:*

Various

Total Quantity for CET 352E = 15

CET 400

TEST PITS FOR UTILITY FACILITIES

CY

*At the following locations:*

Various

Total Quantity for CET 400 = 10

CET 450.1

CONSTRUCTION FIELD SUPPORT REQUIRING AVERAGE SIZE SURVEY CREW PERFORMING TYPICAL SURVEY FUNCTIONS (TYPE .1)

CRHRS

*At the following locations:*

Various

Total Quantity for CET 450.1 = 1

CON EDISON SCOPE OF WORK  
SUPPORT AND PROTECTION

SE823

CONST OF HIGH LVL STORM SANITARY & COMB SEWERS & WM WORK IN 229TH ST

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CET 450.2	CONSTRUCTION FIELD SUPPORT REQUIRING AVERAGE SMALL SIZE CREW CAPABLE OF PERFORMING VARIOUS TASKS (TYPE .2)	CRHRS
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*At the following locations:*

Various

Total Quantity for CET 450.2 = 1

CET 450.3	CONSTRUCTION FIELD SUPPORT REQUIRING AVERAGE MEDIUM SIZE CREW CAPABLE OF PERFORMING VARIOUS TASKS (TYPE .3)	CRHRS
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*At the following locations:*

Various

Total Quantity for CET 450.3 = 1

**UTILITY INTERFERENCES (UI) SECTION WORKSHEET****SE823****HIGH LEVEL STORM AND COMBINED SEWERS IN 229TH STREET AREA****FOR INFORMATION ONLY****ENGINEER'S ESTIMATE OF QUANTITY AND TYPES OF INTERFERENCE****FOR VERIZON****BOROUGH OF QUEENS, NY**

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.	1.00
CET 101.1	UTILITIES CROSSING TRENCH FOR SEWERS OVER 12" TO 24" DIAMETER (TYPE .1)	EA.	1.00
CET 108.1	UTILITIES CROSSING TRENCH FOR WATERMAIN UP TO AND INCL. 12" DIAMETER (TYPE .1)	EA.	1.00
CET 108.3	UTILITIES CROSSING TRENCH FOR WATERMAIN UP TO AND INCL. 12" DIAMETER (TYPE .3)	EA.	1.00
CET 225.1A	REMOVAL AND INSTALLATION OF CATCH BASINS WITH UTILITY INTERFERENCES	EA.	1.00
CET 304A	FURNISH, DELIVER & INSTALL CONCRETE ROAD BASE	C.Y.	27.00
CET 304B	FURNISH, DELIVER & INSTALL CONCRETE SIDEWALK	C.Y.	61.00
CET 305	FURNISH & INSTALL ASPHALT PAVING MIXTURE	TONS	19.00
CET 330T	SUPPORT & PROTECTION OF COMMUNICATION UTILITY FACILITIES DURING EXCAVATION OF CITY TRENCH WHEN FACILITIES LIE IN OR	L.F.	30.00
CET 350	OVERHEAD ACCOMMODATION, PROTECTION OF OH FACILITIES & APPURTENANCES	L.S.	1.00
CET 400	TEST PITS	C.Y.	20.00
CET 401	TRENCH EXCAVATION FOR ADJUSTMENT OF UTILITIES	C.Y.	1004.00
CET 402T.2A	EXIST. OCCUPIED NON-CONCR. ENCASED CONDUITS PLCD. IN FINAL POS. WITH CONCR. ENCSMNT.	L.F.	23565.00
CET 402T.V2A	EXIST. VACANT NON-CONCR. ENCASED CONDUITS PLCD. IN FINAL POS. WITH CONCR. ENCSMNT.	L.F.	5892.00
CET 500	REMOVAL OF ABANDONED UTILITY CONDUITS (NON-CONCRETE ENCASED)	L.F.	31406.00
CET 501	REMOVAL OF ABANDONED MASONRY FOR ELECTRIC AND TEL. FACILITIES	C.Y.	17.00
CET 638 N	INSTALLATION OF FIELD CONSTRUCTED UTILITY STRUCTURE	C.Y.	17.00

VERIZON CET SCOPE OF WORKSUPPORT & PROTECTIONSE823HIGH LEVEL STORM AND COMBINED SEWERS IN 229TH STREET AREABOROUGH OF QUEENS, NY

CET 100.1	UTILITIES CROSSING TRENCH FOR CATCH BASIN CHUTE CONNECT. AND/OR TEST PIT (TYPE .1)	EA.
	At the following locations:	
	N/S OF 147TH AVENUE E/O 228TH STREET	1.00
	Total quantity for CET 100.1 =	1.00
CET 101.1	UTILITIES CROSSING TRENCH FOR SEWERS OVER 12" TO 24" DIAMETER (TYPE .1)	EA.
	At the following locations:	
	INT. OF 147TH AVENUE AND 228TH STREET	1.00
	Total quantity for CET 101.1 =	1.00
CET 108.1	UTILITIES CROSSING TRENCH FOR WATERMAIN UP TO AND INCL. 12" DIAMETER (TYPE .1)	EA.
	At the following locations:	
	W/S OF 228TH STREET N/O 147TH AVENUE	1.00
	Total quantity for CET 108.1 =	1.00
CET 108.3	UTILITIES CROSSING TRENCH FOR WATERMAIN UP TO AND INCL. 12" DIAMETER (TYPE .3)	EA.
	At the following locations:	
	S/S OF 147TH AVENUE W/O 227TH STREET	1.00
	Total quantity for CET 108.3 =	1.00
CET 225.1A	REMOVAL AND INSTALLATION OF CATCH BASINS WITH UTILITY INTERFERENCES	EA.
	At the following locations:	
	N/S OF 147TH AVENUE E/O 228TH STREET	1.00
	Total quantity for CET 225.1A =	1.00

VERIZON CET SCOPE OF WORKSUPPORT & PROTECTIONSE823HIGH LEVEL STORM AND COMBINED SEWERS IN 229TH STREET AREABOROUGH OF QUEENS, NY

CET 304A	FURNISH, DELIVER & INSTALL CONCRETE ROAD BASE	C.Y.
	At the following locations:	
	S/S OF 147TH AVENUE BETWEEN 227TH STREET AND 229TH STREET	8.00
	INT. OF 147TH AVENUE AND 229TH STREET	7.00
	S/S OF 147TH AVENUE BETWEEN W/O 229TH STREET AND E/O 229TH STREET	4.00
	S/S OF 147TH AVENUE BETWEEN E/O 229TH STREET AND E/O 230TH PLACE	8.00
	Total quantity for CET 304A =	27.00
CET 304B	FURNISH, DELIVER & INSTALL CONCRETE SIDEWALK	C.Y.
	At the following locations:	
	S/S OF 147TH AVENUE BETWEEN 227TH STREET AND 229TH STREET	28.00
	S/S OF 147TH AVENUE W/O 229TH STREET	3.00
	INT. OF 147TH AVENUE AND 229TH STREET	5.00
	S/S OF 147TH AVENUE BETWEEN W/O 229TH STREET AND E/O 229TH STREET	6.00
	S/S OF 147TH AVENUE BETWEEN E/O 229TH STREET AND E/O 230TH PLACE	19.00
	Total quantity for CET 304B =	61.00
CET 305	FURNISH & INSTALL ASPHALT PAVING MIXTURE	TONS
	At the following locations:	
	S/S OF 147TH AVENUE BETWEEN 227TH STREET AND 229TH STREET	6.00
	INT. OF 147TH AVENUE AND 229TH STREET	4.00
	S/S OF 147TH AVENUE BETWEEN W/O 229TH STREET AND E/O 229TH STREET	3.00
	S/S OF 147TH AVENUE BETWEEN E/O 229TH STREET AND E/O 230TH PLACE	6.00
	Total quantity for CET 305 =	19.00
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:	
	W/S OF 228TH STREET N/O 147TH AVENUE	30.00
	Total quantity for CET 330T =	30.00

VERIZON CET SCOPE OF WORKSUPPORT & PROTECTIONSE823HIGH LEVEL STORM AND COMBINED SEWERS IN 229TH STREET AREABOROUGH OF QUEENS, NY

<b>CET 350</b>	<b>OVERHEAD ACCOMMODATION, PROTECTION OF OH FACILITIES &amp; APPURTENANCES</b>	<b>L.S.</b>
	At the following locations:	
	AS ENCOUNTERED AND DIRECTED BY THE VERIZON REPRESENTATIVE	1.00
	Total quantity for CET 350 =	1.00
<b>CET 400</b>	<b>TEST PITS</b>	<b>C.Y.</b>
	At the following locations:	
	AS ENCOUNTERED AND DIRECTED BY THE VERIZON REPRESENTATIVE	20.00
	Total quantity for CET 400 =	20.00
<b>CET 401</b>	<b>TRENCH EXCAVATION FOR ADJUSTMENT OF UTILITIES</b>	<b>C.Y.</b>
	At the following locations:	
	S/S OF 147TH AVENUE BETWEEN 227TH STREET AND 229TH STREET	483.00
	S/S OF 147TH AVENUE W/O 229TH STREET	25.00
	INT. OF 147TH AVENUE AND 229TH STREET	82.00
	S/S OF 147TH AVENUE BETWEEN W/O 229TH STREET AND E/O 229TH STREET	71.00
	S/S OF 147TH AVENUE BETWEEN E/O 229TH STREET AND E/O 230TH PLACE	343.00
	Total quantity for CET 401 =	1004.00
<b>CET 402T.2A</b>	<b>EXIST. OCCUPIED NON-CONCR. ENCASED CONDUITS PLCD. IN FINAL POS. WITH CONCR. ENCSMNT.</b>	<b>L.F.</b>
	At the following locations:	
	S/S OF 147TH AVENUE BETWEEN 227TH STREET AND 229TH STREET	12528.00
	S/S OF 147TH AVENUE W/O 229TH STREET	72.00
	INT. OF 147TH AVENUE AND 229TH STREET	237.00
	S/S OF 147TH AVENUE BETWEEN W/O 229TH STREET AND E/O 229TH STREET	1848.00
	S/S OF 147TH AVENUE BETWEEN E/O 229TH STREET AND E/O 230TH PLACE	8880.00
	Total quantity for CET 402T.2A =	23565.00

**VERIZON CET SCOPE OF WORK****SUPPORT & PROTECTION****SE823****HIGH LEVEL STORM AND COMBINED SEWERS IN 229TH STREET AREA****BOROUGH OF QUEENS, NY**

**CET 402T.V2A** EXIST. VACANT NON-CONCR. ENCASED CONDUITS PLCD. IN FINAL POS. WITH CONCR. ENCASMNT. **L.F.**

At the following locations:

S/S OF 147TH AVENUE BETWEEN 227TH STREET AND 229TH STREET	3132.00
S/S OF 147TH AVENUE W/O 229TH STREET	18.00
INT. OF 147TH AVENUE AND 229TH STREET	60.00
S/S OF 147TH AVENUE BETWEEN W/O 229TH STREET AND E/O 229TH STREET	462.00
S/S OF 147TH AVENUE BETWEEN E/O 229TH STREET AND E/O 230TH PLACE	2220.00

Total quantity for CET 402T.V2A = 5892.00

**CET 500** REMOVAL OF ABANDONED UTILITY CONDUITS (NON-CONCRETE ENCASED) **L.F.**

At the following locations:

S/S OF 147TH AVENUE BETWEEN 227TH STREET AND 229TH STREET	17610.00
S/S OF 147TH AVENUE W/O 229TH STREET	90.00
INT. OF 147TH AVENUE AND 229TH STREET	296.00
S/S OF 147TH AVENUE BETWEEN W/O 229TH STREET AND E/O 229TH STREET	2310.00
S/S OF 147TH AVENUE BETWEEN E/O 229TH STREET AND E/O 230TH PLACE	11100.00

Total quantity for CET 500 = 31406.00

**CET 501** REMOVAL OF ABANDONED MASONRY FOR ELECTRIC AND TEL. FACILITIES **C.Y.**

At the following locations:

S/S OF 147TH AVENUE W/O 229TH STREET	17.00
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Total quantity for CET 501 = 17.00

**CET 638 N** INSTALLATION OF FIELD CONSTRUCTED UTILITY STRUCTURE **C.Y.**

At the following locations:

S/S OF 147TH AVENUE W/O 229TH STREET	17.00
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Total quantity for CET 638 N = 17.00



**FOR INFORMATION ONLY**  
**ENGINEER'S ESTIMATE OF QUANTITIES AND TYPES OF INTERFERENCE**  
**TIME WARNER CABLE OF NEW YORK CITY**  
**SE-823**  
**HIGH LEVEL STORM AND COMBINED SEWERS IN 229TH STREET AREA**  
**Borough of Queens**

CET ITEM	DESCRIPTION	UNITS	ESTIMATED QUANTITY
350	OVERHEAD ACCOMMODATION, PROTECTION OF OVERHEAD FACILITIES, POLES & APPURTENANCES	LS	1

**TIME WARNER CABLE  
SUPPORT & PROTECTION  
SE-823**

**High Level Storm And Combined Sewers In 229th Street Area  
Borough of Queens**

**CET 350 OVERHEAD ACCOMMODATION, PROTECTION OF OVERHEAD  
FACILITIES, POLES AND APPURTENANCES  
AS ENCOUNTERED:**

**LS  
1**

**Total quantity for CET 350 1**

## **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.**

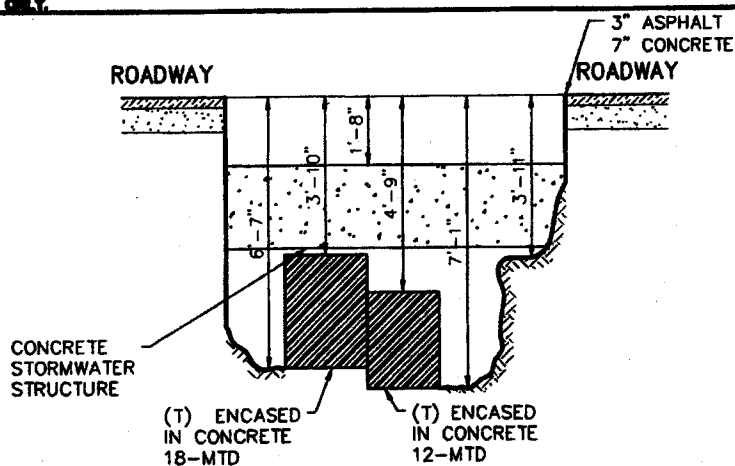
(NO TEXT IN THIS SECTION)

INSPECTOR: I.N.

SHEET NO. 1 OF 3



## PLAN





JOB NO.: SE823

TEST PIT #: 2

JOB: HLSS AND COMBINED SEWERS

TP DATE: 4/6/16

IN 229TH AVENUE

INSPECTOR: I.N.

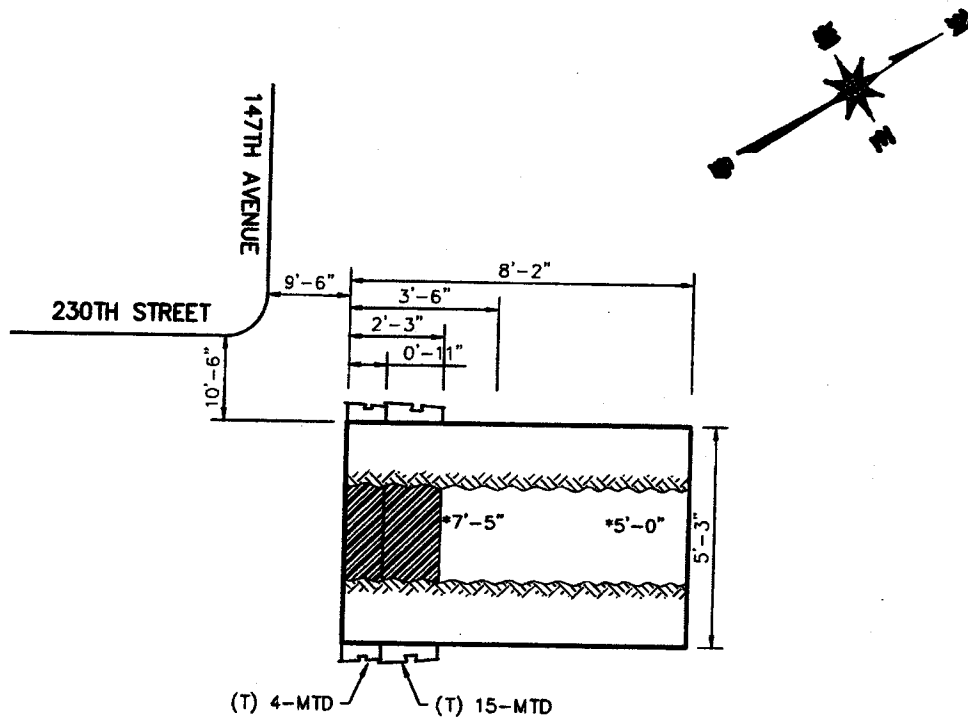
LOCATION: S/S 147TH AVENUE E/O 230TH STREET

PURPOSE: LOCATE EXISTING UNDERGROUND FACILITIES

DIMENSION: 8'-2"X5'-3"X4'-1"

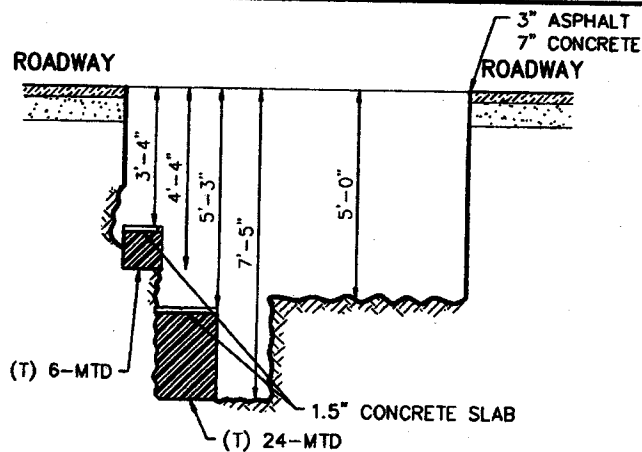
VOLUME: 6.5 CY

SHEET NO. 2 OF 3



NOTE:  
1. ALL DRAWINGS SHOWING UTILITY  
SUPPORT AND PROTECT WORK ARE  
FOR REFERENCE ONLY.

## PLAN





JOB NO.: SE823  
 JOB: HLSS AND COMBINED SEWERS  
IN 229TH AVENUE

TEST PIT #: 3  
 TP DATE: 4/6/16  
 INSPECTOR: I.N.

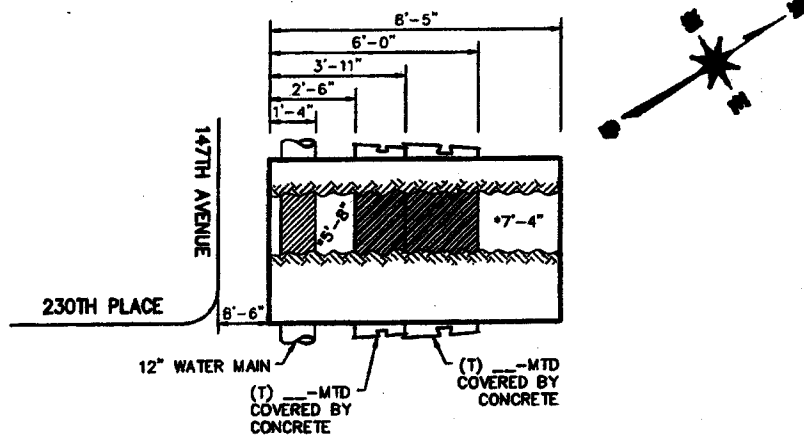
LOCATION: S/S 147TH AVENUE W/O 230TH PLACE

PURPOSE: LOCATE EXISTING UNDERGROUND FACILITIES

DIMENSION: 8'-5"X4'-9"X4'-4"

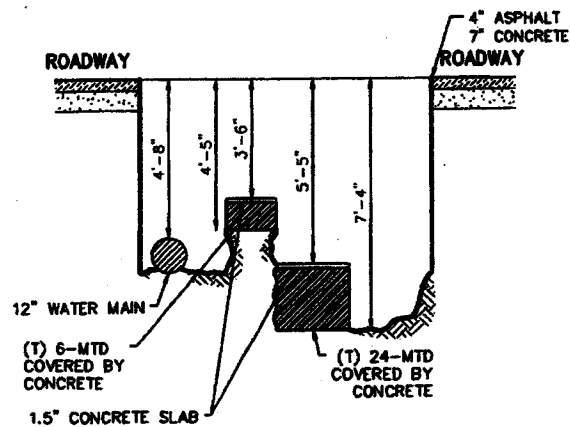
VOLUME: 6.4 CY

SHEET NO. 3 OF 3



NOTE:  
 1. ALL DRAWINGS SHOWING UTILITY  
 SUPPORT AND PROTECT WORK ARE  
 FOR REFERENCE ONLY.

PLAN



**NO TEXT ON THIS PAGE**





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**INFRASTRUCTURE DIVISION  
BUREAU OF DESIGN**

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**VOLUME 3 OF 3**

PROJECT ID: SE823

CONSTRUCTION OF SANITARY AND STORM SEWERS AND APPURTENANCES IN 229TH  
STREET BETWEEN 145TH AVENUE AND 147TH AVENUE, ETC.  
INCLUDING WATER MAIN WORK

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

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*Contractor*

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Dated \_\_\_\_\_, 20\_\_\_\_

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