



**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 www.nyc.gov/buildnyc

**VOLUME 1 OF 3
BID BOOKLET**

FOR FURNISHING ALL LABOR AND MATERIALS NECESSARY AND REQUIRED FOR:

PROJECT ID: SER200226

NEW STORM AND SANITARY SEWERS IN:

GLEN STREET: BETWEEN VICTORY BOULEVARD AND PARISH AVENUE
CANNON AVENUE: BETWEEN PARISH AVENUE AND VICTORY BOULEVARD
VICTORY BOULEVARD: BETWEEN ROSWELL AVENUE AND RICHMOND COURT
MELVIN AVENUE: BETWEEN GLEN STREET AND WILD AVENUE
PARISH AVENUE: BETWEEN CANNON AVENUE AND VICTORY BOULEVARD
WILD AVENUE BETWEEN: GLEN STREET AND PEARSON STREET
SHELLEY AVENUE: BETWEEN VICTORY BOULEVARD AND MILDRED AVENUE
BURKE AVENUE BETWEEN DEAD END OF PRICES LANE AND VICTORY BOULEVARD
PRICES LANE BETWEEN CANNON AVENUE AND DEAD END OF BURKE AVENUE
LEROY STREET BETWEEN CANNON AVENUE AND VICTORY BOULEVARD
MEREDITH AVENUE BETWEEN WEST SHORE EXPRESSWAY AND CANNON AVENUE
SIMMONS LANE BETWEEN VICTORY BOULEVARD AND MILDRED AVENUE

**CAPITAL PROJECT WM-I
WATER MAIN WORK IN:**

CANNON AVENUE: BETWEEN PARISH AVENUE AND VICTORY BOULEVARD
MEREDITH AVENUE BETWEEN BATES AVENUE AND CANNON AVENUE
VICTORY BOULEVARD: BETWEEN ROSWELL AVENUE AND RICHMOND COURT
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GLEN STREET: BETWEEN MELVIN AVENUE AND PARISH AVENUE
PRICES LANE: BETWEEN CANNON AVENUE AND DEAD END OF BURKE AVENUE

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

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

April 17, 2017



17-099

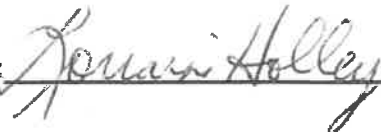
Bid Tab – REVISED*

| | | | |
|--------------------------|--|-------------------------|-------------------------|
| Description | CONSTRUCTION OF STORM, SANITARY SEWERS IN GLEN STREET ETC. - BOROUGH OF STATEN ISLAND | | |
| Bid Date | 07/11/2017 | FMS ID | SER200226 |
| Estimated Cost | \$25,288,011.00 | Client Agency | DEP |
| Bid Security | Not less than 2% of Total Bid Price | Federal Funded: | NO |
| Time Allowed | 915 CCD | PLA | NO |
| Addendum | 1 | Contract Manager | Nilofer Rajput* |
| PIN | 8502017SE0021C | Project Manager | Goldenberg, Izya |
| Selective Bidding | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | E-PIN | 85017B0101 |

| Bid Rank | Vendor | Bid Amount | Security Type |
|-----------------|---|-------------------------|----------------------|
| 1 | JR CRUZ CORP | \$27,893,428.42 | Bond |
| 2 | PERFETTO CONTRACTING CO. INC. | \$30,311,200.00* | Bond |
| 3 | DIFAZIO IND., LLC D/B/A DIFAZIO INDUSTRIES | \$31,313,131.31 | Bond |
| 4 | J. D'ANNUNZIO & SONS, INC. | \$35,493,200.00* | Bond |
| 5 | E.E. CRUZ & COMPANY, INC. | \$36,724,231.25 | Bond |

Recorder: Nishon Rivers Ext. 3232

Approver:





Justin Walter
Chief Administrative Officer
Administration

December 11, 2017

CERTIFIED MAIL - RETURN RECEIPT REQUEST

**JR CRUZ CORP
675 LINE RD
ABERDEEN, NJ 07747**

**RE: FMS ID: SER200226
E-PIN: 85017B0101001
DDC PIN: 8502017SE0021C
CONSTRUCTION OF STORM, SANITARY
SEWERS IN GLEN STREET ETC.,-
BOROUGH OF STATEN ISLAND
NOTICE OF AWARD**

Dear Contractor:

You are hereby awarded the above referenced contract based upon your bid in the amount of \$27,893,428.42 submitted at the bid opening on July 11, 2017. Within ten (10) days of your receipt of this notice of award, you are required to take the actions set forth in Paragraphs (1) through (3) below. For your convenience, attached please find a copy of Schedule A of the General Conditions to the Contract, which sets forth the types and amounts of insurance coverage required for this contract.

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

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

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

Sincerely,



Michael Shipman
Director of Contracts

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 journeymen in any craft classification shall not be greater than the ratio permitted to the contractor as to its workforce on any job under the registered apprenticeship program.

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 to learn more about the loan or contact 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.

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

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CAPITAL PROJECT WM-1

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Together With All Work Incidental Thereto
BOROUGH OF STATEN ISLAND
CITY OF NEW YORK

(NO TEXT ON THIS PAGE)

PROJECT ID: SER200226

**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 (718-391-2627).
- (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. 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: JRCRUZ Corp.

Name of Project: SEQ200508

Location of Project: Bay 32nd Street, Queens

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

Name: Norbu Tsering

Title: NYC DDC EIC Phone Number: 718/391-2555

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

Sanitary and storm sewers, appurtenances, BMP

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

Amount of Contract, Subcontract or Sub-subcontract: \$11,411,411.00

Start Date and Completion Date: Completed May 2016

Name of Contractor: JRCRUZ Corp.

Name of Project: SE-734

Location of Project: Richard Avenue, Staten Island

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

Name: Hitendra Patel, P.E.

Title: NYC DDC Deputy Director Phone Number: 718/391-3149

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

Sanitary and storm sewers, appurtenances, water main, BMP

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

Amount of Contract, Subcontract or Sub-subcontract: \$12,799,997.00

Start Date and Completion Date: Completed May 2017

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: New Stapleton Waterfront Phase II

Location of Project: Staten Island

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

Name: Julia Melzer

Title: NYC EDC Asst. VP - Capital Program Phone Number: 212/312-4268

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

Waterfront development, BMP

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

Amount of Contract, Subcontract or Sub-subcontract: \$12,179,902.00

Start Date and Completion Date: Ongoing

Name of Contractor: JRCRUZ Corp.

Name of Project: MIBBNC001

Location of Project: Kiswick Street, Staten Island

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

Name: David Peterson, P.E.

Title: NYC DDC EIC Phone Number: 718/391-2022

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

Storm sewers, appurtenances, BMP

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

Amount of Contract, Subcontract or Sub-subcontract: \$22,251,507.00

Start Date and Completion Date: 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: JRCRUZ Corp.

Name of Project: SER20088

Location of Project: Edgegrove Ave., Staten Island, NY

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

Name: NYC DDC Thomas Foley

Title: Engineer in Charge Phone Number:

Brief description of the Project completed or the Project in progress: Construction of Combined Sewers, BMP, curbs, sidewalks and road restoration.

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

Amount of Contract, Subcontract or Sub-subcontract: \$5,828,901

Start Date and Completion Date: July 2005

Name of Contractor: JRCRUZ Corp.

Name of Project: SE-777-R

Location of Project: North Railroad St., Staten Island, NY

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

Name: NYC DDC, Shakeel Ahmed, P.E.

Title: Engineer in Charge Phone Number: 718-391-1907

Brief description of the Project completed or the Project in progress: Construction of combined sewers, BMP, curbs, sidewalks, wafer mains, road restoration.

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

Amount of Contract, Subcontract or Sub-subcontract: \$34,720,000

Start Date and Completion Date: August 2010

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: Applemon Corp.

Name of Project: Richard Avenue (SE-734)

Location of Project: Staten Island, NY

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

Name: NYC DDC - Sam Riad

Title: EIC Phone Number: 718/317-2359

Brief description of the Project completed or the Project in progress: Construction of sanitary and storm sewers and appurtenances in Richard Avenue including water main and Best Management Practice (BMP)

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

Amount of Contract, Subcontract or Sub-subcontract: \$60,000

Start Date and Completion Date: 07/07/2014 - 02/25/2017

Name of Contractor: Applemon Corp.

Name of Project: Bertram Avenue (SER002311)

Location of Project: Staten Island

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

Name: NYC DDC - Hitendra Patel

Title: EIC Phone Number: 718/227-1235

Brief description of the Project completed or the Project in progress: Construction of sanitary and storm sewers in Bertram Avenue including water main work

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

Amount of Contract, Subcontract or Sub-subcontract: \$42,000

Start Date and Completion Date: 02/17/2014 - 10/20/2017

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: Applemon Corp.

Name of Project: Kiswick Street (MIBBNC001)

Location of Project: Staten Island

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

Name: NYC DDC - Dave Peterson

Title: EIC Phone Number: 718/351-4072

Brief description of the Project completed or the Project in progress: Construction of storm and sanitary sewers and appurtenances in Kiswick Street including water main work

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

Amount of Contract, Subcontract or Sub-subcontract: \$15,000

Start Date and Completion Date: 09/14/2015 - 06/04/2017

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: _____

ATTACHMENT 1 - BID INFORMATION

PROJECT ID: SER200226

PIN: 8502015SE0041C

Description and Location of Work: For The Construction Of Storm And Sanitary Sewers In Glen Street,,etc. Including Water Main Work in Cannon Avenue, etc, Together With All Work Incidental Thereto, Borough Of Staten Island.

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 JULY 11, 2017

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 JULY 11, 2017

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

Project ID: SER200226

NO TEXT ON THIS PAGE

LIST OF DRAWINGS**PROJECT ID: SER200226****PIN: 8502017SE0021C**

| Sheet No. | Description |
|------------------|---|
| 1 | Title Sheet |
| 2 | List of Drawings/ Miscellaneous Notes |
| 3-4 | Survey Control Map |
| 5-23 | Plans and Profiles |
| 24 | Access Manhole No 1 and No. 2 |
| 25-27 | Special Shallow Manhole |
| 28 | Box Sewer Sections Detail |
| 29 | Precast Manhole Details |
| 30-36 | Chamber No.1 to No.7 |
| BMP 1 – BMP12 | Cannon Avenue BMP |
| MPT1-MPT3 | Maintenance of Traffic (For Reference Only) |
| TS1-2 | Traffic Signals (For Reference Only) |
| FD 1-4 | Fire Dept. Base Maps (For Reference Only) |
| B1-19 | Record of Borings (For Reference Only) |
| U 1-31 | Utility Drawings (For Reference Only) |

(NO TEXT ON THIS PAGE)

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

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 AND NYC Division of Street Lighting Standard Drawings. |
| T-XXX | NYC DOT Specifications for Traffic Signals and Intelligent Transportation Systems AND NYC DOT Traffic Signal Standard Drawings. |
| JB XXX | Joint Bid Specifications in the JB-Pages, located in Volume 3 of 3 herein. |
| 8.01 XXX | Specifications for Handling, Transportation and Disposal of Nonhazardous and Potentially Hazardous Contaminated Materials in the HAZ-Pages, located in Volume 3 of 3 herein. |
| 67.XXX | Specifications for Abatement of Coal Tar Wrap Asbestos Containing Materials in the ASB-Pages, located in Volume 3 of 3 herein. |
| 79.11XXX | Specifications for Abatement of Transit Authority Duct Insulation Asbestos Containing Materials in the ASB-Pages, located in Volume 3 of 3 herein. |

(NO FURTHER TEXT ON THIS PAGE)

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 - 42

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 RAG ASPHALT MACADAM PAVEMENT, 6" THICK | 8,900.00 | S.Y. | 40 | | 356,000 | |
| 002 | 4.02 AB-R ASPHALTIC CONCRETE WEARING COURSE, 1-1/2" THICK | 1,850.00 | S.Y. | 20 | | 37,000 | |
| 003 | 4.02 AF-R ASPHALTIC CONCRETE WEARING COURSE, 2" THICK | 24,200.00 | S.Y. | 22 | | 532,400 | |
| 004 | 4.02 AG ASPHALTIC CONCRETE WEARING COURSE, 3" THICK | 1,725.00 | S.Y. | 26 | | 44,850 | |
| 005 | 4.02 CA BINDER MIXTURE | 9,595.00 | TONS | 110 | | 1,055,450 | |
| 006 | 4.04 H CONCRETE BASE FOR PAVEMENT, VARIABLE THICKNESS FOR TRENCH RESTORATION, (HIGH-EARLY STRENGTH) | 2,055.00 | C.Y. | 300 | | 616,500 | |



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|------------------|--|--|---------------|-------------------------------------|-----|--|-----|
| | | | | DOLLARS | CTS | DOLLARS | CTS |
| 007 | 4.07 BA RESET GRANITE CURB | 100.00 | L.F. | 100 | | 10,000 | |
| 008 | 4.07 CB NEW GRANITE CURB, STRAIGHT | 100.00 | L.F. | 110 | | 11,000 | |
| 009 | 4.08 AA CONCRETE CURB (18" DEEP) | 3,210.00 | L.F. | 50 | | 160,500 | |
| 010 | 4.08 BA CONCRETE CURB (21" DEEP) | 3,600.00 | L.F. | 55 | | 198,000 | |
| 011 | 4.09 AD STRAIGHT STEEL FACED CONCRETE CURB (18" DEEP) | 70.00 | L.F. | 60 | | 4,200 42000 225 | |
| 012 | 4.09 CD CORNER STEEL FACED CONCRETE CURB (18" DEEP) | 350.00 | L.F. | 150 | | 52,500 | |



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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 |
| 013 | 4.09 CE CORNER STEEL FACED CONCRETE CURB (21" DEEP) | 200.00 | L.F. | 150 | | 30,000 | |
| 014 | 4.13 AAS 4" CONCRETE SIDEWALK (UNPIGMENTED) | 11,875.00 | S.F. | 10 | | 118,750 | |
| 015 | 4.13 BAS 7" CONCRETE SIDEWALK (UNPIGMENTED) | 2,825.00 | S.F. | 12 | | 33,900 | |
| 016 | 4.13 DE EMBEDDED PREFORMED DETECTABLE WARNING UNITS | 186.00 | S.F. | 20 | | 3,720 | |
| 017 | 4.16 AA TREES REMOVED (4" TO UNDER 12" CALIPER) | 1.00 | EACH | 250 | | 250 | |
| 018 | 4.18 A MAINTENANCE TREE PRUNING (UNDER 12" CAL.) | 76.00 | EACH | 150 | | 11,400 | |



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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. |
| 019 | 4.18 B MAINTENANCE TREE PRUNING (12" TO UNDER 18" CAL.) | 36.00 | EACH | 250 | | 9,000 | |
| 020 | 4.18 C MAINTENANCE TREE PRUNING (18" TO UNDER 24" CAL.) | 7.00 | EACH | 300 | | 2,100 | |
| 021 | 4.18 D MAINTENANCE TREE PRUNING (24" CAL. AND OVER) | 8.00 | EACH | 400 | | 3,200 | |
| 022 | 4.19 SODDING | 405.00 | S.Y. | 15 | | 6,075 | |
| 023 | 4.21 TREE CONSULTANT | 385.00 | P/HR | 60 | | 23,100 | |
| 024 | 50.11MS046020 4'-6"W X 2'-0"H SINGLE BARREL FLAT TOP REINFORCED CONCRETE STORM SEWER | 210.00 | L.F. | 1,000 | | 210,000 | |



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BID SCHEDULE FORM

| COL 1 | COL 2 | COL 3 | COL 4 | COL 5 | | COL 6 | |
|---------|---|---------------------------------|-------|-------------------------|-----|------------------------------|-----|
| SEG. NO | ITEM NUMBER and DESCRIPTION | ENGINEER'S ESTIMATE OF QUANTITY | UNIT | UNIT PRICE (IN FIGURES) | | EXTENDED AMOUNT (IN FIGURES) | |
| | | | | DOLLARS | CTS | DOLLARS | CTS |
| 025 | 50.11MS056026 5'-6"W X 2'-6"H SINGLE BARREL FLAT TOP REINFORCED CONCRETE STORM SEWER | 170.00 | L.F. | 1,000 | | 170,000 | |
| 026 | 50.11MS060026 6'-0"W X 2'-6"H SINGLE BARREL FLAT TOP REINFORCED CONCRETE STORM SEWER | 160.00 | L.F. | 1,050 | | 168,000 | |
| 027 | 50.11MS066026 6'-6"W X 2'-6"H SINGLE BARREL FLAT TOP REINFORCED CONCRETE STORM SEWER | 120.00 | L.F. | 1,150 | | 138,000 | |
| 028 | 50.21M3C024D 24" R.C.P. CLASS III STORM SEWER, ON CONCRETE CRADLE | 1,015.00 | L.F. | 500 | | 507,500 | |
| 029 | 50.21M3C030D 30" R.C.P. CLASS III STORM SEWER, ON CONCRETE CRADLE | 100.00 | L.F. | 500 | | 50,000 | |
| 030 | 50.21M3C036D 36" R.C.P. CLASS III STORM SEWER, ON CONCRETE CRADLE | 20.00 | L.F. | 1,000 | | 20,000 | |



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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 | 50.21M3C045W 45"W X 29"H R.C.P. CLASS HE-III STORM SEWER, ON CONCRETE CRADLE | 215.00 | L.F. | 650 | | 139,750 | |
| 032 | 50.21M3E024D 24" R.C.P. CLASS III STORM SEWER, ENCASED IN CONCRETE | 640.00 | L.F. | 550 | | 352,000 | |
| 033 | 50.21M3E030D 30" R.C.P. CLASS III STORM SEWER, ENCASED IN CONCRETE | 80.00 | L.F. | 600 | | 48,000 | |
| 034 | 50.21M3E036D 36" R.C.P. CLASS III STORM SEWER, ENCASED IN CONCRETE | 1,670.00 | L.F. | 700 | | 1,169,000 | |
| 035 | 50.21M3E038W 38"W X 24"H R.C.P. CLASS HE-III STORM SEWER, ENCASED IN CONCRETE | 550.00 | L.F. | 750 | | 412,500 | |
| 036 | 50.21M3E045W 45"W X 29"H R.C.P. CLASS HE-III STORM SEWER, ENCASED IN CONCRETE | 115.00 | L.F. | 775 | | 89,125 | |



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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 |
| 037 | 50.31MC12 12" E.S.V.P. STORM SEWER, ON CONCRETE CRADLE | 370.00 | L.F. | 400 | | 148,000 | |
| 038 | 50.31MC15 15" E.S.V.P. STORM SEWER, ON CONCRETE CRADLE | 900.00 | L.F. | 400 | | 360,000 | |
| 039 | 50.31MC18 18" E.S.V.P. STORM SEWER, ON CONCRETE CRADLE | 1,260.00 | L.F. | 500 | | 630,000 | |
| 040 | 50.31ME12 12" E.S.V.P. STORM SEWER, ENCASED IN CONCRETE | 195.00 | L.F. | 350 | | 68,250 | |
| 041 | 50.31ME18 18" E.S.V.P. STORM SEWER, ENCASED IN CONCRETE | 900.00 | L.F. | 550 | | 495,000 | |
| 042 | 50.31SC10 10" E.S.V.P. SANITARY SEWER, ON CONCRETE CRADLE | 2,950.00 | L.F. | 450 | | 1,327,500 | |



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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 |
| 043 | 50.31SE08 8" E.S.V.P. SANITARY SEWER, ENCASED IN CONCRETE | 45.00 | L.F. | 300 | | 13,500 | |
| 044 | 50.41M6C12 12" D.I.P. CLASS 56 STORM SEWER, ON CONCRETE CRADLE | 36.00 | L.F. | 500 | | 18,000 | |
| 045 | 50.41M6C18 18" D.I.P. CLASS 56 STORM SEWER, ON CONCRETE CRADLE | 45.00 | L.F. | 750 | | 33,750 | |
| 046 | 50.41M6E18 18" D.I.P. CLASS 56 STORM SEWER, ENCASED IN CONCRETE | 135.00 | L.F. | 400 | | 54,000 | |
| 047 | 50.41S6C10 10" D.I.P. CLASS 56 SANITARY SEWER, ON CONCRETE CRADLE | 80.00 | L.F. | 500 | | 40,000 | |
| 048 | 50.41S6E10 10" D.I.P. CLASS 56 SANITARY SEWER, ENCASED IN CONCRETE | 30.00 | L.F. | 500 | | 15,000 | |



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| COL 1 SEQ. NO. | COL 2 ITEM NUMBER and DESCRIPTION | COL 3 ENGINEER'S ESTIMATE OF QUANTITY | COL 4 UNIT | COL 5 UNIT PRICE (IN FIGURES) | | COL 6 EXTENDED AMOUNT (IN FIGURES) | |
|-------------------|---|--|---------------|---------------------------------------|-----|--|-----|
| | | | | DOLLARS | CTS | DOLLARS | CTS |
| 049 | 50.71S10D00 RECONSTRUCTION OF EXISTING 10" DIAMETER CIRCULAR SANITARY SEWER, USING D.E.P. APPROVED CIPP LINING METHOD | 105.00 | L.F. | 250 | | 26,250 | |
| 050 | 50.91S6S08 8" D.I.P. CLASS 56 SANITARY FORCE MAIN, ON CRUSHED STONE BEDDING | 350.00 | L.F. | 500 | | 175,000 | |
| 051 | 51.11C001 CHAMBER NO. 1 | 1.00 | EACH | 185,000 | | 185,000 | |
| 052 | 51.11C002 CHAMBER NO. 2 | 1.00 | EACH | 185,000 | | 185,000 | |
| 053 | 51.11C003 CHAMBER NO. 3 | 1.00 | EACH | 200,000 | | 200,000 | |
| 054 | 51.11C004 CHAMBER NO. 4 | 1.00 | EACH | 200,000 | | 200,000 | |



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|------------------|--|--|---------------|-------------------------------------|-----|--|-----|
| | | | | DOLLARS | CTS | DOLLARS | CTS |
| 055 | 51.11C005 CHAMBER NO. 5 | 1.00 | EACH | 185,000 | | 185,000 | |
| 056 | 51.11C006 CHAMBER NO. 6 | 1.00 | EACH | 185,000 | | 185,000 | |
| 057 | 51.11C007 CHAMBER NO. 7 | 1.00 | EACH | 185,000 | | 185,000 | |
| 058 | 51.11P004 STANDARD 4'-0" DIAMETER PRECAST MANHOLE | 16.00 | EACH | 5,000 | | 80,000 | |
| 059 | 51.11P005 STANDARD 5'-0" DIAMETER PRECAST MANHOLE | 11.00 | EACH | 6,000 | | 66,000 | |
| 060 | 51.11P006 STANDARD 6'-0" DIAMETER PRECAST MANHOLE | 3.00 | EACH | 7,500 | | 22,500 | |



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|------------------|--|--|---------------|---------------------------------------|-----|--|-----|
| | | | | DOLLARS | CTS | DOLLARS | CTS |
| 061 | 51.11P007 STANDARD 7'-0" DIAMETER PRECAST MANHOLE | 2.00 | EACH | 10,000 | | 20,000 | |
| 062 | 51.21A001000C ACCESS MANHOLE NO. 1 | 1.00 | EACH | 20,000 | | 20,000 | |
| 063 | 51.21A002000C ACCESS MANHOLE NO. 2 | 1.00 | EACH | 20,000 | | 20,000 | |
| 064 | 51.21S0A1000V STANDARD MANHOLE TYPE A-1 | 44.00 | EACH | 5,000 | | 220,000 | |
| 065 | 51.21S0A3000V STANDARD SHALLOW MANHOLE TYPE A-3 | 8.00 | EACH | 4,000 | | 32,000 | |
| 066 | 51.21S0B1000V STANDARD MANHOLE TYPE B-1 | 12.00 | EACH | 5,000 | | 60,000 | |



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|-------------------|--|--|---------------|-------------------------------------|-----|--|-----|
| | | | | DOLLARS | CTS | DOLLARS | CTS |
| 067 | 51.21S0E1038H STANDARD MANHOLE TYPE E-1 ON 38"W X 24"H H.E.R.C.P. SEWER | 1.00 | EACH | 10,000 | | 10,000 | |
| 068 | 51.21S0E1045H STANDARD MANHOLE TYPE E-1 ON 45"W X 29"H H.E.R.C.P. SEWER | 3.00 | EACH | 10,000 | | 30,000 | |
| 069 | 51.21W001000V SPECIAL SHALLOW MANHOLE NO. 1 | 2.00 | EACH | 15,000 | | 30,000 | |
| 070 | 51.21W002000V SPECIAL SHALLOW MANHOLE NO. 2 | 5.00 | EACH | 15,000 | | 75,000 | |
| 071 | 51.21W003000V SPECIAL SHALLOW MANHOLE NO. 3 | 2.00 | EACH | 15,000 | | 30,000 | |
| 072 | 51.21W004000V SPECIAL SHALLOW MANHOLE NO. 4 | 1.00 | EACH | 15,000 | | 15,000 | |



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|------------------|--|--|---------------|-------------------------------------|-----|--|-----|
| | | | | DOLLARS | CTS | DOLLARS | CTS |
| 073 | 51.21W005000V SPECIAL SHALLOW MANHOLE NO. 5 | 1.00 | EACH | 15,000 | | 15,000 | |
| 074 | 51.21W006000V SPECIAL SHALLOW MANHOLE NO. 6 | 1.00 | EACH | 15,000 | | 15,000 | |
| 075 | 51.23RF REPLACEMENT OF EXISTING MANHOLE FRAME AND COVER | 36.00 | EACH | 500 | | 18,000 | |
| 076 | 51.41D001 STANDARD DOUBLE CATCH BASIN, TYPE 1 | 1.00 | EACH | 10,000 | | 10,000 | |
| 077 | 51.41S001 STANDARD CATCH BASIN, TYPE 1 | 101.00 | EACH | 6,500 | | 656,500 | |
| 078 | 51.41S002 STANDARD CATCH BASIN, TYPE 2 | 2.00 | EACH | 6,500 | | 13,000 | |



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|------------------|---|--|---------------|-------------------------------------|-----|--|-----|
| | | | | DOLLARS | CTS | DOLLARS | CTS |
| 079 | 51.42S1SO INCREMENTAL COST OF STANDARD CATCH BASIN TYPE 3 WITH CURB PIECE IN LIEU OF STANDARD CATCH BASIN TYPE 1 | 4.00 | EACH | 3,000 | | 12,000 | |
| 080 | 51.71B00000 MODIFICATION OF EXISTING CATCH BASIN | 7.00 | EACH | 3,000 | | 21,000 | |
| 081 | 52.11D12 12" DUCTILE IRON PIPE BASIN CONNECTION | 1,520.00 | L.F. | 200 | | 304,000 | |
| 082 | 52.21V08 8" E.S.V.P. RISER FOR HOUSE CONNECTION | 25.00 | V.F. | 75 | | 1,875 | |
| 083 | 52.31D06S10 6" DUCTILE IRON PIPE SPUR FOR HOUSE CONNECTION ON 10" D.I.P. SANITARY SEWER | 4.00 | EACH | 1,100 | | 4,400 | |
| 084 | 52.31V06S10 6" E.S.V.P. SPUR FOR HOUSE CONNECTION ON 10" E.S.V.P. SANITARY SEWER | 94.00 | EACH | 200 | | 18,800 | |

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|-------------------|--|--|---------------|-------------------------------------|-----|--|-----|
| | | | | DOLLARS | CTS | DOLLARS | CTS |
| 085 | 52.41C06R 6" C.I.S.P. HOUSE CONNECTION DRAIN ON CONCRETE CRADLE (RECONNECTION) | 260.00 | L.F. | 210 | | 54,600 | |
| 086 | 52.41D06R 6" D.I.P. HOUSE CONNECTION DRAIN ON CONCRETE CRADLE (RECONNECTION) | 24.00 | L.F. | 210 | | 5,040 | |
| 087 | 52.41V06R 6" E.S.V.P. HOUSE CONNECTION DRAIN ON CONCRETE CRADLE (RECONNECTION) | 310.00 | L.F. | 200 | | 62,000 | |
| 088 | 53.11DR TELEVISION INSPECTION AND DIGITAL AUDIO-VISUAL RECORDING OF SEWERS | 12,300.00 | L.F. | 3 | 50 | 43,050 | |
| 089 | 6.01 AC CLEARING AND GRUBBING | 5,300.00 | S.Y. | 4 | | 21,200 | |
| 090 | 6.02 AAN UNCLASSIFIED EXCAVATION | 6,565.00 | C.Y. | 48 | | 315,120 | |

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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 | 6.25 RS TEMPORARY SIGNS | 2,595.00 | S.F. | 2 | | 5,190 | |
| 092 | 6.26 TIMBER CURB | 11,530.00 | L.F. | 2 | | 23,060 | |
| 093 | 6.28 AA LIGHTED TIMBER BARRICADES | 6,015.00 | L.F. | 2 | | 12,030 | |
| 094 | 6.30 AA BEAM TYPE GUIDE RAIL | 5.00 | L.F. | 200 | | 1,000 | |
| 095 | 6.30 AR REMOVE EXISTING GUIDE RAIL | 5.00 | L.F. | 200 | | 1,000 | |
| 096 | 6.30 UA ANCHOR UNIT FOR BEAM TYPE GUIDE RAIL | 2.00 | EACH | 3,500 | | 7,000 | |



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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 | 6.40 D ENGINEER'S FIELD OFFICE (TYPE D) | 36.00 | MONTH | 10,000 | | 360,000 | |
| 098 | 6.44 THERMOPLASTIC REFLECTORIZED PAVEMENT MARKINGS (4" WIDE) | 15,520.00 | L.F. | 0 | 90 | 13,968 | |
| 099 | 6.49 TEMPORARY PAVEMENT MARKINGS (4" WIDE) | 3,565.00 | L.F. | 0 | 50 | 1782 | 50 |
| 100 | 6.52 CG CROSSING GUARD | 1,255.00 | P/HR | 25 | | 31,375 | |
| 101 | 6.53 REMOVE EXISTING LANE MARKINGS (4" WIDE) | 3,565.00 | L.F. | 0 | 50 | 1,782 | 50 |
| 102 | 6.67 SUBBASE COURSE, SELECT GRANULAR MATERIAL | 1,500.00 | C.Y. | 45 | | 67,500 | |



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|-------------------|---|--|---------------|-------------------------------------|-----|--|-----|
| | | | | DOLLARS | CTS | DOLLARS | CTS |
| 103 | 6.68 PLASTIC FILTER FABRIC | 18,450.00 | S.Y. | 1 | | 18,450 | |
| 104 | 6.87 PLASTIC BARRELS | 4,630.00 | EACH | 2 | | 9,260 | |
| 105 | 6.91 REFLECTIVE CRACKING MEMBRANE (18" WIDE) | 300.00 | L.F. | 3 | | 900 | |
| 106 | 60.11R520 FURNISHING AND DELIVERING 20-INCH DUCTILE IRON RESTRAINED JOINT PIPE (CLASS 55) | 3,650.00 | L.F. | 200 | | 730,000 | |
| 107 | 60.11R606 FURNISHING AND DELIVERING 6-INCH DUCTILE IRON RESTRAINED JOINT PIPE (CLASS 56) | 600.00 | L.F. | 40 | | 24,000 | |
| 108 | 60.11R608 FURNISHING AND DELIVERING 8-INCH DUCTILE IRON RESTRAINED JOINT PIPE (CLASS 56) | 9,300.00 | L.F. | 60 | | 558,000 | |



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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 | 60.11R612 FURNISHING AND DELIVERING 12-INCH DUCTILE IRON RESTRAINED JOINT PIPE (CLASS 56) | 5,100.00 | L.F. | 100 | | 510,000 | |
| 110 | 60.12D06 LAYING 6-INCH DUCTILE IRON PIPE AND FITTINGS | 650.00 | L.F. | 100 | | 65,000 | |
| 111 | 60.12D08 LAYING 8-INCH DUCTILE IRON PIPE AND FITTINGS | 9,870.00 | L.F. | 175 | | 1,727,250 | |
| 112 | 60.12D12 LAYING 12-INCH DUCTILE IRON PIPE AND FITTINGS | 5,480.00 | L.F. | 200 | | 1,096,000 | |
| 113 | 60.12D20 LAYING 20-INCH DUCTILE IRON PIPE AND FITTINGS | 3,890.00 | L.F. | 250 | | 972,500 | |
| 114 | 60.13M0A24 FURNISHING AND DELIVERING DUCTILE IRON MECHANICAL JOINT 24-INCH DIAMETER AND SMALLER FITTINGS, INCLUDING WEDGE TYPE RETAINER GLANDS | 65.00 | TONS | 8,500 | | 552,500 | |



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|------------------|---|--|---------------|-------------------------------------|-----|--|-----|
| | | | | DOLLARS | CTS | DOLLARS | CTS |
| 115 | 60.18BJC20EL FURNISHING, DELIVERING AND INSTALLING BELL JOINT CLAMPS, COMPLETE FOR 20-INCH PIPE AND LESS | 16.00 | EACH | 1,000 | | 16,000 | |
| 116 | 61.11DMM06 FURNISHING AND DELIVERING 6-INCH MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS | 53.00 | EACH | 1,200 | | 63,600 | |
| 117 | 61.11DMM08 FURNISHING AND DELIVERING 8-INCH MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS | 27.00 | EACH | 1,800 | | 48,600 | |
| 118 | 61.11DMM12 FURNISHING AND DELIVERING 12-INCH MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS | 15.00 | EACH | 3,500 | | 52,500 | |
| 119 | 61.11DMM20 FURNISHING AND DELIVERING 20-INCH MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS | 10.00 | EACH | 21,000 | | 210,000 | |



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|-------------------|--|--|---------------|-------------------------------------|-----|--|-----|
| | | | | DOLLARS | CTS | DOLLARS | CTS |
| 120 | 61.11TWC03 FURNISHING AND DELIVERING 3-INCH WET CONNECTION TAPPING VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS | 2.00 | EACH | 900 | | 1,800 | |
| 121 | 61.11TWC04 FURNISHING AND DELIVERING 4-INCH WET CONNECTION TAPPING VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS | 2.00 | EACH | 1,000 | | 2,000 | |
| 122 | 61.11TWC06 FURNISHING AND DELIVERING 6-INCH WET CONNECTION TAPPING VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS | 1.00 | EACH | 1,200 | | 1,200 | |
| 123 | 61.12DMM06 SETTING 6-INCH MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS | 53.00 | EACH | 1,000 | | 53,000 | |
| 124 | 61.12DMM08 SETTING 8-INCH MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS | 27.00 | EACH | 1,500 | | 40,500 | |
| 125 | 61.12DMM12 SETTING 12-INCH MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS | 15.00 | EACH | 2,000 | | 30,000 | |



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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 |
| 126 | 61.12DMM20 SETTING 20-INCH MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS | 10.00 | EACH | 2,500 | | 25,000 | |
| 127 | 61.12TWC03 SETTING 3-INCH WET CONNECTION TAPPING VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS | 2.00 | EACH | 200 | | 400 | |
| 128 | 61.12TWC04 SETTING 4-INCH WET CONNECTION TAPPING VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS | 2.00 | EACH | 300 | | 600 | |
| 129 | 61.12TWC06 SETTING 6-INCH WET CONNECTION TAPPING VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS | 1.00 | EACH | 500 | | 500 | |
| 130 | 62.11SD FURNISHING AND DELIVERING HYDRANTS | 53.00 | EACH | 3,500 | | 185,500 | |
| 131 | 62.12SG SETTING HYDRANTS COMPLETE WITH WEDGE TYPE RETAINER GLANDS | 53.00 | EACH | 3,500 | | 185,500 | |



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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 |
| 132 | 62.13RH REMOVING HYDRANTS | 51.00 | EACH | 200 | | 10,200 | |
| 133 | 62.14FS FURNISHING, DELIVERING AND INSTALLING HYDRANT FENDERS | 106.00 | EACH | 250 | | 26,500 | |
| 134 | 63.11VC FURNISHING AND DELIVERING VARIOUS CASTINGS | 78.00 | TONS | 1,150 | | 89,700 | |
| 135 | 64.11EL WITHDRAWING AND REPLACING HOUSE SERVICES USING 1-1/2- INCH OR LARGER SCREW TAPS | 107.00 | EACH | 400 | | 42,800 | |
| 136 | 64.11ST WITHDRAWING AND REPLACING HOUSE SERVICES USING SMALLER THAN 1-1/2-INCH SCREW TAPS | 268.00 | EACH | 350 | | 93,800 | |
| 137 | 64.12COEG CUTTING AND OFFSETTING HOUSE SERVICE WATER CONNECTIONS (EQUAL TO OR GREATER THAN 3-INCH DIAMETER) | 20.00 | L.F. | 75 | | 1,500 | |



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BID SCHEDULE FORM

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|-------------------|---|--|---------------|-------------------------------------|-----|--|-----|
| | | | | DOLLARS | CTS | DOLLARS | CTS |
| 138 | 64.12COLT CUTTING AND OFFSETTING HOUSE SERVICE WATER CONNECTIONS (LESS THAN 3-INCH DIAMETER) | 580.00 | L.F. | 50 | | 29,000 | |
| 139 | 64.12ESEG EXTENDING HOUSE SERVICE WATER CONNECTIONS (EQUAL TO OR GREATER THAN 3-INCH DIAMETER) | 50.00 | L.F. | 75 | | 3,750 | |
| 140 | 64.12ESLT EXTENDING HOUSE SERVICE WATER CONNECTIONS (LESS THAN 3- INCH DIAMETER) | 750.00 | L.F. | 50 | | 37,500 | |
| 141 | 64.13WC08 FURNISHING, DELIVERING AND INSTALLING WET CONNECTION SLEEVE ON 8-INCH WATER MAIN PIPE WITH VARIOUS OUTLETS | 1.00 | EACH | 2,500 | | 2,500 | |
| 142 | 64.13WC12 FURNISHING, DELIVERING AND INSTALLING WET CONNECTION SLEEVE ON 12-INCH WATER MAIN PIPE WITH VARIOUS OUTLETS | 1.00 | EACH | 2,500 | | 2,500 | |
| 143 | 64.13WC20 FURNISHING, DELIVERING AND INSTALLING WET CONNECTION SLEEVE ON 20-INCH WATER MAIN PIPE WITH VARIOUS OUTLETS | 3.00 | EACH | 3,500 | | 10,500 | |



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BID SCHEDULE FORM

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|------------------|--|--|---------------|---------------------------------------|-----|--|-----|
| | | | | DOLLARS | CTS | DOLLARS | CTS |
| 144 | 65.11BR FURNISHING, DELIVERING AND INSTALLING BANDS, RODS, WASHERS, ETC., COMPLETE, FOR RESTRAINING JOINTS | 1,000.00 | LBS. | 1 | | 1,000 | |
| 145 | 65.21PS FURNISHING AND PLACING POLYETHYLENE SLEEVE Unit price bid shall not be less than: \$ 0.50 | 18,500.00 | L.F. | 0 | 50 | 9,250 | |
| 146 | 65.31FF FURNISHING, DELIVERING AND PLACING FILTER FABRIC Unit price bid shall not be less than: \$ 0.10 | 156,300.00 | S.F. | 0 | 10 | 15,630 | |
| 147 | 65.71SG FURNISHING, DELIVERING AND PLACING SCREENED GRAVEL OR SCREENED BROKEN STONE BEDDING | 1,600.00 | C.Y. | 25 | | 40,000 | |
| 148 | 7.13 B MAINTENANCE OF SITE Unit price bid shall not be less than: \$ 7,500.00 | 30.00 | MONTH | 7,500 | | 225,000 | |
| 149 | 7.36 PEDESTRIAN STEEL BARRICADES | 11,025.00 | L.F. | 2 | | 22,050 | |



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BID SCHEDULE FORM

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|--------------------|---|---|----------------|--------------------------------------|-----|---|-----|
| | | | | DOLLARS | CTS | DOLLARS | CTS |
| 150 | 7.88 AA RODENT INFESTATION SURVEY AND MONITORING Unit price bid shall not be less than: \$ 5,500.00 | 1.00 | L.S. | 5,500 | | 5,500 | |
| 151 | 7.88 AB RODENT BAIT STATIONS Unit price bid shall not be less than: \$ 60.00 | 2,505.00 | EACH | 60 | | 150,300 | |
| 152 | 7.88 AC BAITING OF RODENT BAIT STATIONS Unit price bid shall not be less than: \$ 9.25 | 2,505.00 | EACH | 9 | 25 | 23,171 | 25 |
| 153 | 7.88 AD WATERBUG BAIT APPLICATIONS Unit price bid shall not be less than: \$ 65.00 | 22.00 | BLOCK | 65 | | 1430 | |
| 154 | 70.12AN CONTINUOUS FLIGHT AUGER (CFA) PILES | 11,850.00 | V.F. | 50 | | 592,500 | |
| 155 | 70.12AT CONTINUOUS FLIGHT AUGER (CFA) PILES, LOAD TEST | 4.00 | EACH | 45,000 | | 180,000 | |



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|------------------|--|--|---------------|-------------------------------------|-----|--|-----|
| | | | | DOLLARS | CTS | DOLLARS | CTS |
| 156 | 70.21DK DECKING | 785.00 | S.Y. | 25 | | 19,625 | |
| 157 | 70.31FN FENCING Unit price bid shall not be less than: \$ 2.00 | 66,950.00 | L.F. | 2 | | 133,900 | |
| 158 | 70.51EO EXCAVATION OF BOULDERS IN OPEN CUT Unit price bid shall not be less than: \$ 75.00 | 30.00 | C.Y. | 75 | | 2,250 | |
| 159 | 70.71SB STONE BALLAST Unit price bid shall not be less than: \$ 15.00 | 1,975.00 | C.Y. | 20 | | 39,500 | |
| 160 | 70.81CB CLEAN BACKFILL Unit price bid shall not be less than: \$ 15.00 | 11,230.00 | C.Y. | 45 | | 505,350 | |
| 161 | 70.91SW12 FURNISHING AND PLACING SHEETING AND BRACING IN TRENCH FOR WATER MAIN PIPE 12-INCH IN DIAMETER AND LESS | 4,500.00 | S.F. | 0 | 01 | 45 | |

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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 |
| 162 | 70.91SW20 FURNISHING AND PLACING SHEETING AND BRACING IN TRENCH FOR WATER MAIN PIPE 20-INCH IN DIAMETER | 45,100.00 | S.F. | 0 | 61 | 451 | |
| 163 | 73.11AB ADDITIONAL BRICK MASONRY Unit price bid shall not be less than: \$ 62.50 | 30.00 | C.Y. | 62 | 50 | 1875 | |
| 164 | 73.21AC ADDITIONAL CONCRETE Unit price bid shall not be less than: \$ 62.50 | 165.00 | C.Y. | 140 | | 23,100 | |
| 165 | 73.31AE0 ADDITIONAL EARTH EXCAVATION INCLUDING TEST PITS (ALL DEPTHS) Unit price bid shall not be less than: \$ 20.00 | 1,970.00 | C.Y. | 20 | | 39,400 | |
| 166 | 73.41AG ADDITIONAL SELECT GRANULAR BACKFILL Unit price bid shall not be less than: \$ 15.00 | 220.00 | C.Y. | 50 | | 11,000 | |
| 167 | 73.51AS ADDITIONAL STEEL REINFORCING BARS Unit price bid shall not be less than: \$ 1.00 | 28,600.00 | LBS. | 2 | | 57,200 | |



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|--------------------|---|---|----------------|--------------------------------------|-----|---|-----|
| | | | | DOLLARS | CTS | DOLLARS | CTS |
| 168 | 76.11CR CONSTRUCTION REPORT | 1.00 | L.S. | 50,000 | | 50,000 | |
| 169 | 76.21MR MONITORING AND POST-CONSTRUCTION REPORT | 1.00 | L.S. | 50,000 | | 50,000 | |
| 170 | 8.01 C1 HANDLING, TRANSPORTING AND DISPOSAL OF NON-HAZARDOUS CONTAMINATED SOIL | 10,000.00 | TONS | 30 | | 300,000 | |
| 171 | 8.01 C2 SAMPLING AND TESTING OF CONTAMINATED/POTENTIALLY HAZARDOUS SOIL FOR DISPOSAL PURPOSES | 50.00 | SETS | 1,800 | | 90,000 | |
| 172 | 8.01 H HANDLING, TRANSPORTING AND DISPOSAL OF HAZARDOUS SOIL | 200.00 | TONS | 300 | | 60,000 | |
| 173 | 8.01 S HEALTH AND SAFETY | 1.00 | L.S. | 10,000 | | 10,000 | |



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|-------------------|---|--|---------------|-------------------------------------|-----|--|-----|
| | | | | DOLLARS | CTS | DOLLARS | CTS |
| 174 | 8.01 W1 REMOVAL, TREATMENT, AND DISCHARGE/DISPOSAL OF CONTAMINATED WATER | 210.00 | DAY | 150 | | 31,500 | |
| 175 | 8.01 W2 SAMPLING AND TESTING OF WATER | 25.00 | SETS | 450 | | 11,250 | |
| 176 | 8.08 VARIABLE MESSAGE BOARD | 1.00 | EACH | 25,000 | | 25,000 | |
| 177 | 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 |
| 178 | 9.30 STORM WATER POLLUTION PREVENTION | 1.00 | L.S. | 100,000 | | 100,000 | |



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|------------------|--|--|---------------|--|-----|--|-----|
| | | | | DOLLARS | CTS | DOLLARS | CTS |
| 179 | BMP-7.09 LICENSED SURVEYOR | 10.00 | DAY | 2,700 | | 27,000 | |
| 180 | BMP-7.103-A CONCRETE (NONSTRUCTURAL) | 13.00 | C.Y. | 1,000 | | 13,000 | |
| 181 | BMP-7.107-B RIP-RAP AND ANGULAR NATURAL FIELD STONE | 60.00 | C.Y. | 125 | | 7,500 | |
| 182 | BMP-7.129-1 STRUCTURE NO. 1 | 1.00 | EACH | 258,000 440,000 <i>R</i> | | 258,000 440,000 <i>R</i> | |
| 183 | BMP-7.304-A EXCAVATION | 7,200.00 | C.Y. | 50 | | 360,000 | |
| 184 | BMP-7.307-A GRADING | 40,800.00 | S.F. | 1 | | 40,800 | |



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|-------------------|---|--|---------------|-------------------------------------|-----|--|-----|
| | | | | DOLLARS | CTS | DOLLARS | CTS |
| 185 | BMP-7.308 FILL | 5,200.00 | C.Y. | 25 | | 130,000 | |
| 186 | BMP-7.401-C1 CANOPY TREES - WHIPS 1' TO 4' | 120.00 | EACH | 75 | | 9,000 | |
| 187 | BMP-7.401-H SHRUBS (SEE PLANTING PLANS) | 370.00 | EACH | 55 | | 20,350 | |
| 188 | BMP-7.401-I SEEDING | 17,425.00 | S.F. | 0 | 50 | 8,712 | 50 |
| 189 | BMP-7.401-J HERBACEOUS PLANTS (PLUGS) | 12,180.00 | EACH | 5 | 50 | 66,990 | |
| 190 | BMP-7.403 TOPSOIL | 60.00 | C.Y. | 80 | | 4,800 | |



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|------------------|--|--|---------------|-------------------------------------|-----|--|-----|
| | | | | DOLLARS | CTS | DOLLARS | CTS |
| 191 | BMP-7.404-A RESTORATION SPECIALIST | 240.00 | HRS | 150 | | 36,000 | |
| 192 | BMP-7.404-B EROSION AND SEDIMENT CONTROL LICENSED/CERTIFIED PROFESSIONAL | 100.00 | DAY | 500 | | 50,000 | |
| 193 | BMP-7.405-A VECTOR AND PEST CONTROL | 30.00 | HRS | 150 | | 4,500 | |
| 194 | BMP-7.407-A EROSION CONTROL MAT | 17,430.00 | S.F. | 0 | 55 | 9,586 | 50 |
| 195 | BMP-7.408-B HERBICIDE APPLICATION | 5.00 | CREW DAY | 4,000 | | 20,000 | |
| 196 | BMP-7.413 TEMPORARY GOOSE EXCLUSION FENCE | 2,070.00 | L.F. | 15 | | 31,050 | |



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|--------------------|--|---|----------------|--------------------------------------|-----|---|-----|
| | | | | DOLLARS | CTS | DOLLARS | CTS |
| 197 | BMP-7.415 INVASIVE VINE AND PLANT REMOVAL | 5.00 | CREW DAY | 4,000 | | 20,000 | |
| 198 | BMP-7.421 ROOT BARRIER | 4,280.00 | S.F. | 1 | | 4,280 | |
| 199 | BMP-7.502 CONSTRUCTION LIMIT FENCE | 580.00 | L.F. | 10 | | 5,800 | |
| 200 | BMP-7.504 REINFORCED SILT FENCE | 820.00 | L.F. | 25 | | 20,500 | |
| 201 | BMP-7.505 SAND BAG | 90.00 | EACH | 10 | | 900 | |
| 202 | BMP-7.506-A SEDIMENT TRAP WITH FILTER | 1.00 | EACH | 1,000 | | 1,000 | |



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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 |
| 203 | BMP-7.509-A STABILIZED CONSTRUCTION ENTRANCE | 1.00 | EACH | 6,500 | | 6,500 | |
| 204 | BMP-7.510 PORTABLE SEDIMENT TANK | 1.00 | EACH | 5,000 | | 5,000 | |
| 205 | BMP-7.511 STORM DRAIN INLET PROTECTION | 1.00 | EACH | 250 | | 250 | |
| 206 | BMP-7.512 DIRTBAG | 2.00 | EACH | 1,200 | | 2,400 | |
| 207 | BMP-7.603-A STEEL PIPE BOLLARD - FIXED | 2.00 | EACH | 2,000 | | 4,000 | |
| 208 | BMP-7.603-B STEEL PIPE BOLLARD - REMOVABLE | 2.00 | EACH | 2,000 | | 4,000 | |



5/5/2017 8:10 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) | | COL 6 EXTENDED AMOUNT (IN FIGURES) | |
|-------------------|--|--|---------------|-------------------------------------|-----|--|-----|
| | | | | DOLLARS | CTS | DOLLARS | CTS |
| 209 | BMP-7.606-B PERMANENT MAINTENANCE ACCESSWAY (PAVERS) | 720.00 | S.F. | 27 | | 19,440 | |
| 210 | BMP-7.606-C PERMANENT MAINTENANCE ACCESSWAY (GRAVEL) | 1,790.00 | S.F. | 5 | | 8,950 | |
| 211 | BMP-7.622 FOREBAY MICROPOOL SEDIMENT CLEAN-OUT INDICATOR | 1.00 | EACH | 3,000 | | 3,000 | |
| 212 | UTL-6.01.1 GAS MAIN CROSSING SEWER UP TO 24" IN DIAMETER (S6.01) Unit price bid shall not be less than: \$ 1,040.00 | 24.00 | EACH | 1040 | | 24,960 | |
| 213 | UTL-6.01.2 GAS MAIN CROSSING SEWER 30" IN DIAMETER (S6.01) Unit price bid shall not be less than: \$ 1,770.00 | 1.00 | EACH | 1,770 | | 1,770 | |
| 214 | UTL-6.01.3 GAS MAIN CROSSING SEWER 36" THRU 42" IN DIAMETER (S6.01) Unit price bid shall not be less than: \$ 2,040.00 | 3.00 | EACH | 2040 | | 6120 | |



5/5/2017 8:10 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) | | COL 6 EXTENDED AMOUNT (IN FIGURES) | |
|------------------|---|--|---------------|---------------------------------------|-----|--|-----|
| | | | | DOLLARS | CTS | DOLLARS | CTS |
| 215 | UTL-6.01.8 GAS SERVICES CROSSING TRENCHES AND/OR EXCAVATIONS (S6.01) Unit price bid shall not be less than: \$ 465.00 | 155.00 | EACH | 465 | | 72,075 | |
| 216 | UTL-6.01.9 GAS MAIN CROSSING WATER MAIN UP TO 20" IN DIAMETER (S6.01) Unit price bid shall not be less than: \$ 485.00 | 30.00 | EACH | 485 | | 14,550 | |
| 217 | UTL-6.02 EXTRA EXCAVATION FOR THE INSTALLATION OF CATCH BASIN SEWER DRAIN PIPES WITH GAS INTERFERENCES (S6.02) Unit price bid shall not be less than: \$ 715.00 | 11.00 | EACH | 715 | | 7,865 | |
| 218 | UTL-6.03 REMOVAL OF ABANDONED GAS FACILITIES, ALL SIZES. (S6.03) Unit price bid shall not be less than: \$ 15.00 | 6,500.00 | L.F. | 15 | | 97,500 | |
| 219 | UTL-6.03.1 REMOVAL OF ABANDONED GAS FACILITIES WITH POSSIBLE COAL TAR WRAP, ALL SIZES. (S6.03) Unit price bid shall not be less than: \$ 25.00 | 3,200.00 | L.F. | 25 | | 80,000 | |
| 220 | UTL-6.04 ADJUST HARDWARE TO GRADE USING SPACER RINGS/ADAPTORS. (STREET REPAVING.) (S6.04) Unit price bid shall not be less than: \$ 35.00 | 85.00 | EACH | 35 | | 2,975 | |



5/5/2017 8:10 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) | | COL 6 EXTENDED AMOUNT (IN FIGURES) | |
|-------------------|---|--|---------------|-------------------------------------|-----|--|-----|
| | | | | DOLLARS | CTS | DOLLARS | CTS |
| 221 | UTL-6.05 ADJUST HARDWARE TO GRADE BY RESETTING. (ROAD RECONSTRUCTION.) (S6.05) Unit price bid shall not be less than: \$ 65.00 | 40.00 | EACH | 65 | | 2,600 | |
| 222 | UTL-6.06 SPECIAL CARE EXCAVATION AND BACKFILLING (S6.06) Unit price bid shall not be less than: \$ 180.00 | 1,900.00 | C.Y. | 180 | | 342,000 | |
| 223 | UTL-6.06A SPECIAL CARE EXCAVATION AND BACKFILLING FOR TRANSMISSION MAINS (TRANSMISSION MAIN IS DESCRIBED AS ANY GAS MAIN WITH A MAOP GREATER THAN 124-PSIG) (S6.06A) Unit price bid shall not be less than: \$ 230.00 | 400.00 | C.Y. | 230 | | 92,000 | |
| 224 | UTL-6.07 TEST PITS FOR GAS FACILITIES (S6.07) Unit price bid shall not be less than: \$ 100.00 | 200.00 | C.Y. | 100 | | 20,000 | |
| 225 | UTL-GCS-2WS GAS INTERFERENCES AND ACCOMMODATIONS PRICE BID SHALL BE FOR THE FIXED SUM OF \$ 75,000.00 | 1.00 | F.S. | 75,000 | 00 | \$75,000 | 00 |



5/5/2017 8:10 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 |

SUB-TOTAL: \$ ~~27,002,604.25~~
*26,820,604.25

| | | | | | |
|-----|---|------|------|---|---|
| 226 | 6.39 A MOBILIZATION BID PRICE OF MOBILIZATION SHALL NOT EXCEED 4% OF THE ABOVE SUB-TOTAL PRICE. | 1.00 | L.S. | 1,079,676 : 57 1,072,824 : 17 | 1,079,676 : 57 1,072,824 : 17 |
|-----|---|------|------|---|---|

TOTAL BID PRICE: \$ ~~28,082,280.82~~

\$27,893,428.42

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 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: SER200226

NEW STORM AND SANITARY SEWERS IN GLEN STREET ETC

CAPITAL PROJECT WM-1

WATER MAIN WORK IN CANNON AVENUE ETC

Together With All Work Incidental Thereto

BOROUGH OF STATEN ISLAND

CITY OF NEW YORK

Name of Bidder: JRCRUZ Corp.

Date of Bid Opening: July 11, 2017

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

Place of Business of Bidder: 675 Line Road, Aberdeen, NJ 07747

Bidder's Telephone Number: 732/290-0700 Fax Number: 732/290-8960

Bidder's E-Mail Address: engineering@jrcruz.com

Residence of Bidder (If Individual): _____

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

Names of Partners

Residence of Partners

| | |
|-------|-------|
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |

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

Organized under the laws of the State of New York

Name and Home Address of President: Evaristo Cruz, Jr.

74 Hickory Lane, Lincroft, NJ 07738

Name and Home Address of Secretary: Matthew J. Cruz

74 Hickory Lane, Lincroft, NJ 07738

Name and Home Address of Treasurer: same as President

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 this bid).

6. Compliance Report

The bidder, as an individual, or as a member, partner, director, or officer of the bidder, if the same be a firm, partnership, or corporation, (1) represents that 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.

(NO TEXT ON THIS PAGE)

BID FORM

PROJECT ID. SER200226

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)**

\$ ~~28,082,280.82~~
27,893,428.42 *RB*
(M) 7/14/17

BIDDER'S SIGNATURE AND AFFIDAVIT

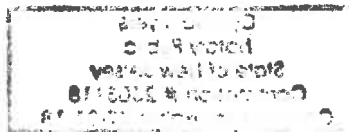
Bidder: JR CRUZ Corp.

By: *[Signature]*
Evaristo Cruz, Jr. (Signature of Partner or corporate officer)

Attest: Matthew J. Cruz
(Corporate Seal)

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 Monmouth ss: _____ being duly sworn says:
Evaristo Cruz, Jr.
I am the President of the above named corporation whose name is subscribed to and which executed the foregoing bid. I reside at 74 Hickory Lane, Lincroft, NJ 07738.
I have knowledge of the several matters therein stated, and they are in all respects true.

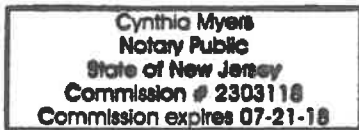


(Signature of Corporate Officer who signed the Bid)

Subscribed and sworn to before me this _____ day of July, 2017



Notary Public



AFFIRMATION

PROJECT ID. SER200226

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: JRCRUZ Corp.
Address: 675 Line Road
City Aberdeen State NJ Zip Code 07747

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

22-3373796

By:  _____
Signature Evaristo Cruz, Jr.

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.

(NO TEXT ON THIS PAGE)

**BID BOND 1
FORM OF BID BOND**

KNOW ALL MEN BY THESE PRESENTS. That we, JRCruz Corp.
675 Line Road, Aberdeen, NJ 07747

hereinafter referred to as the "Principal", and Liberty Mutual Insurance Company
1200 MacArthur Blvd., Mahwah, NJ 07430

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 Bid Amount

(\$ _____), 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: SER200226, Pin: 8502015SE0041C, The Construction of Storm and Sanitary Sewers in Glen Street, etc. Including
Water Main Work in Cannon Avenue, etc., Together With All Work Incidental Thereto, Borough of Staten Island

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 the time within which the City may accept the Principal's Proposal, or by any waiver by the City of any of the requirements of the Information for Bidders, and the Surety hereby waives notice of any such postponements, extensions, or waivers.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers the 11th day of July, 2017.

(Seal)

JRCruz Corp.

(L.S.)

Principal

By:

Evaristo Cruz, Jr., President

(Seal)

Liberty Mutual Insurance Company

Surety

By:

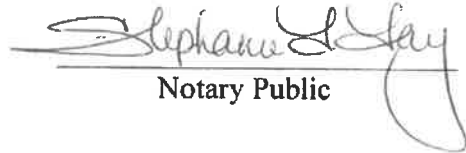
Lisa Nosal, Atty-In-Fact

ACKNOWLEDGEMENT OF SURETY

State of New Jersey]
]-ss
County of Passaic]

On 07/11/2017, before me personally came Lisa Nosal to me known, who, being by me duly sworn, did depose and say that she is an attorney-in-fact of Liberty Mutual Insurance Company the corporation described in and which executed the within instrument; that she knows the corporate seal of said corporation, and that the seal affixed to the within instrument is such corporate seal, and that she signed the said instrument and affixed the said seal as Attorney-in-Fact by authority of the Board of Directors of said corporation and by authority of this office under the Standing Resolutions thereof.

My Commission expires:


Notary Public

STEPHANIE F. FOY
NOTARY PUBLIC
STATE OF NEW JERSEY
MY COMMISSION EXPIRES OCTOBER 27, 2018

THIS POWER OF ATTORNEY IS NOT VALID UNLESS IT IS PRINTED ON RED BACKGROUND.

This Power of Attorney limits the acts of those named herein, and they have no authority to bind the Company except in the manner and to the extent herein stated.

Certificate No 7630383

Liberty Mutual Insurance Company
The Ohio Casualty Insurance Company West American Insurance Company

POWER OF ATTORNEY

KNOWN ALL PERSONS BY THESE PRESENTS: That The Ohio Casualty Insurance Company is a corporation duly organized under the laws of the State of New Hampshire, that Liberty Mutual Insurance Company is a corporation duly organized under the laws of the State of Massachusetts, and West American Insurance Company is a corporation duly organized under the laws of the State of Indiana (herein collectively called the "Companies"), pursuant to and by authority herein set forth, does hereby name, constitute and appoint, Joseph W. Mallory; Lisa Nosal; Louis A. Vlahakes; Pamela J. Boyle; Robert E. Culnen

all of the city of Totowa, state of NJ each individually if there be more than one named, its true and lawful attorney-in-fact to make, execute, seal, acknowledge and deliver, for and on its behalf as surety and as its act and deed, any and all undertakings, bonds, recognizances and other surety obligations, in pursuance of these presents and shall be as binding upon the Companies as if they have been duly signed by the president and attested by the secretary of the Companies in their own proper persons.

IN WITNESS WHEREOF, this Power of Attorney has been subscribed by an authorized officer or official of the Companies and the corporate seals of the Companies have been affixed thereto this 17th day of February, 2017.



The Ohio Casualty Insurance Company
Liberty Mutual Insurance Company
West American Insurance Company

By: David M. Carey
David M. Carey, Assistant Secretary

STATE OF PENNSYLVANIA ss
COUNTY OF MONTGOMERY

On this 17th day of February, 2017, before me personally appeared David M. Carey, who acknowledged himself to be the Assistant Secretary of Liberty Mutual Insurance Company, The Ohio Casualty Company, and West American Insurance Company, and that he, as such, being authorized so to do, execute the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

IN WITNESS WHEREOF, I have hereunto subscribed my name and affixed my notarial seal at King of Prussia, Pennsylvania, on the day and year first above written.



COMMONWEALTH OF PENNSYLVANIA
Notarial Seal
Teresa Pastella, Notary Public
Upper Merion Twp., Montgomery County
My Commission Expires March 28, 2017
Member, Pennsylvania Association of Notaries

By: Teresa Pastella
Teresa Pastella, Notary Public

This Power of Attorney is made and executed pursuant to and by authority of the following By-laws and Authorizations of The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company which resolutions are now in full force and effect reading as follows:

ARTICLE IV – OFFICERS – Section 12. Power of Attorney. Any officer or other official of the Corporation authorized for that purpose in writing by the Chairman or the President, and subject to such limitation as the Chairman or the President may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Corporation to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact, subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Corporation by their signature and execution of any such instruments and to attach thereto the seal of the Corporation. When so executed, such instruments shall be as binding as if signed by the President and attested to by the Secretary. Any power or authority granted to any representative or attorney-in-fact under the provisions of this article may be revoked at any time by the Board, the Chairman, the President or by the officer or officers granting such power or authority.

ARTICLE XIII – Execution of Contracts – SECTION 5. Surety Bonds and Undertakings. Any officer of the Company authorized for that purpose in writing by the chairman or the president, and subject to such limitations as the chairman or the president may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Company by their signature and execution of any such instruments and to attach thereto the seal of the Company. When so executed such instruments shall be as binding as if signed by the president and attested by the secretary.

Certificate of Designation – The President of the Company, acting pursuant to the Bylaws of the Company, authorizes David M. Carey, Assistant Secretary to appoint such attorneys-in-fact as may be necessary to act on behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations.

Authorization – By unanimous consent of the Company's Board of Directors, the Company consents that facsimile or mechanically reproduced signature of any assistant secretary of the Company, wherever appearing upon a certified copy of any power of attorney issued by the Company in connection with surety bonds, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

I, Renee C. Llewellyn, the undersigned, Assistant Secretary, The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company do hereby certify that the original power of attorney of which the foregoing is a full, true and correct copy of the Power of Attorney executed by said Companies, is in full force and effect and has not been revoked.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seals of said Companies this 11th day of July, 2017



By: Renee C. Llewellyn
Renee C. Llewellyn, Assistant Secretary

Not valid for mortgage, note, loan, letter of credit, currency rate, interest rate or residual value guarantees.

To confirm the validity of this Power of Attorney call 1-610-832-8240 between 9:00 am and 4:30 pm EST on any business day.



LIBERTY MUTUAL INSURANCE COMPANY
 FINANCIAL STATEMENT — DECEMBER 31, 2016

| Assets | | Liabilities | |
|--|--------------------------------|--|--------------------------------|
| Cash and Bank Deposits | \$1,092,914,837 | Unearned Premiums | \$6,929,723,299 |
| *Bonds — U.S Government | 1,406,763,970 | Reserve for Claims and Claims Expense | 17,233,877,300 |
| *Other Bonds | 11,379,916,523 | Funds Held Under Reinsurance Treaties | 208,362,823 |
| *Stocks | 10,349,761,988 | Reserve for Dividends to Policyholders | 944,909 |
| Real Estate | 290,265,760 | Additional Statutory Reserve | 39,649,905 |
| Agents' Balances or Uncollected Premiums | 4,709,977,463 | Reserve for Commissions, Taxes and | |
| Accrued Interest and Rents | 112,757,395 | Other Liabilities | 3,061,117,958 |
| Other Admitted Assets | <u>14,659,523,751</u> | Total | \$27,473,676,194 |
| Total Admitted Assets | <u>\$44,001,881,687</u> | Special Surplus Funds | \$95,257,334 |
| | | Capital Stock | 10,000,000 |
| | | Paid in Surplus | 9,229,250,104 |
| | | Unassigned Surplus | 7,193,698,055 |
| | | Surplus to Policyholders | 16,528,205,493 |
| | | Total Liabilities and Surplus | <u>\$44,001,881,687</u> |



* Bonds are stated at amortized or investment value; Stocks at Association Market Values.
 The foregoing financial information is taken from Liberty Mutual Insurance Company's financial statement filed with the state of Massachusetts Department of Insurance.

I, TIM MIKOLAJEWSKI, Assistant Secretary of Liberty Mutual Insurance Company, do hereby certify that the foregoing is a true and correct statement of the Assets and Liabilities of said Corporation, as of December 31, 2016, to the best of my knowledge and belief.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the seal of said Corporation at Seattle, Washington, this 23rd day of March, 2017.

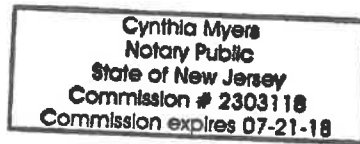
T. Mikolajewski

Assistant Secretary

BID BOND 3

ACKNOWLEDGMENT OF PRINCIPAL, IF A CORPORATION

State of New Jersey County of Monmouth ss:
On this 11th day of July, 2017, before me personally came
Evaristo Cruz, Jr. to me known, who, being by me duly sworn, did depose and say
that he resides at 74 Hickory Lane, Lincroft, NJ 07738
that he is the President of JRCRUZ Corp.
the corporation described in and which executed the foregoing instrument; that he knows the seal of said
corporation; that one of the seals affixed to said instrument is such seal; that it was so affixed by order of
the directors of said corporation, and that he signed his name thereto by like order.



[Signature]
Notary Public

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

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

AFFIX ACKNOWLEDGMENTS AND JUSTIFICATION OF SURETIES



(NO TEXT ON THIS PAGE)

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, by emailing DSBS at buyer@sbs.nyc.gov, by calling (212) 513-6356, or by visiting or writing DSBS at 110 William St., New York, New York, 10038, 7th floor. Eligible firms that have not yet been certified may contact DSBS in order to seek certification by visiting www.nyc.gov/getcertified, emailing MWBE@sbs.nyc.gov, or calling the DSBS certification helpline at (212) 513-6311. A firm that is certified as both an MBE and a WBE may be counted either toward the goal for MBEs or the goal for WBEs, but not both. No credit shall be given for participation by a graduate MBE or graduate WBE, as defined in Section 6-129(c)(20).

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

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

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

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

(b) To apply for a full or partial waiver of the **Participation Goals**, a bidder, proposer, or contractor, as applicable, must complete Part III (Page 5) of Schedule B and submit such request no later than seven (7) calendar days prior to the date and time the bids, proposals, or Task Orders are due, in writing to the Agency by email at zhangji@ddc.nyc.gov or via facsimile at (718) 391-1886. Bidders, proposers, or contractors, as applicable, who have submitted requests will receive an Agency response by no later than two (2) calendar days prior to the due date for bids, proposals, or Task Orders; provided, however, that if that date would fall on a weekend or holiday, an Agency response will be provided by close-of-business on the business day before such weekend or holiday date.

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

(d) Agency may grant a full or partial waiver of the **Participation Goals** to a bidder, proposer or contractor, as applicable, who demonstrates—before submission of the bid, proposal or Task Order, as applicable—that it has legitimate business reasons for proposing the level of subcontracting in its M/WBE Utilization Plan. In making its determination, Agency shall consider factors that shall include, but not be limited to, whether the bidder, proposer or contractor, as applicable, has the capacity and the bona fide intention to perform the Contract without any subcontracting, or to perform the Contract without awarding the amount of subcontracts represented by the **Participation Goals**. In making such determination, Agency may consider whether the M/WBE Utilization Plan is consistent with past subcontracting practices of the bidder, proposer or contractor, as applicable, whether the bidder, proposer or contractor, as applicable, has made efforts to form a joint venture with a certified firm, and whether the bidder, proposer, or contractor, as applicable, has made good faith efforts to identify other portions of the Contract that it intends to subcontract.

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

- (i) The Contractor advertised opportunities to participate in the Contract, where appropriate, in general circulation media, trade and professional association publications and small business media, and publications of minority and women's business organizations;
- (ii) The Contractor provided notice of specific opportunities to participate in the Contract, in a timely manner, to minority and women's business organizations;
- (iii) The Contractor sent written notices, by certified mail or facsimile, in a timely manner, to advise MBEs or WBEs that their interest in the Contract was solicited;
- (iv) The Contractor made efforts to identify portions of the work that could be substituted for portions originally designated for participation by MBEs and/or WBEs in the M/WBE Utilization Plan, and for which the Contractor claims an inability to retain MBEs or WBEs;

- (v) The Contractor held meetings with MBEs and/or WBEs prior to the date their bids or proposals were due, for the purpose of explaining in detail the scope and requirements of the work for which their bids or proposals were solicited;
- (vi) The Contractor made efforts to negotiate with MBEs and/or WBEs as relevant to perform specific subcontracts, or act as suppliers or service providers;
- (vii) Timely written requests for assistance made by the Contractor to Agency's M/WBE liaison officer and to DSBS;
- (viii) Description of how recommendations made by DSBS and Agency were acted upon and an explanation of why action upon such recommendations did not lead to the desired level of participation of MBEs and/or WBEs.

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

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

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

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

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

PART B: MISCELLANEOUS

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

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

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

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

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

ARTICLE II. ENFORCEMENT

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

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

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

- (a) entering into an agreement with the Contractor allowing the Contractor to cure the violation;
- (b) revoking the Contractor's pre-qualification to bid or make proposals for future contracts;
- (c) making a finding that the Contractor is in default of the Contract;
- (d) terminating the Contract;
- (e) declaring the Contractor to be in breach of Contract;
- (f) withholding payment or reimbursement;
- (g) determining not to renew the Contract;
- (h) assessing actual and consequential damages;
- (i) assessing liquidated damages or reducing fees, provided that liquidated damages may be based on amounts representing costs of delays in carrying out the purposes of the M/WBE Program, or in meeting the purposes of the Contract, the costs of meeting utilization goals through additional procurements, the administrative costs of investigation and enforcement, or other factors set forth in the Contract;
- (j) exercising rights under the Contract to procure goods, services or construction from another contractor and charge the cost of such contract to the Contractor that has been found to be in noncompliance; or
- (k) taking any other appropriate remedy.

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

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

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

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

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 # | <u>85017B0101</u> | FMS Project ID#: | <u>SER200226</u> |
| Project Title/ Agency PIN # | <u>CONSTRUCTION OF STORM AND SANITARY SEWERS IN GLEN STREET /8502017SE0021C</u> | | |
| Bid/Proposal Response Date | <u>JULY 11, 2017</u> | | |
| Contracting Agency | <u>Department of Design and Construction</u> | | |
| Agency Address | <u>30-30 Thomson Ave.</u> | City | <u>Long Island City</u> State <u>NY</u> Zip Code <u>11101</u> |
| Contact Person | <u>Emmanuel K. Charles</u> | Title | <u>MWBE Liaison & Compliance Analyst</u> |
| Telephone # | <u>(718) 391-1450</u> | Email | <u>charlesem@ddc.nyc.gov</u> |

Project Description (attach additional pages if necessary)

PROJECT ID: SER200226

FOR THE CONSTRUCTION OF STORM AND SANITARY SEWERS IN GLEN STREET BETWEEN VICTORY BOULEVARD AND PARISH AVENUE; CANNON AVENUE BETWEEN PARISH AVENUE AND VICTORY BOULEVARD; VICTORY BOULEVARD BETWEEN ROSWELL AVENUE AND RICHMOND COURT; MELVIN AVENUE BETWEEN GLEN STREET AND WILD AVENUE; MELVIN AVENUE BETWEEN GLEN STREET AND DEAD END OF MELVIN AVENUE; PARISH AVENUE BETWEEN CANNON AVENUE AND VICTORY BOULEVARD; WILD AVENUE BETWEEN GLEN STREET AND PEARSON STREET; WILD AVENUE BETWEEN GLEN STREET AND ALBERTA AVENUE; SHELLEY AVENUE BETWEEN VICTORY BOULEVARD AND MILDRED AVENUE; BURKE AVENUE BETWEEN DEAD END OF PRICES LANE AND VICTORY BOULEVARD; PRICES LANE BETWEEN CANNON AVENUE AND DEAD END OF BURKE AVENUE; LEROY STREET BETWEEN CANNON AVENUE AND VICTORY BOULEVARD; LEROY STREET BETWEEN CANNON AVENUE AND VICTORY BOULEVARD; MEREDITH AVENUE BETWEEN WEST SHORE EXPRESSWAY AND CANNON AVENUE; MEREDITH AVENUE BETWEEN BATES AVENUE AND CANNON AVENUE; AND SIMMONS LANE BETWEEN VICTORY BOULEVARD AND MILDRED AVENUE

INCLUDING WATER MAIN WORK

Together with All Work Incidental Thereto
BOROUGH OF STATEN ISLAND
CITY OF NEW YORK

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

Prime Contract Industry: Construction

| Group | Percentage |
|----------------------------------|---------------|
| Unspecified* | 8% |
| or | |
| Black American | UNSPECIFIED* |
| Hispanic American | UNSPECIFIED* |
| Asian American | UNSPECIFIED* |
| Women | UNSPECIFIED* |
| Total Participation Goals | 8% |
| | Line 1 |

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

Tax ID #: 22-3373796

APT E- 85017B0101
PIN #: _____

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 # | <u>22-3373796</u> | FMS Vendor ID # | <u>0002175332</u> |
| Business Name | <u>JRCRUZ Corp.</u> | Contact Person | <u>Evaristo Cruz, Jr.</u> |
| Address | <u>675 Line Road, Aberdeen, NJ 07747</u> | | |
| Telephone # | <u>732/290-0700</u> | Email | <u>engineering@jrcruz.com</u> |

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. | \$27,893,428.42 \$27,893,428.42 \$27,893,428.42 | 2,246,158.27 2,246,158.27 8% | \$2,246,158.27 \$2,246,158.27 \$2,231,474.27 |
| Please review the Notice to Prospective Contractors for more information on how to obtain credit for M/WBE participation. | \$ X | = | 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. | \$ X | = | Line 3 |
| Please review the Notice to Prospective Contractors for more information on how to obtain credit for M/WBE participation. | \$ | = | Line 3 |

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? % 8

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

1. Trucking - WBE - 2,100,000 - DIR
2. _____
3. LANDSCAPE - WBE - 130,000 - END
4. 131,474.27
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____
15. _____
16. _____
17. _____

Scopes of Subcontract Work

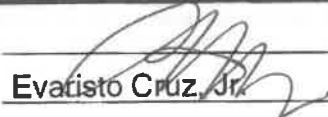
Tax ID #: 22-3373796

APT E- 85017B0101
PIN #: _____

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>July 11, 2017</u> |
| Print Name | <u>Evatisto Cruz, Jr.</u> | Title | <u>President</u> |

SCHEDULE B – PART III – REQUEST FOR WAIVER OF M/WBE PARTICIPATION REQUIREMENT

Contract Overview

Tax ID # _____ FMS Vendor ID # _____
 Business Name _____
 Contact Name _____ Telephone # _____ Email _____
 Type of Procurement Competitive Sealed Bids Other Bid/Response Due Date _____
 APT E-PIN # (for this procurement): _____ Contracting Agency: _____

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

_____ % Agency M/WBE Participation Goal

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

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

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

- Vendor does not subcontract services, and has the capacity and good faith intention to perform all such work itself with its own employees.
- Vendor subcontracts some of this type of work but at a lower % than bid/solicitation describes, and has the capacity and good faith intention to do so on this contract. (Attach subcontracting plan outlining services that the vendor will self-perform and subcontract to other vendors or consultants.)
- Vendor has other legitimate business reasons for proposing the M/WBE Participation Goal above. Explain under separate cover.

References

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

| | | |
|--|---|-----------------------------|
| <p>CONTRACT NO. _____</p> <p>Total Contract Amount \$ _____</p> <p>Item of Work Subcontracted and Value of subcontract _____</p> | <p>AGENCY _____</p> <p>Total Amount Subcontracted \$ _____</p> <p>Item of Work Subcontracted and Value of subcontract _____</p> | <p>DATE COMPLETED _____</p> |
| <p>CONTRACT NO. _____</p> <p>Total Contract Amount \$ _____</p> <p>Item of Work Subcontracted and Value of subcontract _____</p> | <p>AGENCY _____</p> <p>Total Amount Subcontracted \$ _____</p> <p>Item of Work Subcontracted and Value of subcontract _____</p> | <p>DATE COMPLETED _____</p> |
| <p>CONTRACT NO. _____</p> <p>Total Contract Amount \$ _____</p> <p>Item of Work Subcontracted and Value of subcontract _____</p> | <p>AGENCY _____</p> <p>Total Amount Subcontracted \$ _____</p> <p>Item of Work Subcontracted and Value of subcontract _____</p> | <p>DATE COMPLETED _____</p> |

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

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

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

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

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

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

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

Shaded area below is for agency completion only
AGENCY CHIEF CONTRACTING OFFICER APPROVAL
Signature: _____ **Date:** _____
CITY CHIEF PROCUREMENT OFFICER APPROVAL
Signature: _____ **Date:** _____

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

APPRENTICESHIP PROGRAM REQUIREMENTS

Bidders are advised that the Apprenticeship Program Requirements set forth below apply to each contract for which a 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: JRCRUZ Corp.

Project ID Number: SER200226

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

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

YES NO

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

YES NO

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

YES NO

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

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

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

APPRENTICESHIP PROGRAM QUESTIONNAIRE ("APQ")

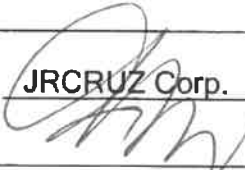
Project ID Number: SER200226

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

We are members of the General Contractor Association of New York (GCA).

Please refer to attached letter.

Bidder: JRCRUZ Corp.

By:  Evaristo Cruz, Jr. Title: President
(Signature of Partner or Corporate Officer)

Date: July 11, 2017



THE GENERAL CONTRACTORS ASSOCIATION OF NEW YORK, INC.

Denise M. Richardson
Executive Director

January 12, 2017

JR CRUZ Corp.
Attn: Mr. Evarett Cruz, Jr.
675 Line Road
Aberdeen, NJ 07747

Dear Mr. Cruz:

JR CRUZ Corp. 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,

Denise M. Richardson

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: JRCRUZ Corp.

DDC Project Number: SER200226

Company Size: Ten (10) employees or less
 X Greater than ten (10) employees

Company has previously worked for DDC X 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 | X | X |
| Highway and Street Construction | X | X |
| 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 | X | X |
| Specialty Trade Contracting | _____ | _____ |
| Asbestos Abatement | _____ | _____ |
| Other (specify) | _____ | _____ |
| BMP | X | X |

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.

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 |
|------|-----------------|-----------------|
| 2014 | .88 | .88 |
| 2015 | .83 | .83 |
| 2016 | .83 | .83 |

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.

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

| YEAR | TOTAL NUMBERS OF HOURS WORKED BY EMPLOYEES | INCIDENT RATE |
|------|--|---------------|
| 2014 | 76,598 | 5.22 |
| 2015 | 116,573 | 0.00 |
| 2016 | 217,294 | 1.84 |

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): SE774, SER200187, _____

YES NO Accident on previous DDC Project(s).

DDC Project Number(s): SE801, SER777R, HD153C2

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: July 11, 2017

By:  Evaristo Cruz, Jr.
(Signature of Owner, Partner, Corporate Officer)

Title: President

Log of Work-Related Injuries and Illnesses

This form is required for employers with 10 or more employees, or those that employ 100 or more employees in any calendar year, or those that employ 10 or more employees in any calendar year in a high-hazard industry. It must be filled out for each work-related injury or illness that results in lost work days or restricted work or transfer to another job. It must also be filled out for each work-related injury or illness that results in a medical treatment beyond first aid. The form is also required for each work-related injury or illness that results in a lost work day or restricted work or transfer to another job, even if the injury or illness is not reported to OSHA. The form is also required for each work-related injury or illness that results in a lost work day or restricted work or transfer to another job, even if the injury or illness is not reported to OSHA. The form is also required for each work-related injury or illness that results in a lost work day or restricted work or transfer to another job, even if the injury or illness is not reported to OSHA.

Attention: This form contains information relating to employee health, and must be used in a manner that protects the confidentiality of employees to the extent possible while the information is being used for occupational safety and health purposes.

Year 20 **16**

U.S. Department of Labor
Occupational Safety and Health Administration

Form approved OSHA no. 1218-0176

JRCRUZ Corp.

Aberdeen

New Jersey

| Identify the person | | Describe the case | | Classify the case | | Enter the number of days the injured or ill worker was | | Check the "injury" column or check one type of illness | | | |
|---------------------|---------------------|-------------------|--|------------------------------|--|--|---|--|---------------------------------|--------------------|---------------------------------|
| (A) Case no. | (B) Employee's name | (C) Job title | (D) Date of injury or onset of illness | (E) Where the event occurred | (F) Describe injury or illness, parts of body affected, and objective measure that directly injured or made person ill (e.g., second degree burn on right forearm from scalding steam) | (G) Days away from work | (H) Days on job transfer or restriction | (I) Lost work days | (J) Job transfer or restriction | (K) Lost work days | (L) Job transfer or restriction |
| 1 | Antero Goncalves | Foreman | 2/12 | | Broken Right Toe. Pilled rolled over foot | 0 | 0 | 0 | 0 | 0 | 0 |
| 2 | Bruno Rodrigues | Timberman | 9/22 | | Struck by an I-Beam | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | | | 71 | 16 | | | | |
| Page totals | | | | | | 871 | 2 | 2 | 2 | 2 | 2 |

Be sure to transfer these totals to the Summary page (Form 300-4) before you post.

Summary of Work-Related Injuries and Illnesses

All establishments covered by the 1970 Act must complete this Summary page, even if a work-related injury or illness occurred during the year. Refer to the instructions for details on how to complete this page. For more information, see the instructions for this form.

Use the following instructions to complete this page. For more information, see the instructions for this form.

For more information, see the instructions for this form.

Number of Cases

| | | | |
|------------------------|--|--|--|
| Total number of deaths | Total number of cases with days away from work | Total number of cases with job transfer or restriction | Total number of other recordable cases |
| 0 | 2 | 0 | 0 |
| (a) | (b) | (c) | (d) |

Number of Days

| | |
|-------------------------------------|---|
| Total number of days away from work | Total number of days of job transfer or restriction |
| 87 | 0 |
| (e) | (f) |

Injury and Illness Types

| | | |
|----------------------------|-------------------------|---|
| Total number of... (g) | (4) Poisonings | 0 |
| (1) Injuries | (5) Hearing loss | 0 |
| (2) Skin disorders | (6) All other illnesses | 0 |
| (3) Respiratory conditions | | 0 |

Post this Summary page from February 1 to April 30 of the year following the year covered by the form.

Public reporting burden for this collection of information is estimated to average 15 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering the data, reviewing the collected data, reviewing the instructions, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden, to Washington, DC 20503. Do not send this information to OSHA.

Establishment information

Your establishment name: JRCRUZ Corp.

Street: 675 Line Road

City: Aberdeen State: NJ ZIP: 07747

Ind only description (e.g., Advertising or printing establishment)

Heavy Construction

Standard Industrial Classification (SIC), if known (e.g., 3715)

OK

North American Industrial Classification (NAICS), if known (e.g., 356212)

Employment information (If you don't have these figures, see the Worksheet on the back of this page to estimate.)

Annual average number of employees: 181

Total hours worked by all employees last year: 217,294

Sign here

Knowingly falsifying this document may result in a fine.

I certify that I have examined this document and that to the best of my knowledge the entries are true, accurate, and complete.

[Signature] Office Manager

Date: 1/12/17

Phone: 732-290-0700

OSHA's Form 300 (Rev. 01/2004)

Log of Work-Related Injuries and Illnesses

Attention: This form contains information relating to employee health and must be used in a manner that protects the confidentiality of employees to the extent possible while the information is being used for occupational safety and health purposes.



Year **2015**
U.S. Department of Labor
Occupational Safety and Health Administration

You must record information about every work-related injury or illness that involves loss of consciousness, restricted work activity or job transfer, days away from work, or medical treatment beyond first aid. You must also record significant work-related injuries and illnesses that are diagnosed by a physician or licensed health care professional. You must also record work-related injuries and illnesses that meet any of the specific recording criteria listed in 29 CFR 1904.6 through 1904.12. Feel free to use two lines for a single case if you need it. You must complete an injury and illness incident report (OSHA Form 301) or equivalent form for each injury or illness recorded on this form. If you're not sure whether a case is recordable, call your local OSHA office for help.

Form approved OMB no. 1218-0178

Establishment name

JRCRUZ Corp.

City **Aberdeen**

State **New Jersey**

| (A) Case No. | (B) Employee's Name | (C) Job Title (e.g., Welder) | (D) Date of injury or onset of illness (m/d/yyyy) | (E) Where the event occurred (e.g., Loading dock north end) | (F) Describe injury or illness, parts of body affected, and object/substance that directly injured or made person ill (e.g., Second degree burns on right forearm from acetylene torch) | Classify the case | | | | | | Enter the number of days the injured or ill worker was: | Check the "injury" column or choose one type of illness: | |
|-----------------------------|------------------------|---------------------------------|--|--|--|----------------------------|------------------------------------|-------------------------------|------------------------------------|------------------------------|--|---|--|---------------|
| | | | | | | (G) Days away from work | (H) Job transfer or restriction | (I) Other recordable cases | (J) Job transfer or restriction | (K) Away from work (days) | (L) On job transfer or restriction (days) | | | (M) Injury |
| NO REPORTED INJURIES | | | | | | | | | | | | | | |
| Page totals | | | | | | | | | | | | | 0 | 0 |

Be sure to transfer these totals to the Summary page (Form 300A) before you post it.

Public reporting burden for this collection of information is estimated to average 14 minutes per response, including time to review the instruction, search and gather the data needed, and complete and review the collection of information. Persons are not required to respond to the collection of information unless it displays a currently valid OMB control number. If you have any comments about these estimates or any aspects of this data collection, contact: US Department of Labor, OSHA, Office of Statistics, Room N-3044, 200 Constitution Ave, NW, Washington, DC 20210. Do not send the completed forms to this office.

OSHA's Form 300A (Rev. 01/2004)

Summary of Work-Related Injuries and Illnesses

All establishments covered by Part 1904 must complete this Summary page, even if no injuries or illnesses occurred during the year. Remember to review the Log to verify that the entries are complete. Using the Log, count the individual entries you made for each category. Then write the totals below, making sure you've added the entries from every page of the log. If you had no cases write "0".

Employees, former employees, and their representatives have the right to review the OSHA Form 300 in its entirety. They also have limited access to the OSHA Form 301 or its equivalent. See 29 CFR 1904.35, in OSHA's Recordkeeping rule, for further details on the access provisions for these forms.

| Number of Cases | | | |
|------------------------|--|--|--|
| Total number of deaths | Total number of cases with days away from work | Total number of cases with job transfer or restriction | Total number of other recordable cases |
| 0 (G) | 0 (H) | 0 (I) | 0 (J) |

| Number of Days | |
|-------------------------------------|---|
| Total number of days away from work | Total number of days of job transfer or restriction |
| 0 (K) | 0 (L) |

| Injury and Illness Types | | | | | | |
|--------------------------|------------|-------------------|---------------------------|---------------|------------------|-------------------------|
| Total number of... (M) | (1) Injury | (2) Skin Disorder | (3) Respiratory Condition | (4) Poisoning | (5) Hearing Loss | (6) All Other Illnesses |
| | 0 | 0 | 0 | 0 | 0 | 0 |

Post this Summary page from February 1 to April 30 of the year following the year covered by the form

Public reporting burden for this collection of information is estimated to average 58 minutes per response, including time to review the instruction, search and gather the data needed, and complete and review the collection of information. Persons are not required to respond to the collection of information unless it displays a currently valid OMB control number. If you have any comments about these estimates or any aspects of this data collection, contact: US Department of Labor, OSHA Office of Statistics, Room N-3644, 200 Constitution Ave. NW, Washington, DC 20210. Do not send the completed forms to this office.

Year 2015

U.S. Department of Labor
Occupational Safety and Health Administration
Form approved OSHA no. 1218-0176

| Establishment Information | | | |
|---|--|----------------|------------|
| Your establishment name | JRCRUZ Corp. | | |
| Street | 975 Line Road | State | New Jersey |
| City | Aberdeen | Zip | 7747 |
| Industry description (e.g., Manufacture of motor truck trailers) | Heavy Construction | | |
| Standard Industrial Classification (SIC), if known (e.g., SIC 3715) | OR North American Industrial Classification (NAICS), if known (e.g., 336212) | | |
| Employment Information | | | |
| Annual average number of employees | 80 | | |
| Total hours worked by all employees last year | 116,573 | | |
| Sign here | | | |
| I certify that I have examined this document and that to the best of my knowledge the entries are true, accurate, and complete. | | | |
| Rosie Catao | Company executive | Office Manager | Title |
| 792-290-0700 | Phone | 1/11/2016 | Date |

Knowingly falsifying this document may result in a fine.

OSHA's Form 300

Log of Work-Related Injuries and Illnesses

Attention: This form contains information relating to employee health and must be used in a manner that protects the confidentiality of employees to the extent possible while the information is being used for occupational safety and health purposes.

Year 2014
 U.S. Department of Labor
 Occupational Safety and Health Administration

Form approved OMB no. 1218-0178

You must record information about every work-related injury or illness that involves loss of consciousness, restricted work activity or job transfer, days away from work, or medical treatment beyond first aid. You must also record significant work-related injuries and illnesses that are diagnosed by a physician or licensed health care professional. You must also record work-related injuries and illnesses that meet any of the specific recording criteria listed in 29 CFR 1904.8 through 1904.12. Feel free to use two lines for a single case if you need to. You must complete an injury and illness incident report (OSHA Form 301) or equivalent form for each injury or illness recorded on this form. If you're not sure whether a case is recordable, call your local OSHA office for help.

Establishment name JRCRUZ Corp.

City Aberdeen

State New Jersey

Describe the case

Classify the case

| (A) Case No. | (B) Employee's Name | (C) Job Title (e.g., Welder) | (D) Date of injury or onset of illness (mo./day) | (E) Where the event occurred (e.g. Loading dock north end) | (F) Describe injury or illness, parts of body affected, and object/substance that directly injured or made person ill (e.g. Second degree burns on right forearm from acetylene torch) | Using these categories, check ONLY the most serious result for each case: | | | | Enter the number of days the injured or ill worker was: | | Check the "injury" column or choose one type of illness: | | | | | | | | | | |
|-----------------|------------------------|---------------------------------|---|---|---|---|-----------------------------|------------------------|------------------|---|-----------------------|--|---------------------------------|----------------------------|--|---------------------------|------------|-------------------|---------------------------|---------------|-------------------------|--|
| | | | | | | Days away from work | Job transfer or restriction | Other recordable cases | Remained at work | On job transfer or restriction (days) | Away from work (days) | (G) Death | (H) Job transfer or restriction | (I) Other recordable cases | (J) Job transfer or restriction (days) | (K) Away from work (days) | (L) Injury | (M) Skin Disorder | (N) Respiratory Condition | (O) Poisoning | (P) All other illnesses | |
| 1 | Mario Ribeiro | Laborer | 4/08/14 | Job Site | Laceration/Fracture Left Pinky caused by a fall | 0 | 0 | 0 | 1 | 0 | 0 | 31 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 2 | Justino Ocea | Foreman | 12/08/14 | Job Site | Fractured Sternum as a result of a fall | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| | | | | | | | | | | | | | | | | | | | | | | |
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Page totals 0 1 0 1 0 0 0 31 2 0 0 0 0 0 0 0

Be sure to transfer these totals to the Summary page (Form 300A) before you post it.

Public reporting burden for this collection of information is estimated to average 14 minutes per response, including time to review the instruction, search and gather the data needed, and complete and review the collection of information. Persons are not required to respond to the collection of information unless it displays a currently valid OMB control number. If you have any comments about these estimates or any aspects of this data collection, contact: US Department of Labor, OSHA Office of Statistics, Room N-3644, 200 Constitution Ave, NW, Washington, DC 20210. Do not send the completed forms to this office.

OSHA's Form 300A

Summary of Work-Related Injuries and Illnesses

Year 2014

U.S. Department of Labor
Occupational Safety and Health Administration
Form approved OMB no. 1218-0178

All establishments covered by Part 1904 must complete this Summary page, even if no injuries or illnesses occurred during this year. Remember to review the Log to verify that the entries are complete.

Using the Log, count the individual entries you made for each category. Then write the totals below, making sure you've added the entries from every page of the log. If you had no cases write "0."

Employees former employees, and their representatives have the right to review the OSHA Form 300 in its entirety. They also have limited access to the OSHA Form 301 or its equivalent. See 29 CFR 1904.35, in OSHA's Recordkeeping rule, for further details on the access provisions for these forms.

Number of Cases

| | | | |
|------------------------|--|--|--|
| Total number of deaths | Total number of cases with days away from work | Total number of cases with job transfer or restriction | Total number of other recordable cases |
| 0 (G) | 1 (H) | 0 (I) | 1 (J) |

Number of Days

| | |
|---|-------------------------------------|
| Total number of days of job transfer or restriction | Total number of days away from work |
| 0 (K) | 31 (L) |

Injury and Illness Types

| | | | | |
|---------------------------|------------|-------------------------|---------------|---|
| Total number of... (M) | (1) Injury | 2 | (4) Poisoning | 0 |
| (2) Skin Disorder | 0 | (5) All other illnesses | 0 | |
| (3) Respiratory Condition | 0 | | | |

Post this Summary page from February 1 to April 30 of the year following the year covered by the form

Public reporting burden for this collection of information is estimated to average 50 minutes per response, including time to review the instruction, search and gather the data needed, and complete and review the collection of information. Persons are not required to respond to the collection of information unless it displays a currently valid OMB control number. If you have any comments about these estimates or any aspects of this data collection, contact: US Department of Labor, OSHA Office of Statistics, Room N-3644, 200 Constitution Ave. NW, Washington, D.C. 20710. Do not send the completed forms to this

Establishment information

Your establishment name JRCRUZ Corp.
 Street 675 Line Road
 City Aberdeen State NJ Zip 07747
 Industry description (e.g., Manufacture of motor truck trailers)
Heavy Construction
 Standard Industrial Classification (SIC), if known (e.g., SIC 3715)

Employment information

Annual average number of employees 70
 Total hours worked by all employees last year 89,297

Sign here: 
 Knowingly falsifying this document may result in a fine.

I certify that I have examined this document and that to the best of my knowledge the entries are true, accurate, and complete.

Rosie Catao Company executive Office Manager TITLE
 732-290-0700 Phone 1/23/2015 Date

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 27 through 29 of this Bid Booklet. The Project Reference Form consists of 3 parts: (1) Contracts Completed by the Bidder, (2) Contracts Currently Under Construction by the Bidder, and (3) Pending Contracts Not Yet Started by the Bidder.

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

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

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

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

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

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

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

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

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

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

A. Project References- Similar Contracts Completed by The Bidder

| PROJECT NAME, LOCATION DESCRIPTION | CONTRACT TYPE/ DETAILS | CONTRACT AMOUNT | DATE COMPLETED | OWNER REFERENCE/ TELEPHONE # | ENGINEER REFERENCE/ TELEPHONE # |
|--|--|-----------------|----------------------------|---|---|
| HWKP2009 CONSTRUCTION OF BULKHEAD AT EAST 66th STREET BROOKLYN, NY | HIGHWAY/SEA WALL 6200# PZZT Steel Sheet Pile Sea Wall 620# Pile Cap 620# Concrete Curbs/ Sidewalks 2000sy Asphalt Roadway | \$838,838.00 | JUNE 2002/ DEC. 2002 | N.Y.C. DEPT. OF DESIGN & CONSTRUCTION 30-30 THOMSON AVENUE, 3rd FL LONG ISLAND CITY, N.Y. 11101 | SAME AS OWNER MAX ACHILLE 718-391-1830 |
| SE-759/760/762(BMP) CONST. OF STORM & SANITARY SEWERS, WATER MAINS, CURBS, SIDEWALKS AND ROAD RESTORATION IN ARBUTUS AVE., S.I. N.Y. | 37000# Sewer Installation (48"-10" dia) 1105# Water Main Installation 1300# Microtunnelling 8 ea Chamber Construction 7.5 ac BMP Construction 44000sy Asphalt Roadway | \$19,881,988.00 | JULY 2001/ JULY 2003 | N.Y.C. DEPT. OF DESIGN & CONSTRUCTION 30-30 THOMSON AVENUE, 3rd FL LONG ISLAND CITY, N.Y. 11101 | SAME AS OWNER THOMAS FOLEY P.E. 212-442-1900 |
| SER002248 CONST. OF STORM & SANITARY SEWERS, WATER MAINS, CURBS, SIDEWALKS AND ROAD RESTORATION IN NETHERLAND AVE., S.I. N.Y. | 2952# Sewer Installation (6.5'X3' Culv-10" dia) 1800# Water Main Installation (20"-6" dia) 2 ea Chamber Construction 1300sy Asphalt Roadway | \$1,868,168.00 | OCTOBER 2002/ JULY 2003 | N.Y.C. DEPT. OF DESIGN & CONSTRUCTION 30-30 THOMSON AVENUE, 3rd FL LONG ISLAND CITY, N.Y. 11101 | SAME AS OWNER WALKMAN WONG P.E. 718-391-2485 |
| SER002166 CONST. OF STORM & SANITARY SEWERS AND INSTALLATION OF WATER MAINS IN BLOOMINGDALE ROAD SI, NY | 8800# Sewer Installation (30"-10" dia) 4000# Water Main Installation (20"-6" dia) 14000sy Asphalt Roadway | \$4,345,543.00 | OCTOBER 2004 | N.Y.C. DEPT. OF DESIGN & CONSTRUCTION 30-30 THOMSON AVENUE, 3rd FL LONG ISLAND CITY, N.Y. 11101 | SAME AS OWNER THOMAS FOLEY, P.E. 212-442-1900 |
| SER200170 CONST. OF COMBINED SEWERS IN HYLAN BLVD. STATEN ISLAND, NY | SEWERS WATER MAINS CURBS AND SIDEWALKS | \$1,668,868.00 | Nov. 2004 | N.Y.C. DEPT. OF DESIGN & CONSTRUCTION 30-30 THOMSON AVENUE, 3rd FL LONG ISLAND CITY, N.Y. 11101 | SAME AS OWNER BOB YUEH 718-391-1937 |

A. Project References- Similar Contracts Completed by The Bidder

| PROJECT NAME, LOCATION DESCRIPTION | CONTRACT TYPE | CONTRACT AMOUNT | DATE COMPLETED | OWNER REFERENCE/ TELEPHONE # | ENGINEER REFERENCE/ TELEPHONE # |
|--|---|-----------------|----------------|---|---|
| SER002204 CONST. OF SANITARY SEWERS IN WAGNER STREET STATEN ISLAND, NY | INSTALL SANITARY SEWERS CURBS AND SIDEWALKS | \$1,168,168.00 | May 2005 | N.Y.C. DEPT. OF DESIGN & CONSTRUCTION 30-30 THOMSON AVENUE, 3rd FL LONG ISLAND CITY, N.Y. 11101 | SAME AS OWNER WALKMAN WONG, P.E. 718-391-2485 |
| SER002266 CONST. OF SANITARY SEWERS IN WESTWOOD AVENUE STATEN ISLAND, NY | INSTALL SANITARY SEWERS CURBS AND SIDEWALKS | \$3,473,374.00 | June 2005 | N.Y.C. DEPT. OF DESIGN & CONSTRUCTION 30-30 THOMSON AVENUE, 3rd FL LONG ISLAND CITY, N.Y. 11101 | SAME AS OWNER CHRIS IGWEATU (718) 391-1907 |
| SER20088 CONST. OF STORM & SANITARY SEWERS, BMPs, CURBS, SIDEWALKS AND ROAD RESTORATION IN EDGE GROVE AVE., S.I. N.Y. | SEWER/ BMP | \$5,828,901.00 | July 2005 | N.Y.C. DEPT. OF DESIGN & CONSTRUCTION 30-30 THOMSON AVENUE, 3rd FL LONG ISLAND CITY, N.Y. 11101 | SAME AS OWNER THOMAS FOLEY P.E. 212-442-1900 |
| CONTRACT NO. HWRP2004 RECONSTRUCTION OF BAY STREET STATEN ISLAND, NY | INSTALL SANITARY & STORM SEWERS, WATER MAINS, CURBS SIDEWALKS, ETC. | \$1,671,624.00 | March 2006 | N.Y.C. DEPT. OF DESIGN & CONSTRUCTION 30-30 THOMSON AVENUE LONG ISLAND CITY, NY 11101 | SAME AS OWNER ADAM ALWEISS 718-391-1357 |
| CONTRACT NO. SER200187 CONSTRUCTION OF STORM & SANITARY SEWERS AND INSTALLATION OF WATER MAINS IN FLINT STREET, STATEN ISLAND, NY | INSTALL SANITARY & STORM SEWERS, WATER MAINS, CURBS SIDEWALKS, ETC. | \$1,838,838.00 | May 2006 | N.Y.C. DEPT. OF DESIGN & CONSTRUCTION 30-30 THOMSON AVENUE LONG ISLAND CITY, NY 11101 | SAME AS OWNER ADAM ALWEISS 719-391-1357 |
| SE774 CONST. OF SANITARY SEWERS WATER MAINS AND MICROTUNNELING IN FORT HAMILTON PARKWAY BROOKLYN, NY | INSTALL SANITARY SEWERS WATER MAINS MICROTUNNELING | \$6,876,542.00 | November 2006 | N.Y.C. DEPT. OF DESIGN & CONSTRUCTION 30-30 THOMSON AVENUE, 3rd FL LONG ISLAND CITY, N.Y. 11101 | SAME AS OWNER ROBERT YUEH 718-391-1937 |

A. Project References- Similar Contracts Completed by The Bidder

| PROJECT NAME, LOCATION DESCRIPTION | CONTRACT TYPE | CONTRACT AMOUNT | DATE COMPLETED | OWNER REFERENCE/ TELEPHONE # | ENGINEER REFERENCE/ TELEPHONE # |
|--|---|-----------------|----------------|--|---|
| CONTRACT NO. HWC988E SAFETY IMPROVEMENTS TO AMBOY ROAD STATEN ISLAND, NY | INSTALL SANITARY & STORM SEWERS, WATER MAINS , CURBS SIDEWALKS, ETC. | \$2,607,769.00 | November 2006 | N.Y.C DEPT. OF DESIGN & CONSTRUCTION 30-30 THOMSON AVENUE LONG ISLAND CITY, NY 11101 | SAME AS OWNER SANJAY MODI 212-442-1897 |
| CONTRACT NO. KERRIGAN AVENUE SEWER REPLACEMENT KERRIGAN AVENUE, JERSEY CITY, NJ | SEWER REPLACEMENT DRILLING AND BLASTING CURBS, SIDEWALKS | \$3,288,168.00 | December 2006 | NORTH HUDSON SEWERAGE AUTHORITY 1600 ADAMS STREET HOBOKEN, NJ 07030 | CH2MHILL DAVE MISSIG, P.E. (973) 316-0199 |
| CONTRACT NO. SER002216 CONSTRUCTION OF STORM & SANITARY SEWERS AND INSTALLATION OF WATER MAINS IN RIDGECREST AVE., STATEN ISLAND, NY | INSTALL SANITARY & STORM SEWERS, WATER MAINS , CURBS SIDEWALKS, ETC. | \$3,960,581.20 | December 2006 | N.Y.C DEPT. OF DESIGN & CONSTRUCTION 30-30 THOMSON AVENUE LONG ISLAND CITY, NY 11101 | SAME AS OWNER SAM RIAD, P.E. 718-391-2146 |
| CONTRACT NO. SEQ200453 CONSTRUCTION OF STORM AND SANITARY SEWERS IN THURSBY AVE. BOROUGH OF QUEENS, NY | INSTALL SANITARY & STORM SEWERS, WATER MAINS , CURBS SIDEWALKS, ETC. | \$7,785,948.00 | July 2007 | N.Y.C DEPT. OF DESIGN & CONSTRUCTION 30-30 THOMSON AVENUE LONG ISLAND CITY, NY 11101 | SAME AS OWNER ERICK SATTTLER, P.E. 718-391-1966 |
| CONTRACT NO. SE-208C CONSTRUCTION OF STORM & SANITARY SEWERS AND INSTALLATION OF WATER MAINS IN HAROLD ST., STATEN ISLAND, NY | INSTALL SANITARY & STORM SEWERS, WATER MAINS , CURBS SIDEWALKS, ETC. | \$14,750,000.00 | June 2007 | N.Y.C DEPT. OF DESIGN & CONSTRUCTION 30-30 THOMSON AVENUE LONG ISLAND CITY, NY 11101 | SAME AS OWNER SHAKEEL AHMED, P.E. 718-391-1110 |
| SEQ200509 CONSTRUCTION OF STORM SEWERS AND WATER MAINS IN ROCKAWAY BEACH BLVD. QUEENS, NY | INSTALL SANITARY & STORM SEWERS, WATER MAINS , CURBS SIDEWALKS, ETC. | \$1,388,888.00 | July 2007 | N.Y.C DEPT. OF DESIGN & CONSTRUCTION 30-30 THOMSON AVENUE LONG ISLAND CITY, NY 11101 | SAME AS OWNER ERICK SATTTLER, P.E. 718-391-1966 |

A. Project References- Similar Contracts Completed by The Bidder

| PROJECT NAME, LOCATION DESCRIPTION | CONTRACT TYPE/ DETAILS | CONTRACT AMOUNT | DATE COMPLETED | OWNER REFERENCE/ TELEPHONE # | ENGINEER REFERENCE/ TELEPHONE # |
|--|--|-----------------|----------------|--|--|
| SE-777-R CONSTRUCTION OF STORM AND SANITARY SEWERS WATER MAINS AND BMP WORK NORTH RAILROAD STREET STATEN ISLAND, NY | INSTALL SANITARY & STORM SEWERS, WATER MAINS, CURBS SIDEWALKS AND BMP WORK | \$34,720,000.00 | August, 2010 | N.Y.C DEPT. OF DESIGN & CONSTRUCTION 30-30 THOMSON AVENUE, 3RD FL. LONG ISLAND CITY, NY 11101 | SAME AS OWNER SHAKEEL AHMED, P.E. 718-391-1110 |
| SER002167 CONSTRUCTION OF SANITARY AND STORM SEWERS AND THE INSTALLATION OF WATER MAINS IN RICHMOND TERRACE STATEN ISLAND, NY | CONSTRUCTION OF SANITARY AND STORM SEWERS AND WATER MAINS | \$5,231,290.00 | Feb-11 | N.Y.C. DEPT. OF DESIGN & CONSTRUCTION 30-30 THOMSON AVENUE, 3RD FLOOR LONG ISLAND CITY, NY 11101 | SAME AS OWNER SHAKEEL AHMED, P.E. 718-391-1110 |
| HWSEMERG EMERGENCY CURB & SIDEWALK REPAIRS VARIOUS LOCATIONS IN QUEENS, NEW YORK | CURB AND SIDEWALK REPAIRS | \$2,000,000.00 | December, 2010 | N.Y.C. DEPT. OF DESIGN & CONSTRUCTION 30-30 THOMSON AVENUE, 3RD FLOOR LONG ISLAND CITY, NY 11101 | SAME AS OWNER ERICK SATTler, P.E. 718-391-1966 |
| CSO-IH-12 CONSTRUCTION OF INNER HARBOR IN LINE STORAGE FACILITIES BROOKLYN, NY | COMBINE SEWER OVERFLOW SOLIDS FLOATABLE STORAGE | \$12,954,128.00 | Mar-11 | N.Y.C DEPT. OF ENVIRONMENTAL PROTECTION 59-17 JUNCTION BLVD., 17TH FLOOR FLUSHING, NY 11373 | SAME AS OWNER WARREN GORDON 718-595-6229 |

JRCRUZ Corp.

A. Project References - Similar Contracts Completed by The Bidder

5 of 7

| PROJECT NAME, LOCATION DESCRIPTION | CONTRACT TYPE/ DETAILS | CONTRACT AMOUNT | DATE COMPLETED | OWNER REFERENCE/ TELEPHONE # | ENGINEER REFERENCE/ TELEPHONE # |
|--|--|-----------------|----------------|---|--|
| SE-801 CONSTRUCTION OF STORM AND SANITARY SEWERS IN ALBEE AVENUE STATEN ISLAND, NY | INSTALL SANITARY & STORM SEWERS, WATER MAINS , CURBS AND SIDEWALKS | \$16,383,383.00 | Aug-11 | N.Y.C DEPT. OF DESIGN & CONSTRUCTION 30-30 THOMSON AVENUE, 3RD FL. LONG ISLAND CITY, NY 11101 | SAME AS OWNER SHAKEEL AHMED, P.E. 718-391-1110 |
| CONTRACT NO. SEQ200523 CONSTRUCTION OF SANITARY AND STORM SEWERS AND APPURTENANCES IN NEW HAVEN AVENUE BOROUGH OF QUEENS | INSTALL SANITARY SEWERS AND WATER MAIN STREET LIGHTING AND TRAFFIC WORK | \$6,803,128.00 | Aug-13 | N.Y.C DEPT. OF DESIGN & CONSTRUCTION 30-30 THOMSON AVENUE LONG ISLAND CITY, NY 11101 | SAME AS OWNER LAMBERT MONAH, P.E. 718-391-2469 |
| BED-778 REPLACEMENT OF WATER MAINS IN ATLANTIC AVENUE BROOKLYN, NY | INSTALLATION OF TRUNK AND DISTRIBUTION OF WATER MAINS, INCLUDING LIGHTING AND TRAFFIC WORK | \$13,929,929.00 | Nov-13 | N.Y.C DEPT. OF DESIGN & CONSTRUCTION 30-30 THOMSON AVENUE LONG ISLAND CITY, NY 11101 | SAME AS OWNER ROBERT YUEH, P.E. 718-391-1937 |
| CONTRACT NO. SER200200 CONSTRUCTION OF SANITARY AND STORM SEWERS AND APPURTENANCES IN O'GORMAN AVE. BOROUGH OF STATEN ISLAND, NY | INSTALL SANITARY & STORM SEWERS AND WATER MAIN STREET LIGHTING AND TRAFFIC WORK | \$5,966,966.00 | May-14 | N.Y.C DEPT. OF DESIGN & CONSTRUCTION 30-30 THOMSON AVENUE LONG ISLAND CITY, NY 11101 | SAME AS OWNER SHAKEEL AHMED, P.E. 718-391-1110 |

JRCRUZ Corp.

A. Project References - Similar Contracts Completed by The Bidder

6 of 7

| PROJECT NAME, LOCATION DESCRIPTION | CONTRACT TYPE/ DETAILS | CONTRACT AMOUNT | DATE COMPLETED | OWNER REFERENCE/ TELEPHONE # | OWNER REFERENCE TELEPHONE # |
|--|--|-----------------|----------------|---|--|
| CONTRACT NO. NA-2013-47 NEWARK AVENUE SEWER IMPROVEMENTS JERSEY CITY, NJ | REMOVAL AND REPLACEMENT OF COMBINED SEWERS, TIDE GATE REGULATOR, MANHOLES. LATERALS AND PAVEMENT RESTORATION | \$5,948,420.00 | Mar-15 | JERSEY CITY MUNICIPAL UTILITIES AUTHORITY 555 ROUTE #440 JERSEY CITY, NJ 07305 | Kevin Carr 201-432-0845 |
| CONTRACT NO. SEQ200508 CONSTRUCTION OF SANITARY AND STORM SEWERS AND APPURTENANCES IN BAY 32ND STREET BOROUGH OF QUEENS | INSTALL SANITARY & STORM SEWERS AND WATER MAIN STREET LIGHTING AND TRAFFIC WORK | \$11,411,411.00 | Aug-15 | N.Y.C. DEPT. OF DESIGN & CONSTRUCTION 30-30 THOMSON AVENUE LONG ISLAND CITY, NY 11101 | SAME AS OWNER MEHRABAN AHOURAIE 718-391-1953 |
| CONTRACT NO. SE-734 CONSTRUCTION OF SANITARY AND STORM SEWERS AND APPURTENANCES IN RICHARD AVE. BOROUGH OF STATEN ISLAND, NY | INSTALL SANITARY & STORM SEWERS AND WATER MAIN STREET LIGHTING AND TRAFFIC WORK | \$12,799,997.00 | Jul-17 | N.Y.C. DEPT. OF DESIGN & CONSTRUCTION 30-30 THOMSON AVENUE LONG ISLAND CITY, NY 11101 | SAME AS OWNER SAM RIAD 917-939-7339 |
| CONTRACT NO. CS-JA-BBS BERGEN BASIN SEWER RECONSTRUCTION BOROUGH OF QUEENS, NY | 600 LF OF MICROTUNNELING 1 JACKING SHAFT 2 RECEIVING SHAFTS RELOCATION OF WATER MAINS AND FINAL RESTORATION | \$20,256,909.00 | Jan-2017 | N.Y.C. DEPT. OF ENVIRONMENTLA PROTECTION 59-17 JUNCTION BOULEVARD FLUSHING, NY 11373 | SAME AS OWNER NEIL O'CONNOR 718-848-2807 |

JRCRUZ Corp.

A. Project References - Similar Contracts Completed by The Bidder

| PROJECT NAME, LOCATION DESCRIPTION | CONTRACT TYPE/ DETAILS | CONTRACT AMOUNT | DATE COMPLETED | OWNER REFERENCE/ TELEPHONE # | OWNER REFERENCE TELEPHONE # |
|---|--|-----------------|----------------|--|--|
| CONTRACT NO. HWCSCH3F SAFE RUTES TO SCHOOL PHASE III, 3 SCHOOLS BOROUGH OF STATEN ISLAND, NY | SAFE ROUTES TO SCHOOL PHASE III INCLUDING CURBS & SITEWALKS RECONSTRUCTION, PAVEMENT MARKINGS, SEWERS, WATERMANS, STREET LIGHTING | \$2,136,042.48 | June - 2106 | N.Y.C DEPT. OF DESIGN & CONSTRUCTION 30-30 THOMSON AVENUE LONG ISLAND CITY, NY 11101 | SAME AS OWNER Joseph Piwowarski 718-391-1296 |
| HD153C EDGEEMERE URBAN RENEWAL AREA PHASE C1 BEACH 43RD STREET FAR ROCKAWAY, NY | CONSTRUCTION OF SANITARY AND STORM SEWERS AND WATER MAINS | \$24,350,628.00 | May-16 | N.Y.C DEPT. OF DESIGN & CONSTRUCTION 30-30 THOMSON AVENUE LONG ISLAND CITY, NY 11101 | SAME AS OWNER Mehraban Ahourate 718-391-1953 |
| CONTRACT NO. HD153C2 RECONSTRUCTION OF EDGEEMERE URBAN RENEWAL AREA. PASE C2 QUEENS, NY | INSTALL SANITARY SEWERS AND WATER MAIN STREET LIGHTING AND TRAFFIC WORK | \$37,798,798.00 | May-17 | N.Y.C DEPT. OF DESIGN & CONSTRUCTION 30-30 THOMSON AVENUE LONG ISLAND CITY, NY 11101 | SAME AS OWNER Mehraban Ahourate 718-391-1953 |

B. Project References-Contracts Currently Under Construction by The Bidder

| PROJECT NAME, LOCATION DESCRIPTION | CONTRACT TYPE | CONTRACT AMOUNT | PERCENT COMPLETE | SCHEDULED COMPLETION DATE | OWNER REFERENCE/ TELEPHONE # | ENGINEER REFERENCE/ TELEPHONE # |
|---|---|-----------------|------------------|---------------------------|---|--|
| CONTRACT NO. 19720006 NEW STAPLETON WATERFRONT PHASE II PROJECT | ROADWAY RECONSTRUCTION OPEN SPACE, UNDERGROUND UTILITIES, PATHWAY LANDSCAPING AND ELECTRICAL WORK | \$12,179,902.00 | 90% | October, 2016 | N.Y.C. ECONOMIC DEVELOPMENT CORPORATION 110 WILLIAM STREET NEW YORK, NY 100038 | Kristofer Segler 718-447-1121 |
| CONTRACT NO. PVC341-M HRT - CENTER ST. MUSEUM BLDG. UTILITY UPGRADES BOROUGH OF STATEN ISLAND, NY | RECONSTRUCTION OF HISTORIC RICHMONDTOWN BUILDING INCLUDING SEWERS, WATER MAINS, SIDEWALKS AND FINAL PAVEMENT RESTORATION OF ROADWAY WATERMANS, STREET LIGHTING | \$9,281,927.00 | 85% | Apr-17 | N.Y.C. DEPT. OF DESIGN & CONSTRUCTION 30-30 THOMSON AVENUE LONG ISLAND CITY, NY 11101 | SAME AS OWNER Joseph Pkworanski 718-391-1286 |
| CONTRACT NO. MIBNC001 CONSTRUCTION OF COMBINED SEWERS AND APPURTENANCES IN KISWICK AVE.. BOROUGH OF STATEN ISLAND, NY | CONSTRUCTION OF COMBINED SEWERS, INSTALLATION OF WATER MAINS, BMP WORK, FINAL RESTORATION WORK | \$22,228,507.00 | 40% | June, 2017 | N.Y.C. DEPT. OF DESIGN & CONSTRUCTION 30-30 THOMSON AVENUE LONG ISLAND CITY, NY 11101 | David Peterson 347-723-1439 |
| CONTRACT NO. SER002311 CONSTRUCTION OF SANITARY AND STORM SEWERS I IN BERTRAM AVENUE BOROUGH OF STATEN ISLAND, NY | CONSTRUCTION OF COMBINED SEWERS, INSTALLATION OF WATER MAINS, SIDEWALKS MICROTUNNEL PIPE FINAL RESTORATION WORK | \$18,321,123.00 | 75% | August, 2017 | N.Y.C. DEPT. OF DESIGN & CONSTRUCTION 30-30 THOMSON AVENUE LONG ISLAND CITY, NY 11101 | Mohammad Sedigi, P.E. 718-391-1463 |
| CONTRACT NO. 27360016 HUNTER'S POINT SOUTH PHASE 2 PROJECT QUEENS WEST, NY | INSTALLATION OF STORM AND SANITARY SEWERS, PRIVATE UTILITY WORK, NEW PAVEMENT, SIDEWALKS, CURBS, LANDSCAPING, STREET LIGHTS, ETC. | \$23,689,935.30 | 35% | August, 2017 | NYS EDC (Owner) LIRO PROGRAM AND CONSTRUCTION MANAGEMENT, PE, P.C. (Prime) 3 AERIAL WAY, SYOSSET, NY 11791 | James Eckhoff 516-938-5475 |

JRCRUZ Corp.

B. Project References-Contracts Currently Under Construction by The Bidder

| PROJECT NAME, LOCATION DESCRIPTION | CONTRACT TYPE | CONTRACT AMOUNT | PERCENT COMPLETE | SCHEDULED COMPLETION DATE | OWNER REFERENCE/ TELEPHONE # | ENGINEER REFERENCE TELEPHONE |
|---|--|-----------------|------------------|---------------------------|--|--------------------------------------|
| CONTRACT NO. SE798 CONSTRUCTION OF COMBINED SEWERS AND APPURTENANCES IN ARMSTRONG AVE., BOROUGH OF STATEN ISLAND, NY | CONSTRUCTION OF COMBINED SEWERS, INSTALLATION OF WATER MAINS, BMP WORK, FINAL RESTORATION WORK | \$38,363,359.00 | 25% | October, 2018 | N.Y.C DEPT. OF DESIGN & CONSTRUCTION 30-30 THOMSON AVENUE LONG ISLAND CITY, NY 11101 | Sergio Herrera 718-966-2540 |
| CONTRACT NO. HWQ213C RECONSTRUCTION OF MAIN STREET WITH WIDENED SIDEWALKS IN DOWNTOWN FLUSHING BOROUGH OF QUEENS, NY | CONSTRUCTION OF COMBINED SEWERS, INSTALLATION OF WATER MAINS, SIDEWALKS AND FINAL RESTORATION WORK | \$7,800,915.00 | 30% | August, 2017 | N.Y.C DEPT. OF DESIGN & CONSTRUCTION 30-30 THOMSON AVENUE LONG ISLAND CITY, NY 11101 | Mohammad Sadiq, P.E. 718-391-1483 |
| CONTRACT NO. 195456 LANDSCAPE AND GUTTER RECONSTRUCTION OF STATEN ISLAND | GUTTER RECONSTRUCTION, ARCHITECTURAL CAST IN PLACE CONCRETE, AND PRECAST CONCRETE, CLAY ROOF TILES ROOF SPECIALTIES, CONCRETE PAVEMENT LANDSCAPE, UTILITY DRAINAGE AND PIPING | \$6,200,000.00 | 1% | April, 2018 | DASNY 515 BROADWAY ALBANY, NY 12207 | Jack Kemp 518-257-3000 |
| CONTRACT NO. 0146 MIDLAND PERMANENT WATER INTAKE SYSTEM BOROUGH OF MIDLAND | CONSTRUCTION OF WATER INTAKE SYSTEM PUMP STATION CONTROL BUILDING WITH HVAC, PLUMBING, ELECTRICAL, PERMANENT 24" CONNECTION AT EXISTING WATER MAIN TREATMENT PLANT VIA MICROTUNNEL | \$5,088,540.00 | 5% | July, 2018 | MUNICIPAL AUTHORITY OF THE BOROUGH OF MIDLAND 948 RAILROAD AVENUE MIDLAND, PA 15058 | Daniel A. Sell, P.E. 724-847-1886 |

JRCRUZ Corp.

B. Project References-Contracts Currently Under Construction by The Bidder

| PROJECT NAME, LOCATION DESCRIPTION | CONTRACT TYPE | CONTRACT AMOUNT | PERCENT COMPLETE | SCHEDULED COMPLETION DATE | OWNER REFERENCE/ TELEPHONE # | ENGINEER REFERENCE TELEPHONE |
|---|---|--------------------|---------------------|------------------------------|--|------------------------------------|
| CONTRACT NO. SEQ200492 CONSTRUCTION OF COMBINED SEWERS AND APPURTENANCES IN 41st AVENUE BOROUGH OF QUEENS, NY | CONSTRUCTION OF COMBINED SEWERS, INSTALLATION OF WATER MAINS, AND FINAL RESTORATION WORK | \$6,563,834.21 | 0% | June, 2019 | N.Y.C DEPT. OF DESIGN & CONSTRUCTION 30-30 THOMSON AVENUE LONG ISLAND CITY, NY 11101 | Lambert Monah 718-391-2469 |
| | | | | | | |
| | | | | | | |
| | | | | | | |

JRCRUZ Corp.

C. Project References - Pending Contracts Not Yet Started by The Contractor

| PROJECT NAME, LOCATION DESCRIPTION | CONTRACT TYPE | CONTRACT AMOUNT | PERCENT COMPLETE | START DATE COMPLETION DATE | OWNER REFERENCE/ TELEPHONE # | ENGINEER REFERENCE/ TELEPHONE # |
|---|--|-----------------|------------------|----------------------------|--|---------------------------------|
| MED642 Various Locations Borough of Manhattan | Installation of Water Mains and Appurtenances to Improve City's Water Mains Distribution | \$3,995,599.00 | N/A | Not known at This Time | NYC Dept. of Design & Construction 3030 Thomson Avenue LIC, NY 11101 | Not known at This Time |
| HWP15RSC Various Locations Borough of | Installation of Simple and Complex Pedestrian Ramps Including Curb and Sidewalk Reconstruction | \$2,206,791.86 | N/A | Not known at This Time | NYC Dept. of Design & Construction 3030 Thomson Avenue LIC, NY 11101 | Not known at This Time |
| HWS16CW2 City-Wide Boroughs of the Bronx, Manhattan and Staten Island | Installation of Sidewalks, Adjacent Curbs and Pedestrian Ramps as Necessary in Various Locations | \$4,110,895.00 | N/A | Not known at This Time | NYC Dept. of Design & Construction 3030 Thomson Avenue LIC, NY 11101 | Not known at This Time |
| SEQ200492 4th Avenue Between 233rd Street and 235th Street, Etc. Borough of Queens, NY | Construction of Storm and Sanitary Sewers and Appurtenances Including Water Mains | \$6,593,834.20 | N/A | Not known at This Time | NYC Dept. of Design & Construction 3030 Thomson Avenue LIC, NY 11101 | Not known at This Time |
| | | | | | | |

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: JRCRUZ Corp.
Bidder's Address: 675 Line Road, Aberdeen, NJ 07747
Bidder's Telephone Number: 732/290-0700
Bidder's Fax Number: 732/290-8960
Date of Bid Opening: July 11, 2017
PROJECT ID: SER20026

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, 9th 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: Evaristo Cruz, Jr., President

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, Evaristo Cruz, Jr., 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: JRCRUZ Corp.

Vendor's Address: 675 Line Road, Aberdeen, NJ 07747

Vendor's EIN or TIN: 22-3373796 Requesting Agency: NYC DDC

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

Signature date on the last full vendor questionnaire signed for the submitting vendor: 10/27/2015

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 | Evaristo Cruz, Jr. | 10/27/2015 | |
| 2 | David S. Cruz | 10/27/2015 | |
| 3 | Matthew J. Cruz | 10/27/2015 | |
| 4 | Jason R. Cruz | 10/27/2015 | |
| 5 | Joyce A. Cruz | 10/27/2015 | |
| 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:

Evaristo Cruz, Jr.

Name (Print)

President

Title

JRCRUZ Corp.

Name of Submitting Entity

Signature

July 11, 2017

Date

Notarized By:

Cyn

Notary Public

Ocean

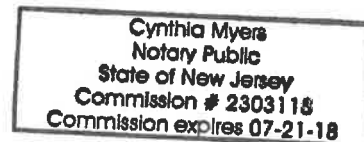
County License Issued

2303118

License Number

Sworn to before me on: July 11, 2017

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**

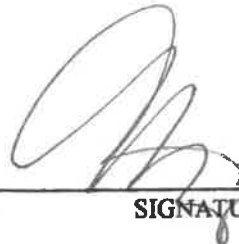
Pursuant to General Municipal Law §103-g, which generally prohibits the City from entering into contracts with persons engaged in investment activities in the energy sector of Iran, the bidder/proposer submits the following certification:

[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

Evaristo Cruz, Jr.

PRINTED NAME

President

TITLE

Sworn to before me this
11th day of July, 2017



Notary Public

Dated: July 11, 2017

| |
|--|
| Cynthia Myers Notary Public State of New Jersey Commission # 2303118 Commission expires 07-21-18 |
|--|

**THE CITY OF NEW YORK
DEPARTMENT OF SMALL BUSINESS SERVICES
DIVISION OF LABOR SERVICES
CONTRACT COMPLIANCE UNIT
110 WILLIAMS STREET
NEW YORK, NEW YORK 10038
PHONE: (212) 513-6323
FAX: (212) 618-8879**

CONSTRUCTION

EMPLOYMENT

REPORT

(NO TEXT ON THIS PAGE)

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 |

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 |
|---------------------------|-------------------------------|--------------------------------------|---|--------------------------------------|
|---------------------------|-------------------------------|--------------------------------------|---|--------------------------------------|

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 Locally Based Business Enterprise
 Women Owned Business Enterprise Emerging Business Enterprise
 Disadvantaged 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 Operating Engineers Local 14 & 15, Laborers Local 731, 1010, Dockbuilders / Timbermen Local 1556
6. Are you a Veteran owned company? Yes No

PART I: CONTRACTOR/SUBCONTRACTOR INFORMATION

7. 22-3373796 engineering@jrcruz.com
Employer Identification Number or Federal Tax I.D. Email Address
8. JRCRUZ Corp.
Company Name
9. 675 Line Road, Aberdeen, NJ 07747
Company Address and Zip Code
10. Evaristo Cruz, Jr. 732/290-0700
Chief Operating Officer Telephone Number
11. Same
Designated Equal Opportunity Compliance Officer Telephone Number
(If same as Item #10, write "same")
12. Same
Name of Prime Contractor and Contact Person
(If same as Item #8, write "same")

13. Number of employees in your company: 100 +/-

14. Contract information:

(a) NYC DDC (b) _____
Contracting Agency (City Agency) Contract Amount

(c) _____ (d) _____
Procurement Identification Number (PIN) Contract Registration Number (CT#)

(e) _____ (f) _____
Projected Commencement Date Projected Completion Date

(g) Description and location of proposed contract:

SER20026 New Storm and Sanitary Sewers in Glen Street and Water Main
Work, Borough of Staten Island

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 X 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 X

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 X 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 X

If yes,

(a) Name and address of OFCCP office.

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

If yes, attach a copy of such certificate.

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

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

(d) Were any deficiencies found? Yes ___ No X

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 X No ___

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

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.

Y (a) Health benefit coverage/description(s) for all management, nonunion and union employees (whether company or union administered)

Y (b) Disability, life, other insurance coverage/description

N (c) Employee Policy/Handbook

N (d) Personnel Policy/Manual

N (e) Supervisor's Policy/Manual

Y (f) Pension plan or 401k coverage/description for all management, nonunion and union employees, whether company or union administered

Y (g) Collective bargaining agreement(s).

Y (h) Employment Application(s)

N (i) Employee evaluation policy/form(s).

N (j) Does your firm have medical and/or non-medical (i.e. education, military, personal, pregnancy, child care) leave policy?

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 ___ | No <u>X</u> |
| (b) After a conditional job offer | Yes ___ | No <u>X</u> |
| (c) After a job offer | Yes <u>X</u> | No ___ |
| (d) Within the first three days on the job | Yes <u>X</u> | No ___ |
| (e) To some applicants | Yes ___ | No <u>X</u> |
| (f) To all applicants | Yes <u>X</u> | No ___ |
| (g) To some employees | Yes ___ | No <u>X</u> |
| (h) To all employees | Yes <u>X</u> | No ___ |

22. Explain where and how completed I-9 Forms, with their supportive documentation, are maintained and made accessible.
Completed at the field office, witnessed and signed by the President of the Corporation. Filed in the main office.

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

If yes, is the medical examination given:

- | | | |
|-----------------------------------|---------|--------|
| (a) Prior to a job offer | Yes ___ | No ___ |
| (b) After a conditional job offer | Yes ___ | No ___ |
| (c) After a job offer | Yes ___ | No ___ |
| (d) To all applicants | Yes ___ | No ___ |
| (e) Only to some applicants | Yes ___ | No ___ |

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 ___ X

If yes, list the document(s) and page number(s) where these written policies are located.
Equal Employment and Affirmative Actions. Page 1 and Statements Policies. Section B Equal Employment

25. Does the company have a current affirmative action plan(s) (AAP)
X Minorities and Women
X 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 X 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 X

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 X

If yes, attach a log. See instructions.

29. Are there any jobs for which there are physical qualifications? Yes ___ No X

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

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 X

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) Evaristo Cruz, Jr. 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.

JRCRUZ Corp.
Contractor's Name

Cynthia Strodel Administrative Assistant - Engineering
Name of person who prepared this Employment Report Title

Evaristo Cruz, Jr. President
Name of official authorized to sign on behalf of the contractor Title

732/290-0700
Telephone Number


Signature of authorized official
July 11, 2017
Date

If contractors are found to be underutilizing minorities and females in any given trade based on Chapter 56 Section 3H, 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 11th day of July 20 17

Notary Public

Cynthia Myers
Notary Public
State of New Jersey
Commission # 2303118
Commission expires 07-21-18


Authorized Signature

July 11, 2017
Date

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

1. Do you plan to subcontract work on this contract? Yes X 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 |
|------------------------|--|---------------------------------------|--|---------------------------------------|
| Not known at this time | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

*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 (A) Apprentice
 (H) Helper (TRN) Trainee
 (TOT) Total by Column

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.

| Trade: | MALES | | | | | FEMALES | | | | |
|--|-----------------|-----------------|-----------------|-------|--------------|-----------------|-----------------|-----------------|-------|--------------|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
| | White Non Hisp. | Black Non Hisp. | White Non Hisp. | Asian | Native Amer. | White Non Hisp. | Black Non Hisp. | White Non Hisp. | Asian | Native Amer. |
| 731 Laborers | 6 | | 2 | | | | | | | |
| Union Affiliation, if applicable | | | | | | | | | | |
| TOT | 6 | | 2 | | | | | | | |
| Total (Col. #1-10): | 8 | | | | | | | | | |
| Total Minority, Male & Female (Col. #2,3,4,5,7,8,9, & 10): | 2 | | | | | | | | | |
| Total Female (Col. #6 - 10): | 0 | | | | | | | | | |

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

Unions and Community Outreach

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.

| Trade: | MALES | | | | | FEMALES | | | | |
|---|------------------------------|------------------------------|--------------|--------------|------------------------|------------------------------|------------------------------|--------------|--------------|-------------------------|
| | (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. |
| Operating Engineers | 2 | | 2 | | | | | | | |
| Union Affiliation, if applicable | | | | | | | | | | |
| 14 & 15 | | | | | | | | | | |
| Total (Col. #1-10): | 4 | | | | | | | | | |
| Total Minority, Male & Female (Col. #2,3,4,5,7,8,9, & 10): | | | | | | | | | | |
| 2 | | | | | | | | | | |
| Total Female (Col. #6 - 10): | | | | | | | | | | |
| 0 | | | | | | | | | | |
| TOT | 2 | | 2 | | | | | | | |

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

Unions and Community Outreach

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.

| Trade: | MALES | | | | | FEMALES | | | | |
|---|------------------------------|------------------------------|--------------|--------------|------------------------|------------------------------|------------------------------|--------------|--------------|-------------------------|
| | (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. |
| Timberman | 1 | | 1 | | | | | | | |
| Union Affiliation, if applicable | | | | | | | | | | |
| 1556 | | | | | | | | | | |
| Total (Col. #1-10): | 2 | | | | | | | | | |
| Total Minority, Male & Female (Col. #2,3,4,5,7,8,9, & 10): | 1 | | | | | | | | | |
| Total Female (Col. #6 - 10): | 0 | | | | | | | | | |
| J | 1 | | 1 | | | | | | | |
| H | | | | | | | | | | |
| A | | | | | | | | | | |
| TRN | | | | | | | | | | |
| TOT | 1 | | 1 | | | | | | | |

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

Unions and Community Outreach

FORM C: CURRENT WORKFORCE

TRADE CLASSIFICATION CODES

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

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.

| Trade: | MALES | | | | | FEMALES | | | | |
|--|-----------------------|-----------------------|-------|-------|-----------------|-----------------------|-----------------------|-------|-------|-----------------|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
| | White Non Hisp. | Black Non Hisp. | Hisp. | Asian | Native Amer. | White Non Hisp. | Black Non Hisp. | Hisp. | Asian | Native Amer. |
| Laborers | 19 | | 6 | | | | | | | |
| Union Affiliation, if applicable 731 & 1010 | | | | | | | | | | |
| Total (Col. #1-10): 25 | | | | | | | | | | |
| Total Minority, Male & Female (Col. #2,3,4,5,7,8,9, & 10): 6 | | | | | | | | | | |
| Total Female (Col. #6 - 10): 0 | | | | | | | | | | |
| J | | | | | | | | | | |
| H | | | | | | | | | | |
| A | | | | | | | | | | |
| TRN | | | | | | | | | | |
| TOT | 19 | | 6 | | | | | | | |

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

Unions and Community Outreach

FORM C: CURRENT WORKFORCE

TRADE CLASSIFICATION CODES

(J) Journeylevel Workers (A) Apprentice
 (H) Helper (TRN) Trainee
 (TOT) Total by Column

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.

| Trade: | MALES | | | | | FEMALES | | | | |
|--|-----------------|-----------------|-----------------|-------|--------------|-----------------|-----------------|-------|-------|--------------|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
| | White Non Hisp. | Black Non Hisp. | White Non Hisp. | Asian | Native Amer. | White Non Hisp. | Black Non Hisp. | Hisp. | Asian | Native Amer. |
| Dockbuilders | 3 | | 2 | | | | | | | |
| Union Affiliation, if applicable | | | | | | | | | | |
| 1556 | | | | | | | | | | |
| Total (Col. #1-10): | 5 | | | | | | | | | |
| Total Minority, Male & Female (Col. #2,3,4,5,7,8,9, & 10): | 2 | | | | | | | | | |
| Total Female (Col. #6 - 10): | 0 | | | | | | | | | |
| J | 3 | | 2 | | | | | | | |
| H | | | | | | | | | | |
| A | | | | | | | | | | |
| TRN | | | | | | | | | | |
| TOT | 3 | | 2 | | | | | | | |

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

Unions and Community Outreach

FORM C: CURRENT WORKFORCE

TRADE CLASSIFICATION CODES

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

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.

| Trade: | MALES | | | | | FEMALES | | | | |
|--|-----------------|-----------------|-------|-------|--------------|-----------------|-----------------|-------|-------|--------------|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
| | White Non Hisp. | Black Non Hisp. | Hisp. | Asian | Native Amer. | White Non Hisp. | Black Non Hisp. | Hisp. | Asian | Native Amer. |
| Timberman | 1 | 1 | 6 | | | | | | | |
| Union Affiliation, if applicable | | | | | | | | | | |
| 1556 | | | | | | | | | | |
| Total (Col. #1-10): | 8 | | | | | | | | | |
| Total Minority, Male & Female (Col. #2,3,4,5,7,8,9, & 10): | 7 | | | | | | | | | |
| Total Female (Col. #6 - 10): | 0 | | | | | | | | | |

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

Unions and Community Outreach

FORM C: CURRENT WORKFORCE

TRADE CLASSIFICATION CODES

(J) Journeylevel Workers (A) Apprentice
 (H) Helper (TRN) Trainee
 (TOT) Total by Column

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.

| Trade: | MALES | | | | | FEMALES | | | | |
|---|-----------------------|-----------------------|-------|-------|-----------------|-----------------------|-----------------------|-------|-------|-----------------|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
| | White Non Hisp. | Black Non Hisp. | Hisp. | Asian | Native Amer. | White Non Hisp. | Black Non Hisp. | Hisp. | Asian | Native Amer. |
| Operating Engineers | 19 | | 4 | | | | | | | |
| Union Affiliation, if applicable 14 & 15 | J | | | | | | | | | |
| Total (Col. #1-10): | H | | | | | | | | | |
| 23 | A | | | | | | | | | |
| Total Minority, Male & Female (Col. #2,3,4,5,7,8,9, & 10): | TRN | | | | | | | | | |
| 4 | TOT | | 4 | | | | | | | |
| Total Female (Col. #6 - 10): | | | | | | | | | | |
| 0 | | | | | | | | | | |

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

| Trade: | MALES | | | | | FEMALES | | | | | | | | |
|--|----------------|-----------------------|----------------|-----------------------|----------------|----------------|-----------------------|-----------------|----------------|-----------------------|----------------|-------------------|----------------|-----------------|
| | (1) | | (2) | | (3) | (4) | | (5) | (6) | | (7) | (8) | (9) | (10) |
| | White Hisp. | Black Non Hisp. | White Hisp. | Black Non Hisp. | White Hisp. | Asian Hisp. | Asian Non Hisp. | Native Amer. | White Hisp. | Black Non Hisp. | White Hisp. | Hispanic Hisp. | Asian Hisp. | Native Amer. |
| Crossing Guards | | | | | 1 | | | | | | 1 | | | |
| Union Affiliation, if applicable | | | | | | | | | | | | | | |
| N/A | | | | | | | | | | | | | | |
| Total (Col. #1-10): | 8 | | | | | | | | | | 1 | | | |
| Total Minority, Male & Female (Col. #2,3,4,5,7,8,9, & 10): | 8 | | | | | | | | | | 1 | | | |
| Total Female (Col. #6 - 10): | 2 | | | | | | | | | | | 1 | | |

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

Unions and Community Outreach

(NO TEXT ON THIS PAGE)

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 x
- 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:

| | |
|---|--|
| <input type="checkbox"/> Minority Owned Business Enterprise | <input type="checkbox"/> Locally Based Business Enterprise |
| <input type="checkbox"/> Women Owned Business Enterprise | <input type="checkbox"/> Emerging Business Enterprise |
| <input type="checkbox"/> Disadvantaged 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 _____
6. Are you a Veteran owned company? Yes ___ No ___

PART I: CONTRACTOR/SUBCONTRACTOR INFORMATION

7. _____
Employer Identification Number or Federal Tax I.D. Email Address
8. _____
Company Name
9. _____
Company Address and Zip Code
10. _____
Chief Operating Officer Telephone Number
11. _____
Designated Equal Opportunity Compliance Officer Telephone Number
(If same as Item #10, write "same")
12. _____
Name of Prime Contractor and Contact Person
(If same as Item #8, write "same")

13. Number of employees in your company: _____

14. Contract information:

(a) _____ (b) _____
Contracting Agency (City Agency) Contract Amount

(c) _____ (d) _____
Procurement Identification Number (PIN) Contract Registration Number (CT#)

(e) _____ (f) _____
Projected Commencement Date Projected Completion Date

(g) Description and location of proposed contract:

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.

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?

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 ___ No ___ |
| (b) After a conditional job offer | Yes ___ No ___ |
| (c) After a job offer | Yes ___ No ___ |
| (d) Within the first three days on the job | Yes ___ No ___ |
| (e) To some applicants | Yes ___ No ___ |
| (f) To all applicants | Yes ___ No ___ |
| (g) To some employees | Yes ___ No ___ |
| (h) To all employees | Yes ___ No ___ |

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

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 ___ No ___ |
| (b) After a conditional job offer | Yes ___ No ___ |
| (c) After a job offer | Yes ___ No ___ |
| (d) To all applicants | Yes ___ No ___ |
| (e) Only to some applicants | Yes ___ No ___ |

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)

- ___ 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).

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) _____ 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.

Contractor's Name

Name of person who prepared this Employment Report Title

Name of official authorized to sign on behalf of the contractor Title

Telephone Number

Signature of authorized official Date

If contractors are found to be underutilizing minorities and females in any given trade based on Chapter 56 Section 3H, 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 _____ day of _____ 20 _____

Notary Public Authorized Signature Date

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 |
|-----------------------|--|---------------------------------------|--|---------------------------------------|
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

*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
- (A) Apprentice
- (TRN) Trainee
- (TOT) Total by Column

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.

Trade: _____

Union Affiliation, if applicable _____

Total (Col. #1-10): _____

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. |
|------------------------------|------------------------------|--------------|--------------|------------------------|
| J | | | | |
| H | | | | |
| A | | | | |
| TRN | | | | |
| TOT | | | | |

FEMALES

| (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: _____

Union Affiliation, if applicable _____

Total (Col. #1-10): _____

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

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

FEMALES

MALES

| | MALES | | | | | FEMALES | | | | |
|-----|------------------------------|------------------------------|--------------|--------------|------------------------|------------------------------|------------------------------|--------------|--------------|-------------------------|
| | (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 | | | | | | | | | | |
| 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 C: CURRENT WORKFORCE

TRADE CLASSIFICATION CODES

- (J) Journeylevel Workers
- (H) Helper
- (A) Apprentice
- (TRN) Trainee
- (TOT) Total by Column

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.

Trade: _____

Union Affiliation, if applicable _____

Total (Col. #1-10): _____

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. | (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 C: CURRENT WORKFORCE

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

Total (Col. #1-10):

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

Total Female
(Col. #6 - 10):

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

(NO TEXT ON THIS PAGE)

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

Date _____

File Number _____

**LESS THAN \$750,000 SUBCONTRACT CERTIFICATE
(CITY, STATE AND ICIP ONLY)**

Are you currently certified as one of the following? Please check yes or no:

MBE Yes ___ No ___ WBE Yes ___ No ___ LBE Yes ___ No ___
DBE Yes ___ No ___ EBE Yes ___ No ___

If you are certified as an MBE, WBE, LBE, EBE or DBE, what city/state agency are you certified with?

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 ___ Locally based Business Enterprise
___ Women Owned Business Enterprise ___ Emerging Business Enterprise
___ Disadvantaged Business Enterprise

Company Name

Employer Identification Number or Federal Tax I.D

Company Address and Zip Code

Contact Person (First Name, Last Name)

Telephone Number

Fax Number

E-mail Address

Description and location of proposed subcontract: _____

Are you a Union contractor? Yes ___ No ___ If yes, please list which local(s) you affiliated with

Are you a Veteran owned company? Yes ___ No ___

Procurement Identification Number (PIN)
(City contracts only)

Contract Registration Number (CT#)
(City contracts only)

Block and Lot Number
(ICIP projects only)

Contract Amount

I, (print name of authorized official signing) _____ hereby certify that I am authorized by the above-named subcontractor to certify that said subcontractor's proposed contract with the above named owner or City agency is less than \$750,000. This affirmation is made in accordance with NYC Charter Chapter 56, Executive Order No. 50 (1980) and the implementing Rules.

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.

Signature of authorized official _____ Date _____

Sworn to before me this _____ **Only original signatures accepted.**
day of _____ 20 _____

Notary Public _____ Authorized Signature _____ Date _____

ATTACH TO CONTRACT DOCUMENTS

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

PROJECT ID: SER200226

CONSTRUCTION OF STORM AND SANITARY SEWERS IN GLEN STREET, ETC.

Together With All Work Incidental Thereto
BOROUGH OF STATEN ISLAND
CITY OF NEW YORK

ADDENDUM NO. 1

DATED: July 6, 2017

This Addendum is issued for the purpose of amending the requirements of the contract documents and is hereby made part of said contract documents to the same extent as if it was originally included therein.

- (1) Refer to the Bid and Contract Documents, VOLUME 3 OF 3, SW Pages, Page SW-11, Item # 1(b), first paragraph, first line.
Change "the East Building Line of Cannon Avenue" to read "Station 29+00" on Victory Boulevard location.
- (2) Refer to the Bid and Contract Documents, VOLUME 3 OF 3, SW Pages, Page SW-12, Item # 1(c)(i), second paragraph, second line.
Add " from Station 22+50 to Station 26+50 and Station 29+00 to Station 33+00" to Victory Boulevard location.
- (3) See attached list of QUESTIONS SUBMITTED BY BIDDERS AND RESPONSES PROVIDED BY DDC for additional information.

By signing in the space provided below, the bidder acknowledges receipt of the one (1) page of this Addendum plus three (3) sheets of attachments.

THIS ADDENDUM MUST BE SIGNED BY ALL BIDDERS
AND ATTACHED TO THEIR BIDS.


for GURDIP SAINI, P.E.
Associate Commissioner/Design I

JRCRUZ Corp.
Name of Bidder

By: 

QUESTIONS SUBMITTED BY BIDDERS AND RESPONSES PROVIDED BY DDC

QUESTION NO. 1: Traffic Signal plans were found in the bid drawings, but there are no traffic signal pay items in the bid item list. Please clarify if we need to include traffic signal work in this bid.

DDC's RESPONSE: *There is no traffic signal work proposed for this project. The traffic drawings included are for reference only.*

QUESTION NO. 2: Pavement stipulations (8-E-2) found on page SW-18 in volume 3 of the specifications state "In all other street areas requiring water main work only, the restoration shall be as follows..." However, there are areas like that on sheet 13, which have water main and sewer work, but don't fall into any of the other street stipulations. My question is, what restoration should be done for the storm sewers in this scenario and how will it be paid for?

DDC's RESPONSE: *Refer to Article No. 1 and 2 of this Addendum.*

QUESTION NO. 3: Sheet 6 has a note repair about a spot repair for the 8" sanitary sewer, there is also an item for this work 50.31SE08 and an estimated quantity of 45 LF. However, the drawings do not depict the exact location of this work, what are the station limits for this spot repair?

DDC's RESPONSE: *Spot repairs on the sewers are on sheets #11, 20 & 23.*

QUESTION NO. 4: Sheet 39 shows a proposed flow diversion pipe in the BMP area but no other details are given. What kind of material is this pipe, what are the sizes/ dimensions, how will this be paid for?

DDC's RESPONSE: *The diversion pipe is for dewatering the work area - it is shown for reference, but is not a pay item and it is up to the contractor to determine the size of his dewatering system.*

QUESTION NO. 5: On Sheet 7, Note "A" indicates that payment for some work will be made under Item Nos. 50.31SE10 and 51.21S0A1000V. Item No. 50.31SE10 is not included in the bid schedule.

DDC's RESPONSE: *Contractor must use Item 50.31SC10 in place of Item No. 50.31SE10.*

QUESTION NO. 6: On Sheet 2 under "Note Applicable to All Sheets" Note 7 states "Shutdown restrictions exist for this project. Any shutdown requests have to be coordinated with DEP/BWSO Staten Island Distribution Engineer." Please clarify or elaborate on what these restrictions are.

DDC's RESPONSE: *Contractor must coordinate any request needed for shutdown of watermains with DEP/BWSO during construction.*

QUESTION NO. 7: Please provide the volume requiring bypass for the force main work.

DDC's RESPONSE: *Contractor should contact Mr. Chris Laudando, Superintendent, Collection Facilities South Bureau of Waste Water treatment, Department of Environmental Protection at (718) 564- 2700 for this information.*

QUESTION NO. 8: On Sheet 20 a new 18" ESVP Storm Sewer is shown connecting the end of Burke Avenue and the end of Princes Lane. Please indicate if the City has all necessary approvals, easements, permits, etc., to perform this work at this time, and if not, please indicate what approvals are required and their current status.

DDC's RESPONSE: *The City of New York has the easement, permits and approvals for the location.*

QUESTION NO. 9: Sheet 6 includes various notes for a spot repair, but no spot repair is shown on Sheet 6. Is a spot repair missing on this sheet or does this note pertain to spot repairs shown on other sheets?

DDC's RESPONSE: *The note pertains to spot repairs on all sheets.*

QUESTION NO. 10: A note on Sheet 5 and Sheet 6 indicates that wood sheeting will be required for the proposed sewer trench. The gas transmission main varies in distance from the sewer, and at some points is not very close to the proposed sewer trench. At what distance between the gas main and the sewer is wood sheeting no longer required?

DDC's RESPONSE: *Contractor shall only use sheeting as specified as per the notes on Sheet #5 & #6.*

QUESTION NO. 11: On Sheet 7 is the Standard A1 Manhole on the left end profile on piles? In general, when the profile arrow indicating piles ends in the middle of a manhole is that manhole on piles?

DDC's RESPONSE: *On Sheet 7, the Standard A1 Manhole on the left end profile is on piles.*

QUESTION NO. 12: On Sheet B-110.00, the observation well for Boring 53 indicates a groundwater depth of 6.1 feet from surface elevation 31.0, but also indicates that the groundwater elevation is 14.9. This information is inconsistent. Please clarify.

DDC's RESPONSE: *The line at the depth of 6.1 feet from surface elevation 31.0 is the observed strata boundary. The groundwater elevation is 14.9.*



**Department of
Design and
Construction**

**INFRASTRUCTURE DIVISION
BUREAU OF DESIGN**

VOLUME 1 OF 3

PROJECT ID: SER200226

NEW STORM AND SANITARY SEWERS IN:

GLEN STREET: BETWEEN VICTORY BOULEVARD AND PARISH AVENUE
CANNON AVENUE: BETWEEN PARISH AVENUE AND VICTORY BOULEVARD
VICTORY BOULEVARD: BETWEEN ROSWELL AVENUE AND RICHMOND COURT
MELVIN AVENUE: BETWEEN GLEN STREET AND WILD AVENUE
PARISH AVENUE: BETWEEN CANNON AVENUE AND VICTORY BOULEVARD
WILD AVENUE BETWEEN: GLEN STREET AND PEARSON STREET
SHELLEY AVENUE: BETWEEN VICTORY BOULEVARD AND MILDRED AVENUE
BURKE AVENUE BETWEEN DEAD END OF PRICES LANE AND VICTORY BOULEVARD
PRICES LANE BETWEEN CANNON AVENUE AND DEAD END OF BURKE AVENUE
LEROY STREET BETWEEN CANNON AVENUE AND VICTORY BOULEVARD
MEREDITH AVENUE BETWEEN WEST SHORE EXPRESSWAY AND CANNON AVENUE
SIMMONS LANE BETWEEN VICTORY BOULEVARD AND MILDRED AVENUE

CAPITAL PROJECT WM-1
WATER MAIN WORK IN:

CANNON AVENUE: BETWEEN PARISH AVENUE AND VICTORY BOULEVARD
MEREDITH AVENUE BETWEEN BATES AVENUE AND CANNON AVENUE
VICTORY BOULEVARD: BETWEEN ROSWELL AVENUE AND RICHMOND COURT
WILD AVENUE BETWEEN: GLEN STREET AND ALBERTA AVENUE
MELVIN AVENUE: BETWEEN GLEN STREET AND DEAD END OF MELVIN AVENUE
PARISH AVENUE: BETWEEN VICTORY BLVD. AND CANNON AVENUE
BURKE AVENUE BETWEEN VICTORY BLVD. AND DEAD END OF PRICES LANE
LEROY STREET BETWEEN CANNON AVENUE AND CANNON AVENUE
GLEN STREET: BETWEEN MELVIN AVENUE AND PARISH AVENUE
PRICES LANE: BETWEEN CANNON AVENUE AND DEAD END OF BURKE AVENUE

Together With All Work Incidental Thereto
BOROUGH OF STATEN ISLAND
CITY OF NEW YORK

Contractor

Dated _____

_____, 20____



**Department of
Design and
Construction**

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

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

VOLUME 2 OF 3

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

FOR FURNISHING ALL LABOR AND MATERIALS NECESSARY AND REQUIRED FOR:

PROJECT ID: SER200226

NEW STORM AND SANITARY SEWERS IN:

GLEN STREET: BETWEEN VICTORY BOULEVARD AND PARISH AVENUE
CANNON AVENUE: BETWEEN PARISH AVENUE AND VICTORY BOULEVARD
VICTORY BOULEVARD: BETWEEN ROSWELL AVENUE AND RICHMOND COURT
MELVIN AVENUE: BETWEEN GLEN STREET AND WILD AVENUE
PARISH AVENUE: BETWEEN CANNON AVENUE AND VICTORY BOULEVARD
WILD AVENUE BETWEEN: GLEN STREET AND PEARSON STREET
SHELLEY AVENUE: BETWEEN VICTORY BOULEVARD AND MILDRED AVENUE
BURKE AVENUE BETWEEN DEAD END OF PRICES LANE AND VICTORY BOULEVARD
PRICES LANE BETWEEN CANNON AVENUE AND DEAD END OF BURKE AVENUE
LEROY STREET BETWEEN CANNON AVENUE AND VICTORY BOULEVARD
MEREDITH AVENUE BETWEEN WEST SHORE EXPRESSWAY AND CANNON AVENUE
SIMMONS LANE BETWEEN VICTORY BOULEVARD AND MILDRED AVENUE

**CAPITAL PROJECT WM-1
WATER MAIN WORK IN:**

CANNON AVENUE: BETWEEN PARISH AVENUE AND VICTORY BOULEVARD
MEREDITH AVENUE BETWEEN BATES AVENUE AND CANNON AVENUE
VICTORY BOULEVARD: BETWEEN ROSWELL AVENUE AND RICHMOND COURT
WILD AVENUE BETWEEN: GLEN STREET AND ALBERTA AVENUE
MELVIN AVENUE: BETWEEN GLEN STREET AND DEAD END OF MELVIN AVENUE
PARISH AVENUE: BETWEEN VICTORY BLVD. AND CANNON AVENUE
BURKE AVENUE BETWEEN VICTORY BLVD. AND DEAD END OF PRICES LANE
LEROY STREET BETWEEN CANNON AVENUE AND CANNON AVENUE
GLEN STREET: BETWEEN MELVIN AVENUE AND PARISH AVENUE
PRICES LANE: BETWEEN CANNON AVENUE AND DEAD END OF BURKE AVENUE

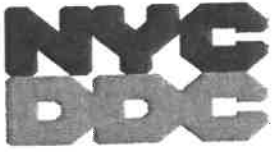
Together With All Work Incidental Thereto
**BOROUGH OF STATEN ISLAND
CITY OF NEW YORK**

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

April 17, 2017

17-099





**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 www.nyc.gov/buildnyc

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

April 17, 2017

CITY OF NEW YORK

**DEPARTMENT OF
DESIGN AND CONSTRUCTION
DIVISION OF INFRASTRUCTURES**

INFORMATION FOR BIDDERS

JUNE 2015

(NO TEXT ON THIS PAGE)

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

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INFORMATION FOR BIDDERS

1. Description and Location of Work

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

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

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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 QA&CS 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.

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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.

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

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.

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CITY OF NEW YORK
STANDARD CONSTRUCTION CONTRACT

March 2017

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**CITY OF NEW YORK
STANDARD CONSTRUCTION CONTRACT**

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WITNESSETH:

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

CHAPTER I: THE CONTRACT AND DEFINITIONS

ARTICLE 1. THE CONTRACT

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

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

1.1.2 The Contract Drawings and Specifications;

1.1.3 The General Conditions and Special Conditions, if any;

1.1.4 The **Contract**;

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

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

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

ARTICLE 2. DEFINITIONS

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

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

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

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

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

2.1.5 **“City”** shall mean the City of New York.

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

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

2.1.8 **“Comptroller”** shall mean the Comptroller of the City of New York.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

2.1.31 “**Small Tools**” shall mean items that are ordinarily required for a worker’s job function, including but not limited to, equipment that ordinarily has no licensing, insurance or substantive storage costs associated with it; such as circular and chain saws, impact drills, threaders, benders, wrenches, socket tools, etc.

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

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

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

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

CHAPTER II: THE WORK AND ITS PERFORMANCE

ARTICLE 3. CHARACTER OF THE WORK

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

ARTICLE 4. MEANS AND METHODS OF CONSTRUCTION

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

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

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

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

4.2 The **Engineer’s** approval of the **Contractor’s Means and Methods of Construction**, or his/her failure to exercise his/her right to reject such means or methods, shall not relieve the **Contractor**

of its obligation to complete the **Work** as provided in this **Contract**; nor shall the exercise of such right to reject create a cause of action for damages.

ARTICLE 5. COMPLIANCE WITH LAWS

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

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

5.3 Noise Control Code provisions.

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

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

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

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

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

5.4.1(b) "Motor Vehicle" means any self-propelled vehicle designed for transporting persons or property on a street or highway.

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

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

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

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

5.4.2 Ultra Low Sulfur Diesel Fuel

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

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

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

requirements of this **Contract**, to the extent practicable, shall use whatever quantity of Ultra Low Sulfur Diesel Fuel or diesel fuel that has a sulfur content of no more than thirty parts per million (30 ppm) is available. Any finding made pursuant to this Article 5.4.2(c) shall expire after sixty (60) **Days**, at which time the requirements of this Article 5.4.2 shall be in full force and effect unless the **City Agency** renews the finding in writing and such renewal is approved by the DEP Commissioner.

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

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

5.4.3 Best Available Technology

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

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

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

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

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

5.4.3(d)(ii) Where the DEP Commissioner has issued a written waiver based upon the **Contractor** having demonstrated to the DEP Commissioner that the use of the best available technology for reducing the emission of pollutants might endanger the operator of such vehicle or those working near such vehicle, due to engine malfunction, the **Contractor** shall use whatever technology for

reducing the emission of pollutants, if any, is available and appropriate for such vehicle, which would not endanger the operator of such vehicle or those working near such vehicle.

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

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

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

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

5.4.5 Compliance

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

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

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

5.4.6 Reporting

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

ARTICLE 6. INSPECTION

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

6.2 The **Contractor's** obligation hereunder shall include the uncovering or taking down of finished **Work** and its restoration thereafter; provided, however, that the order to uncover, take down and restore shall be in writing, and further provided that if **Work** thus exposed proves satisfactory, and if the **Contractor** has complied with Article 6.1, such uncovering or taking down and restoration shall be

considered an item of **Extra Work** to be paid for in accordance with the provisions of Article 26. If the **Work** thus exposed proves unsatisfactory, the **City** has no obligation to compensate the **Contractor** for the uncovering, taking down or restoration.

6.3 Inspection and approval by the **Commissioner**, the **Engineer**, **Project Manager**, or **Resident Engineer**, of finished **Work** or of **Work** being performed, or of materials and equipment at the place of manufacture or preparation, shall not relieve the **Contractor** of its obligation to perform the **Work** in strict accordance with the **Contract**. Finished or unfinished **Work** not found to be in strict accordance with the **Contract** shall be replaced as directed by the **Engineer**, even though such **Work** may have been previously approved and paid for. Such corrective **Work** is **Contract Work** and shall not be deemed **Extra Work**.

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

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

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

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

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

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

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

being given on behalf of the City of New York as Additional Insured, such other Additional Insureds, as well as the Named Insured.”

7.3.2(a) Whenever such notice is sent under a policy on which the City is an Additional Insured, the Contractor shall provide copies of the notice to the Comptroller, the Commissioner and the City Corporation Counsel. The copy to the Comptroller shall be sent to the Insurance Unit, NYC Comptroller’s Office, 1 Centre Street – Room 1222, New York, New York, 10007. The copy to the Commissioner shall be sent to the address set forth in Schedule A of the General Conditions. The copy to the City Corporation Counsel shall be sent to Insurance Claims Specialist, Affirmative Litigation Division, New York City Law Department, 100 Church Street, New York, New York 10007.

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

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

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

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

CHAPTER III: TIME PROVISIONS

ARTICLE 8. COMMENCEMENT AND PROSECUTION OF THE WORK

8.1 The Contractor shall commence the Work on the date specified in the Notice to Proceed or the Order to Work. The time for performance of the Work under the Contract shall be computed from

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

ARTICLE 9. PROGRESS SCHEDULES

9.1 To enable the **Work** to be performed in an orderly and expeditious manner, the **Contractor**, within fifteen (15) **Days** after the **Notice to Proceed** or **Order to Work**, unless otherwise directed by the **Engineer**, shall submit to the **Engineer** a proposed progress schedule based on the Critical Path Method in the form of a bar graph or in such other form as specified by the **Engineer**, and monthly cash flow requirements, showing:

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

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

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

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

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

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

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

ARTICLE 10. REQUESTS FOR INFORMATION OR APPROVAL

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

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

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

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

11.1.1 Within fifteen (15) **Days** after the **Contractor** becomes aware or reasonably should be aware of each such condition, the **Contractor** must notify the **Resident Engineer** or **Engineer**, as directed by the **Commissioner**, in writing of the existence, nature and effect of such condition upon the approved progress schedule and the **Work**, and must state why and in what respects, if any, the condition is causing or may cause a delay. Such notice shall include a description of the construction activities that are or could be affected by the condition and may include any recommendations the **Contractor** may have to address the delay condition and any activities the **Contractor** may take to avoid or minimize the delay.

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

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

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

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

11.4 Compensable Delays

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

compensated, if at all, solely by an extension of time to complete the performance of the **Work**.

- 11.4.1.1 The failure of the **City** to take reasonable measures to coordinate and progress the **Work** to the extent required by the **Contract**, except that the **City** shall not be responsible for the **Contractor's** obligation to coordinate and progress the **Work** of its **Subcontractors**.
- 11.4.1.2 Unreasonable delays attributable to the review of shop drawings, the issuance of change orders, or the cumulative impact of change orders that were not brought about by any act or omission of the **Contractor**.
- 11.4.1.3 The unavailability of the **Site** caused by acts or omissions of the **City**.
- 11.4.1.4 The issuance by the **Engineer** of a stop work order that was not brought about through any act or omission of the **Contractor**.
- 11.4.1.5 Differing site conditions or environmental hazards that were neither known nor reasonably ascertainable on a pre-bid inspection of the **Site** or review of the bid documents or other publicly available sources, and that are not ordinarily encountered in the **Project's** geographical area or neighborhood or in the type of **Work** to be performed.
- 11.4.1.6 Delays caused by the **City's** bad faith or its willful, malicious, or grossly negligent conduct;
- 11.4.1.7 Delays not contemplated by the parties;
- 11.4.1.8 Delays so unreasonable that they constitute an intentional abandonment of the **Contract** by the **City**; and
- 11.4.1.9 Delays resulting from the **City's** breach of a fundamental obligation of the **Contract**.

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

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

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

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

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

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

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

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

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

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

11.6 Required Content of Submission of Statement of Delay Damages

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

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

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

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

11.6.1.4 Any additional information requested by the **Commissioner**.

11.7 Recoverable Costs

11.7.1 Delay damages may be recoverable for the following costs actually and necessarily incurred in the performance of the **Work**:

11.7.1.1 Direct labor, including payroll taxes (subject to statutory wage caps) and supplemental benefits, based on time and materials records;

11.7.1.2 Necessary materials (including transportation to the **Site**), based on time and material records;

- 11.7.1.3 Reasonable rental value of necessary plant and equipment other than small tools, plus fuel/energy costs according to the applicable formula set forth in Articles 26.2.4 and/or 26.2.8, based on time and material records;
- 11.7.1.4 Additional insurance and bond costs;
- 11.7.1.5 Extended **Site** overhead, field office rental, salaries of field office staff, on-site project managers and superintendents, field office staff vehicles, **Project**-specific storage, field office utilities and telephone, and field office consumables;
- 11.7.1.6 Labor escalation costs based on actual costs;
- 11.7.1.7 Materials and equipment escalation costs based on applicable industry indices unless documentation of actual increased cost is provided;
- 11.7.1.8 Additional material and equipment storage costs based on actual documented costs and additional costs necessitated by extended manufacturer warranty periods; and
- 11.7.1.9 Extended home office overhead calculated based on the following formula:
 - (1) Subtract from the original **Contract** amount the amount earned by original contractual **Substantial Completion** date (not including change orders);
 - (2) Remove 15% overhead and profit from the calculation in item (1) by dividing the results of item (1) by 1.15;
 - (3) Multiply the result of item (2) by 7.25% for the total home office overhead;
 - (4) Multiply the result of item (3) by 7.25% for the total profit; and
 - (5) The total extended home office overhead will be the total of items (3) and (4).

11.7.2 Recoverable Subcontractor Costs. When the **Work** is performed by a **Subcontractor**, the **Contractor** may be paid the actual and necessary costs of such subcontracted **Work** as outlined above in Articles 11.7.1.1 through 11.7.1.8, and an additional overhead of 5% of the costs outlined in Articles 11.7.1.1 through 11.7.1.3.

11.7.3 Non-Recoverable Costs. The parties agree that the **City** will have no liability for the following items and the **Contractor** agrees it shall make no claim for the following items:

- 11.7.3.1 Profit, or loss of anticipated or unanticipated profit, except as provided in Article 11.7.1.9;
- 11.7.3.2 Consequential damages, including, but not limited to, construction or bridge loans or interest paid on such loans, loss of bonding capacity, bidding opportunities, or interest in investment, or any resulting insolvency;
- 11.7.3.3 Indirect costs or expenses of any nature except those included in Article 11.7.1;
- 11.7.3.4 Direct or indirect costs attributable to performance of **Work** where the **Contractor**, because of situations or conditions within its control, has not progressed the **Work** in a satisfactory manner; and
- 11.7.3.5 Attorneys' fees and dispute and claims preparation expenses.

- 11.8 Any claims for delay under this Article 11 are not subject to the jurisdiction of the Contract Dispute Resolution Board pursuant to the dispute resolution process set forth in Article 27.
- 11.9 Any compensation provided to the **Contractor** in accordance with this Article 11 will be made pursuant to a claim filed with the **Comptroller**. Nothing in this Article 11 extends the time for the **Contractor** to file an action with respect to a claim within six months after **Substantial Completion** pursuant to Article 56.

ARTICLE 12. COORDINATION WITH OTHER CONTRACTORS

12.1 During the progress of the **Work**, **Other Contractors** may be engaged in performing other work or may be awarded other contracts for additional work on this **Project**. In that event, the **Contractor** shall coordinate the **Work** to be done hereunder with the work of such **Other Contractors** and the **Contractor** shall fully cooperate with such **Other Contractors** and carefully fit its own **Work** to that provided under other contracts as may be directed by the **Engineer**. The **Contractor** shall not commit or permit any act which will interfere with the performance of work by any **Other Contractors**.

12.2 If the **Engineer** determines that the **Contractor** is failing to coordinate its **Work** with the work of **Other Contractors** as the **Engineer** has directed, then the **Commissioner** shall have the right to withhold any payments otherwise due hereunder until the **Contractor** completely complies with the **Engineer's** directions.

12.3 The **Contractor** shall notify the **Engineer** in writing if any **Other Contractor** on this **Project** is failing to coordinate its work with the **Work** of this **Contract**. If the **Engineer** finds such charges to be true, the **Engineer** shall promptly issue such directions to the **Other Contractor** with respect thereto as the situation may require. The **City** shall not, however, be liable for any damages suffered by any **Other Contractor's** failure to coordinate its work with the **Work** of this **Contract** or by reason of the **Other Contractor's** failure to promptly comply with the directions so issued by the **Engineer**, or by reason of any **Other Contractor's** default in performance, it being understood that the **City** does not guarantee the responsibility or continued efficiency of any contractor. The **Contractor** agrees to make no claim against the **City** for any damages relating to or arising out of any directions issued by the **Engineer** pursuant to this Article 12 (including but not limited to the failure of any **Other Contractor** to comply or promptly comply with such directions), or the failure of any **Other Contractor** to coordinate its work, or the default in performance of any **Other Contractor**.

12.4 The **Contractor** shall indemnify and hold the **City** harmless from any and all claims or judgments for damages and from costs and expenses to which the **City** may be subjected or which it may suffer or incur by reason of the **Contractor's** failure to comply with the **Engineer's** directions promptly; and the **Comptroller** shall have the right to exercise the powers reserved in Article 23 with respect to any claims which may be made for damages due to the **Contractor's** failure to comply with the **Engineer's** directions promptly. Insofar as the facts and **Law** relating to any claim would preclude the **City** from being completely indemnified by the **Contractor**, the **City** shall be partially indemnified by the **Contractor** to the fullest extent provided by **Law**.

12.5 Should the **Contractor** sustain any damage through any act or omission of any **Other Contractor** having a contract with the **City** for the performance of work upon the **Site** or of work which may be necessary to be performed for the proper prosecution of the **Work** to be performed hereunder, or through any act or omission of a subcontractor of such **Other Contractor**, the **Contractor** shall have no claim against the **City** for such damage, but shall have a right to recover such damage from the **Other**

Contractor under the provision similar to the following provisions which apply to this **Contract** and have been or will be inserted in the contracts with such **Other Contractors**:

12.5.1 Should any **Other Contractor** having or who shall hereafter have a contract with the **City** for the performance of work upon the **Site** sustain any damage through any act or omission of the **Contractor** hereunder or through any act or omission of any **Subcontractor** of the **Contractor**, the **Contractor** agrees to reimburse such **Other Contractor** for all such damages and to defend at its own expense any action based upon such claim and if any judgment or claim (even if the allegations of the action are without merit) against the **City** shall be allowed the **Contractor** shall pay or satisfy such judgment or claim and pay all costs and expenses in connection therewith and agrees to indemnify and hold the **City** harmless from all such claims. Insofar as the facts and **Law** relating to any claim would preclude the **City** from being completely indemnified by the **Contractor**, the **City** shall be partially indemnified by the **Contractor** to the fullest extent provided by **Law**.

12.6 The **City's** right to indemnification hereunder shall in no way be diminished, waived or discharged by its recourse to assessment of liquidated damages as provided in Article 15, or by the exercise of any other remedy provided for by **Contract** or by **Law**.

ARTICLE 13. EXTENSION OF TIME FOR PERFORMANCE

13.1 If performance by the **Contractor** is delayed for a reason set forth in Article 13.3, the **Contractor** may be allowed a reasonable extension of time in conformance with this Article 13 and the **PPB Rules**.

13.2 Any extension of time may be granted only by the **ACCO** or by the Board for the Extension of Time (hereafter "Board") (as set forth below) upon written application by the **Contractor**:

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

13.3.1 By the acts or omissions of the **City**, its officials, agents or employees; or

13.3.2 By the act or omissions of **Other Contractors** on this **Project**; or

13.3.3 By supervening conditions entirely beyond the control of either party hereto (such as, but not limited to, acts of God or the public enemy, excessive inclement weather, war or other national emergency making performance temporarily impossible or illegal, or strikes or labor disputes not brought about by any act or omission of the **Contractor**).

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

13.4 The **Contractor** shall not be entitled to receive a separate extension of time for each of several causes of delay operating concurrently, but, if at all, only for the actual period of delay in completion of the **Work** as determined by the **ACCO** or the Board, irrespective of the number of causes contributing to produce such delay. If one of several causes of delay operating concurrently results from any act, fault or omission of the **Contractor** or of its **Subcontractors** or **Materialmen**, and would of itself (irrespective

of the concurrent causes) have delayed the **Work**, no extension of time will be allowed for the period of delay resulting from such act, fault or omission.

13.5 The determination made by the **ACCO** or the Board on an application for an extension of time shall be binding and conclusive on the **Contractor**.

13.6 The **ACCO** or the Board acting entirely within their discretion may grant an application for an extension of time for causes of delay other than those herein referred.

13.7 Permitting the **Contractor** to continue with the **Work** after the time fixed for its completion has expired, or after the time to which such completion may have been extended has expired, or the making of any payment to the **Contractor** after such time, shall in no way operate as a waiver on the part of the **City** of any of its rights under this **Contract**.

13.8 Application for Extension of Time:

13.8.1 Before the **Contractor's** time extension request will be considered, the **Contractor** shall notify the **ACCO** of the condition which allegedly has caused or is causing the delay, and shall submit a written application to the **ACCO** identifying:

13.8.1(a) The **Contractor**; the registration number; and **Project** description;

13.8.1(b) Liquidated damage assessment rate, as specified in the **Contract**;

13.8.1(c) Original total bid price;

13.8.1(d) The original **Contract** start date and completion date;

13.8.1(e) Any previous time extensions granted (number and duration); and

13.8.1(f) The extension of time requested.

13.8.2 In addition, the application for extension of time shall set forth in detail:

13.8.2(a) The nature of each alleged cause of delay in completing the **Work**;

13.8.2(b) The date upon which each such cause of delay began and ended and the number of **Days** attributable to each such cause;

13.8.2(c) A statement that the **Contractor** waives all claims except for those delineated in the application, and the particulars of any claims which the **Contractor** does not agree to waive. For time extensions for **Substantial Completion** and final completion payments, the application shall include a detailed statement of the dollar amounts of each element of claim item reserved; and

13.8.2(d) A statement indicating the **Contractor's** understanding that the time extension is granted only for purposes of permitting continuation of **Contract** performance and payment for **Work** performed and that the **City** retains its right to conduct an investigation and assess liquidated damages as appropriate in the future.

13.9 Analysis and Approval of Time Extensions:

13.9.1 For time extensions for partial payments, a written determination shall be made by the **ACCO** who may, for good and sufficient cause, extend the time for the performance of the **Contract** as follows:

13.9.1(a) If the **Work** is to be completed within six (6) months, the time for performance may be extended for sixty (60) **Days**;

13.9.1(b) If the **Work** is to be completed within less than one (1) year but more than six (6) months, an extension of ninety (90) **Days** may be granted;

13.9.1(c) If the **Contract** period exceeds one (1) year, besides the extension granted in Article 13.9.1(b), an additional thirty (30) **Days** may be granted for each multiple of six (6) months involved beyond the one (1) year period; or

13.9.1(d) If exceptional circumstances exist, the **ACCO** may extend the time for performance beyond the extensions in Articles 13.9.1(a), 13.9.1(b), and 13.9.1(c). In that event, the **ACCO** shall file with the Mayor's Office of Contract Services a written explanation of the exceptional circumstances.

13.9.2 For extensions of time for **Substantial Completion** and final completion payments, the **Engineer**, in consultation with the **ACCO**, shall prepare a written analysis of the delay (including a preliminary determination of the causes of delay, the beginning and end dates for each such cause of delay, and whether the delays are excusable under the terms of this **Contract**). The report shall be subject to review by and approval of the Board, which shall have authority to question its analysis and determinations and request additional facts or documentation. The report as reviewed and made final by the Board shall be made a part of the **Agency** contract file. Neither the report itself nor anything contained therein shall operate as a waiver or release of any claim the **City** may have against the **Contractor** for either actual or liquidated damages.

13.9.3 Approval Mechanism for Time Extensions for **Substantial Completion** or Final Completion Payments: An extension shall be granted only with the approval of the Board which is comprised of the **ACCO** of the **Agency**, the **City** Corporation Counsel, and the **Comptroller**, or their authorized representatives.

13.9.4 Neither the granting of any application for an extension of time to the **Contractor** or any **Other Contractor** on this **Project** nor the papers, records or reports related to any application for or grant of an extension of time or determination related thereto shall be referred to or offered in evidence by the **Contractor** or its attorneys in any action or proceeding.

13.10 No Damage for Delay: The **Contractor** agrees to make no claim for damages for delay in the performance of this **Contract** occasioned by any act or omission to act of the **City** or any of its representatives, except as provided for in Article 11.

ARTICLE 14. COMPLETION AND FINAL ACCEPTANCE OF THE WORK

14.1 Date for **Substantial Completion**: The **Contractor** shall substantially complete the **Work** within the time fixed in Schedule A of the General Conditions, or within the time to which such **Substantial Completion** may be extended.

14.2 **Determining the Date of Substantial Completion:** The **Work** will be deemed to be substantially complete when the two conditions set forth below have been met.

14.2.1 **Inspection:** The **Engineer** or **Resident Engineer**, as applicable, has inspected the **Work** and has made a written determination that it is substantially complete.

14.2.2 **Approval of Final Approved Punch List and Date for Final Acceptance:** Following inspection of the **Work**, the **Engineer/Resident Engineer** shall furnish the **Contractor** with a final punch list, specifying all items of **Work** to be completed and proposing dates for the completion of each specified item of **Work**. The **Contractor** shall then submit in writing to the **Engineer/Resident Engineer** within ten (10) **Days** of the **Engineer/Resident Engineer** furnishing the final punch list either acceptance of the dates or proposed alternative dates for the completion of each specified item of **Work**. If the **Contractor** neither accepts the dates nor proposes alternative dates within ten (10) **Days**, the schedule proposed by the **Engineer/Resident Engineer** shall be deemed accepted. If the **Contractor** proposes alternative dates, then, within a reasonable time after receipt, the **Engineer/Resident Engineer**, in a written notification to the **Contractor**, shall approve the **Contractor's** completion dates or, if they are unable to agree, the **Engineer/Resident Engineer** shall establish dates for the completion of each item of **Work**. The latest completion date specified shall be the date for **Final Acceptance** of the **Work**.

14.3 **Date of Substantial Completion.** The date of approval of the **Final Approved Punch List**, shall be the date of **Substantial Completion**. The date of approval of the **Final Approved Punch List** shall be either (a) if the **Contractor** approves the final punch list and proposed dates for completion furnished by the **Engineer/Resident Engineer**, the date of the **Contractor's** approval; or (b) if the **Contractor** neither accepts the dates nor proposes alternative dates, ten (10) **Days** after the **Engineer/Resident Engineer** furnishes the **Contractor** with a final punch list and proposed dates for completion; or (c) if the **Contractor** proposes alternative dates, the date that the **Engineer/Resident Engineer** sends written notification to the **Contractor** either approving the **Contractor's** proposed alternative dates or establishing dates for the completion for each item of **Work**.

14.4 **Determining the Date of Final Acceptance:** The **Work** will be accepted as final and complete as of the date of the **Engineer's/Resident Engineer's** inspection if, upon such inspection, the **Engineer/Resident Engineer** finds that all items on the **Final Approved Punch List** are complete and no further **Work** remains to be done. The **Commissioner** will then issue a written determination of **Final Acceptance**.

14.5 **Request for Inspection:** Inspection of the **Work** by the **Engineer/Resident Engineer** for the purpose of **Substantial Completion** or **Final Acceptance** shall be made within fourteen (14) **Days** after receipt of the **Contractor's** written request therefor.

14.6 **Request for Re-inspection:** If upon inspection for the purpose of **Substantial Completion** or **Final Acceptance**, the **Engineer/Resident Engineer** determines that there are items of **Work** still to be performed, the **Contractor** shall promptly perform them and then request a re-inspection. If upon re-inspection, the **Engineer/Resident Engineer** determines that the **Work** is substantially complete or finally accepted, the date of such re-inspection shall be the date of **Substantial Completion** or **Final Acceptance**. Re-inspection by the **Engineer/Resident Engineer** shall be made within ten (10) **Days** after receipt of the **Contractor's** written request therefor.

14.7 Initiation of Inspection by the **Engineer/Resident Engineer**: If the **Contractor** does not request inspection or re-inspection of the **Work** for the purpose of **Substantial Completion** or **Final Acceptance**, the **Engineer/Resident Engineer** may initiate such inspection or re-inspection.

ARTICLE 15. LIQUIDATED DAMAGES

15.1 In the event the **Contractor** fails to substantially complete the **Work** within the time fixed for such **Substantial Completion** in Schedule A of the General Conditions, plus authorized time extensions, or if the **Contractor**, in the sole determination of the **Commissioner**, has abandoned the **Work**, the **Contractor** shall pay to the **City** the sum fixed in Schedule A of the General Conditions, for each and every **Day** that the time consumed in substantially completing the **Work** exceeds the time allowed therefor; which said sum, in view of the difficulty of accurately ascertaining the loss which the **City** will suffer by reason of delay in the **Substantial Completion** of the **Work** hereunder, is hereby fixed and agreed as the liquidated damages that the **City** will suffer by reason of such delay, and not as a penalty. This Article 15 shall also apply to the **Contractor** whether or not the **Contractor** is defaulted pursuant to Chapter X of this **Contract**. Neither the failure to assess liquidated damages nor the granting of any time extension shall operate as a waiver or release of any claim the **City** may have against the **Contractor** for either actual or liquidated damages.

15.2 Liquidated damages received hereunder are not intended to be nor shall they be treated as either a partial or full waiver or discharge of the **City's** right to indemnification, or the **Contractor's** obligation to indemnify the **City**, or to any other remedy provided for in this **Contract** or by **Law**.

15.3 The **Commissioner** may deduct and retain out of the monies which may become due hereunder, the amount of any such liquidated damages; and in case the amount which may become due hereunder shall be less than the amount of liquidated damages suffered by the **City**, the **Contractor** shall be liable to pay the difference.

ARTICLE 16. OCCUPATION OR USE PRIOR TO COMPLETION

16.1 Unless otherwise provided for in the **Specifications**, the **Commissioner** may take over, use, occupy or operate any part of the **Work** at any time prior to **Final Acceptance**, upon written notification to the **Contractor**. The **Engineer** or **Resident Engineer**, as applicable, shall inspect the part of the **Work** to be taken over, used, occupied, or operated, and will furnish the **Contractor** with a written statement of the **Work**, if any, which remains to be performed on such part. The **Contractor** shall not object to, nor interfere with, the **Commissioner's** decision to exercise the rights granted by Article 16. In the event the **Commissioner** takes over, uses, occupies, or operates any part of the **Work**:

16.1.1 the **Engineer/Resident Engineer** shall issue a written determination of **Substantial Completion** with respect to such part of the **Work**;

16.1.2 the **Contractor** shall be relieved of its absolute obligation to protect such part of the unfinished **Work** in accordance with Article 7;

16.1.3 the **Contractor's** guarantee on such part of the **Work** shall begin on the date of such use by the **City**; and;

16.1.4 the **Contractor** shall be entitled to a return of so much of the amount retained in accordance with Article 21 as it relates to such part of the **Work**, except so much thereof as may be retained under Articles 24 and 44.

CHAPTER IV: SUBCONTRACTS AND ASSIGNMENTS

ARTICLE 17. SUBCONTRACTS

17.1 The **Contractor** shall not make subcontracts totaling an amount more than the percentage of the total **Contract** price fixed in Schedule A of the General Conditions, without prior written permission from the **Commissioner**. All subcontracts made by the **Contractor** shall be in writing. No **Work** may be performed by a **Subcontractor** prior to the **Contractor** entering into a written subcontract with the **Subcontractor** and complying with the provisions of this Article 17.

17.2 Before making any subcontracts, the **Contractor** shall submit a written statement to the **Commissioner** giving the name and address of the proposed **Subcontractor**; the portion of the **Work** and materials which it is to perform and furnish; the cost of the subcontract; the VENDEX questionnaire if required; the proposed subcontract if requested by the **Commissioner**; and any other information tending to prove that the proposed **Subcontractor** has the necessary facilities, skill, integrity, past experience, and financial resources to perform the **Work** in accordance with the terms and conditions of this **Contract**.

17.3 In addition to the requirements in Article 17.2, **Contractor** is required to list the **Subcontractor** in the web based Subcontractor Reporting System through the City's Payee Information Portal (PIP), available at www.nyc.gov/pip.¹ For each **Subcontractor** listed, **Contractor** is required to provide the following information: maximum contract value, description of **Subcontractor's** **Work**, start and end date of the subcontract and identification of the **Subcontractor's** industry. Thereafter, **Contractor** will be required to report in the system the payments made to each **Subcontractor** within 30 days of making the payment. If any of the required information changes throughout the Term of the **Contract**, **Contractor** will be required to revise the information in the system.

Failure of the **Contractor** to list a **Subcontractor** and/or to report **Subcontractor** payments in a timely fashion may result in the **Commissioner** declaring the **Contractor** in default of the **Contract** and will subject **Contractor** to liquidated damages in the amount of \$100 per day for each day that the **Contractor** fails to identify a **Subcontractor** along with the required information about the **Subcontractor** and/or fails to report payments to a **Subcontractor**, beyond the time frames set forth herein or in the notice from the City. Article 15 shall govern the issue of liquidated damages.

17.4 If an approved **Subcontractor** elects to subcontract any portion of its subcontract, the proposed sub-subcontract shall be submitted in the same manner as directed above.

17.5 The **Commissioner** will notify the **Contractor** in writing whether the proposed **Subcontractor** is approved. If the proposed **Subcontractor** is not approved, the **Contractor** may submit another proposed **Subcontractor** unless the **Contractor** decides to do the **Work**. No **Subcontractor** shall be permitted to enter or perform any work on the **Site** unless approved.

17.6 Before entering into any subcontract hereunder, the **Contractor** shall provide the proposed **Subcontractor** with a complete copy of this document and inform the proposed **Subcontractor** fully and completely of all provisions and requirements of this **Contract** relating either directly or indirectly to the **Work** to be performed and the materials to be furnished under such subcontract, and every such

¹ In order to use the new system, a PIP account will be required. Detailed instructions on creating a PIP account and using the new system are also available at www.nyc.gov/pip. Additional assistance with PIP may be obtained by emailing the Financial Information Services Agency Help Desk at pip@fisa.nyc.gov.

Subcontractor shall expressly stipulate that all labor performed and materials furnished by the **Subcontractor** shall strictly comply with the requirements of this **Contract**.

17.7 Documents given to a prospective **Subcontractor** for the purpose of soliciting the **Subcontractor's** bid shall include either a copy of the bid cover or a separate information sheet setting forth the **Project** name, the **Contract** number (if available), the **Agency** (as noted in Article 2.1.6), and the **Project's** location.

17.8 The **Commissioner's** approval of a **Subcontractor** shall not relieve the **Contractor** of any of its responsibilities, duties, and liabilities hereunder. The **Contractor** shall be solely responsible to the **City** for the acts or defaults of its **Subcontractor** and of such **Subcontractor's** officers, agents, and employees, each of whom shall, for this purpose, be deemed to be the agent or employee of the **Contractor** to the extent of its subcontract.

17.9 If the **Subcontractor** fails to maintain the necessary facilities, skill, integrity, past experience, and financial resources (other than due to the **Contractor's** failure to make payments where required) to perform the **Work** in accordance with the terms and conditions of this **Contract**, the **Contractor** shall promptly notify the **Commissioner** and replace such **Subcontractor** with a newly approved **Subcontractor** in accordance with this Article 17.

17.10 The **Contractor** shall be responsible for ensuring that all **Subcontractors** performing **Work** at the **Site** maintain all insurance required by **Law**.

17.11 The **Contractor** shall promptly, upon request, file with the **Engineer** a conformed copy of the subcontract and its cost. The subcontract shall provide the following:

17.11.1 **Payment to Subcontractors:** The agreement between the **Contractor** and its **Subcontractor** shall contain the same terms and conditions as to method of payment for **Work**, labor, and materials, and as to retained percentages, as are contained in this **Contract**.

17.11.2 **Prevailing Rate of Wages:** The agreement between the **Contractor** and its **Subcontractor** shall include the prevailing wage rates and supplemental benefits to be paid in accordance with Labor Law Section 220.

17.11.3 **Section 6-123 of the Administrative Code:** Pursuant to the requirements of Section 6-123 of the Administrative Code, every agreement between the **Contractor** and a **Subcontractor** in excess of fifty thousand (\$50,000) dollars shall include a provision that the **Subcontractor** shall not engage in any unlawful discriminatory practice as defined in Title VIII of the Administrative Code (Section 8-101 *et seq.*).

17.11.4 All requirements required pursuant to federal and/or state grant agreement(s), if applicable to the **Work**.

17.12 The **Commissioner** may deduct from the amounts certified under this **Contract** to be due to the **Contractor**, the sum or sums due and owing from the **Contractor** to the **Subcontractors** according to the terms of the said subcontracts, and in case of dispute between the **Contractor** and its **Subcontractor**, or **Subcontractors**, as to the amount due and owing, the **Commissioner** may deduct and withhold from the amounts certified under this **Contract** to be due to the **Contractor** such sum or sums as may be claimed by such **Subcontractor**, or **Subcontractors**, in a sworn affidavit, to be due and owing until such time as such claim or claims shall have been finally resolved.

17.13 On contracts where performance bonds and payment bonds are executed, the **Contractor** shall include on each requisition for payment the following data: **Subcontractor's** name, value of the subcontract, total amount previously paid to **Subcontractor** for **Work** previously requisitioned, and the amount, including retainage, to be paid to the **Subcontractor** for **Work** included in the requisition.

17.14 On **Contracts** where performance bonds and payment bonds are not executed, the **Contractor** shall include with each requisition for payment submitted hereunder, a signed statement from each and every **Subcontractor** and/or **Materialman** for whom payment is requested in such requisition. Such signed statement shall be on the letterhead of the **Subcontractor** and/or **Materialman** for whom payment is requested and shall (i) verify that such **Subcontractor** and/or **Materialman** has been paid in full for all **Work** performed and/or material supplied to date, exclusive of any amount retained and any amount included on the current requisition, and (ii) state the total amount of retainage to date, exclusive of any amount retained on the current requisition.

ARTICLE 18. ASSIGNMENTS

18.1 The **Contractor** shall not assign, transfer, convey or otherwise dispose of this **Contract**, or the right to execute it, or the right, title or interest in or to it or any part thereof, or assign, by power of attorney or otherwise any of the monies due or to become due under this **Contract**, unless the previous written consent of the **Commissioner** shall first be obtained thereto, and the giving of any such consent to a particular assignment shall not dispense with the necessity of such consent to any further or other assignments.

18.2 Such assignment, transfer, conveyance or other disposition of this **Contract** shall not be valid until filed in the office of the **Commissioner** and the **Comptroller**, with the written consent of the **Commissioner** endorsed thereon or attached thereto.

18.3 Failure to obtain the previous written consent of the **Commissioner** to such an assignment, transfer, conveyance or other disposition, may result in the revocation and annulment of this **Contract**. The **City** shall thereupon be relieved and discharged from any further liability to the **Contractor**, its assignees, transferees or sublessees, who shall forfeit and lose all monies therefor earned under the **Contract**, except so much as may be required to pay the **Contractor's** employees.

18.4 The provisions of this clause shall not hinder, prevent, or affect an assignment by the **Contractor** for the benefit of its creditors made pursuant to the **Laws** of the State of New York.

18.5 This **Contract** may be assigned by the **City** to any corporation, agency or instrumentality having authority to accept such assignment.

CHAPTER V: CONTRACTOR'S SECURITY AND GUARANTEE

ARTICLE 19. SECURITY DEPOSIT

19.1 If performance and payment bonds are required, the **City** shall retain the bid security to ensure that the successful bidder executes the **Contract** and furnishes the required payment and performance security within ten (10) **Days** after notice of the award of the **Contract**. If the successful bidder fails to execute the **Contract** and furnish the required payment and performance security, the **City** shall retain such bid security as set forth in the Information for Bidders. If the successful bidder executes the

Contract and furnishes the required payment and performance security, the **City** shall return the bid security within a reasonable time after the furnishing of such bonds and execution of the **Contract** by the **City**.

19.2 If performance and payment bonds are not required, the bid security shall be retained by the **City** as security for the **Contractor's** faithful performance of the **Contract**. If partial payments are provided, the bid security will be returned to the **Contractor** after the sum retained under Article 21 equals the amount of the bid security, subject to other provisions of this **Contract**. If partial payments are not provided, the bid security will be released when final payment is certified by the **City** for payment.

19.3 If the **Contractor** is declared in default under Article 48 prior to the return of the deposit, or if any claim is made such as referred to in Article 23, the amount of such deposit, or so much thereof as the **Comptroller** may deem necessary, may be retained and then applied by the **Comptroller**:

19.3.1 To compensate the **City** for any expense, loss or damage suffered or incurred by reason of or resulting from such default, including the cost of re-letting and liquidated damages; or

19.3.2 To indemnify the **City** against any and all claims.

ARTICLE 20. PAYMENT GUARANTEE

20.1 On **Contracts** where one hundred (100%) percent performance bonds and payment bonds are executed, this Article 20 does not apply.

20.2 In the event the terms of this **Contract** do not require the **Contractor** to provide a payment bond or where the **Contract** does not require a payment bond for one hundred (100%) percent of the **Contract** price, the **City** shall, in accordance with the terms of this Article 20, guarantee payment of all lawful claims for:

20.2.1 Wages and compensation for labor performed and/or services rendered; and

20.2.2 Materials, equipment, and supplies provided, whether incorporated into the **Work** or not, when demands have been filed with the **City** as provided hereinafter by any person, firm, or corporation which furnished labor, material, equipment, supplies, or any combination thereof, in connection with the **Work** performed hereunder (hereinafter referred to as the "beneficiary") at the direction of the **City** or the **Contractor**.

20.3 The provisions of Article 20.2 are subject to the following limitations and conditions:

20.3.1 If the **Contractor** provides a payment bond for a value that is less than one hundred (100%) percent of the value of the **Contract Work**, the payment bond provided by the **Contractor** shall be primary (and non-contributing) to the payment guarantee provided under this Article 20.

20.3.2 The guarantee is made for the benefit of all beneficiaries as defined in Article 20.2 provided that those beneficiaries strictly adhere to the terms and conditions of Article 20.3.4 and 20.3.5.

20.3.3 Nothing in this Article 20 shall prevent a beneficiary providing labor, services or material for the **Work** from suing the **Contractor** for any amounts due and owing the beneficiary by the **Contractor**.

20.3.4 Every person who has furnished labor or material, to the **Contractor** or to a **Subcontractor** of the **Contractor**, in the prosecution of the **Work** and who has not been paid in full therefor before the expiration of a period of ninety (90) **Days** after the date on which the last of the labor was performed or material was furnished by him/her for which the claim is made, shall have the right to sue on this payment guarantee in his/her own name for the amount, or the balance thereof, unpaid at the time of commencement of the action; provided, however, that a person having a direct contractual relationship with a **Subcontractor** of the **Contractor** but no contractual relationship express or implied with the **Contractor** shall not have a right of action upon the guarantee unless he/she shall have given written notice to the **Contractor** within one hundred twenty (120) **Days** from the date on which the last of the labor was performed or the last of the material was furnished, for which his/her claim is made, stating with substantial accuracy the amount claimed and the name of the party to whom the material was furnished or for whom the labor was performed. The notice shall be served by delivering the same personally to the **Contractor** or by mailing the same by registered mail, postage prepaid, in an envelope addressed to the **Contractor** at any place where it maintains an office or conducts its business; provided, however, that where such notice is actually received by the **Contractor** by other means, such notice shall be deemed sufficient.

20.3.5 Except as provided in Labor Law Section 220-g, no action on this payment guarantee shall be commenced after the expiration of the one-year limitations period set forth in Section 137(4)(b) of the State Finance Law.

20.3.6 The **Contractor** shall promptly forward to the **City** any notice or demand received pursuant to Article 20.3.4. The **Contractor** shall inform the **City** of any defenses to the notice or demand and shall forward to the **City** any documents the **City** requests concerning the notice or demand.

20.3.7 All demands made against the **City** by a beneficiary of this payment guarantee shall be presented to the **Engineer** along with all written documentation concerning the demand which the **Engineer** deems reasonably appropriate or necessary, which may include, but shall not be limited to: the subcontract; any invoices presented to the **Contractor** for payment; the notarized statement of the beneficiary that the demand is due and payable, that a request for payment has been made of the **Contractor** and that the demand has not been paid by the **Contractor** within the time allowed for such payment by the subcontract; and copies of any correspondence between the beneficiary and the **Contractor** concerning such demand. The **City** shall notify the **Contractor** that a demand has been made. The **Contractor** shall inform the **City** of any defenses to the demand and shall forward to the **City** any documents the **City** requests concerning the demand.

20.3.8 The **City** shall make payment only if, after considering all defenses presented by the **Contractor**, it determines that the payment is due and owing to the beneficiary making the demand.

20.3.9 No beneficiary shall be entitled to interest from the **City**, or to any other costs, including, but not limited to, attorneys' fees, except to the extent required by State Finance Law Section 137.

20.4 Upon the receipt by the City of a demand pursuant to this Article 20, the City may withhold from any payment otherwise due and owing to the Contractor under this Contract an amount sufficient to satisfy the demand.

20.4.1 In the event the City determines that the demand is valid, the City shall notify the Contractor of such determination and the amount thereof and direct the Contractor to immediately pay such amount to the beneficiary. In the event the Contractor, within seven (7) Days of receipt of such notification from the City, fails to pay the beneficiary, such failure shall constitute an automatic and irrevocable assignment of payment by the Contractor to the beneficiary for the amount of the demand determined by the City to be valid. The Contractor, without further notification or other process, hereby gives its unconditional consent to such assignment of payment to the beneficiary and authorizes the City, on its behalf, to take all necessary actions to implement such assignment of payment, including without limitation the execution of any instrument or documentation necessary to effectuate such assignment.

20.4.2 In the event that the amount otherwise due and owing to the Contractor by the City is insufficient to satisfy such demand, the City may, at its option, require payment from the Contractor of an amount sufficient to cover such demand and exercise any other right to require or recover payment which the City may have under Law or Contract.

20.4.3 In the event the City determines that the demand is invalid, any amount withheld pending the City's review of such demand shall be paid to the Contractor; provided, however, no lien has been filed. In the event a claim or an action has been filed, the terms and conditions set forth in Article 23 shall apply. In the event a lien has been filed, the parties will be governed by the provisions of the Lien Law of the State of New York.

20.5 The provisions of this Article 20 shall not prevent the City and the Contractor from resolving disputes in accordance with the PPB Rules, where applicable.

20.6 In the event the City determines that the beneficiary is entitled to payment pursuant to this Article 20, such determination and any defenses and counterclaims raised by the Contractor shall be taken into account in evaluating the Contractor's performance.

20.7 Nothing in this Article 20 shall relieve the Contractor of the obligation to pay the claims of all persons with valid and lawful claims against the Contractor relating to the Work.

20.8 The Contractor shall not require any performance, payment or other bonds of any Subcontractor if this Contract does not require such bonds of the Contractor.

20.9 The payment guarantee made pursuant to this Article 20 shall be construed in a manner consistent with Section 137 of the State Finance Law and shall afford to persons furnishing labor or materials to the Contractor or its Subcontractors in the prosecution of the Work under this Contract all of the rights and remedies afforded to such persons by such section, including but not limited to, the right to commence an action against the City on the payment guarantee provided by this Article 20 within the one-year limitations period set forth in Section 137(4)(b).

ARTICLE 21. RETAINED PERCENTAGE

21.1 If this Contract requires one hundred (100%) percent performance and payment security, then as further security for the faithful performance of this Contract, the Commissioner shall deduct, and

retain until the substantial completion of the **Work**, five (5%) percent of the value of **Work** certified for payment in each partial payment voucher.

21.2 If this **Contract** does not require one hundred (100%) percent performance and payment security and if the price for which this **Contract** was awarded does not exceed one million (\$1,000,000) dollars; then as further security for the faithful performance of this **Contract**, the **Commissioner** shall deduct, and retain until the substantial completion of the **Work**, five (5%) percent of the value of **Work** certified for payment in each partial payment voucher.

21.3 If this **Contract** does not require one hundred (100%) percent performance and payment security and if the price for which this **Contract** was awarded exceeds one million (\$1,000,000) dollars, then as further security for the faithful performance of this **Contract**, the **Commissioner** shall deduct, and retain until the substantial completion of the **Work**, up to ten (10%) percent of the value of **Work** certified for payment in each partial payment voucher. The percentage to be retained is set forth in Schedule A of the General Conditions.

ARTICLE 22. INSURANCE

22.1 Types of Insurance: The **Contractor** shall procure and maintain the following types of insurance if, and as indicated, in Schedule A of the General Conditions (with the minimum limits and special conditions specified in Schedule A). Such insurance shall be maintained from the date the **Contractor** is required to provide Proof of Insurance pursuant to Article 22.3.1 through the date of completion of all required **Work** (including punch list work as certified in writing by the **Resident Engineer**), except for insurance required pursuant to Article 22.1.4, which may terminate upon **Substantial Completion** of the **Contract**. All insurance shall meet the requirements set forth in this Article 22. Wherever this Article requires that insurance coverage be "at least as broad" as a specified form (including all ISO forms), there is no obligation that the form itself be used, provided that the **Contractor** can demonstrate that the alternative form or endorsement contained in its policy provides coverage at least as broad as the specified form.

22.1.1 Commercial General Liability Insurance: The **Contractor** shall provide Commercial General Liability Insurance covering claims for property damage and/or bodily injury, including death, which may arise from any of the operations under this **Contract**. Coverage under this insurance shall be at least as broad as that provided by the latest edition of Insurance Services Office ("ISO") Form CG 0001. Such insurance shall be "occurrence" based rather than "claims-made" and include, without limitation, the following types of coverage: premises operations; products and completed operations; contractual liability (including the tort liability of another assumed in a contract); broad form property damage; independent contractors; explosion, collapse and underground (XCU); construction means and methods; and incidental malpractice. Such insurance shall contain a "per project" aggregate limit, as specified in Schedule A, that applies separately to operations under this **Contract**.

22.1.1(a) Such Commercial General Liability Insurance shall name the **City** as an Additional Insured. Coverage for the **City** shall specifically include the **City's** officials and employees, be at least as broad as the latest edition of ISO Form CG 20 10 and provide completed operations coverage at least as broad as the latest edition of ISO Form CG 20 37.

22.1.1(b) Such Commercial General Liability Insurance shall name all other entities designated as additional insureds in Schedule A but only for claims arising from the

Contractor's operations under this **Contract**, with coverage at least as broad as the latest edition of ISO Form CG 20 26.

22.1.1(c) If the **Work** requires a permit from the Department of Buildings pursuant to 1 RCNY Section 101-08, the **Contractor** shall provide Commercial General Liability Insurance with limits of at least those required by 1 RCNY section 101-08 or greater limits required by the Agency in accordance with Schedule A. If the **Work** does not require such a permit, the minimum limits shall be those provided for in Schedule A.

22.1.1(d) If any of the **Work** includes repair of a waterborne vessel owned by or to be delivered to the **City**, such Commercial General Liability shall include, or be endorsed to include, Ship Repairer's Legal Liability Coverage to protect against, without limitation, liability arising from navigation of such vessels prior to delivery to and acceptance by the **City**.

22.1.2 Workers' Compensation Insurance, Employers' Liability Insurance, and Disability Benefits Insurance: The **Contractor** shall provide, and shall cause its **Subcontractors** to provide, Workers Compensation Insurance, Employers' Liability Insurance, and Disability Benefits Insurance in accordance with the **Laws** of the State of New York on behalf of all employees providing services under this **Contract** (except for those employees, if any, for which the **Laws** require insurance only pursuant to Article 22.1.3).

22.1.3 United States Longshoremen's and Harbor Workers Act and/or Jones Act Insurance: If specified in Schedule A of the General Conditions or if required by **Law**, the **Contractor** shall provide insurance in accordance with the United States Longshoremen's and Harbor Workers Act and/or the Jones Act, on behalf of all qualifying employees providing services under this **Contract**.

22.1.4 Builders Risk Insurance: If specified in Schedule A of the General Conditions, the **Contractor** shall provide Builders Risk Insurance on a completed value form for the total value of the **Work** through **Substantial Completion** of the **Work** in its entirety. Such insurance shall be provided on an All Risk basis and include coverage, without limitation, for windstorm (including named windstorm), storm surge, flood and earth movement. Unless waived by the **Commissioner**, it shall include coverage for ordinance and law, demolition and increased costs of construction, debris removal, pollutant clean up and removal, and expediting costs. Such insurance shall cover, without limitation, (a) all buildings and/or structures involved in the **Work**, as well as temporary structures at the **Site**, and (b) any property that is intended to become a permanent part of such building or structure, whether such property is on the **Site**, in transit or in temporary storage. Policies shall name the **Contractor** as Named Insured and list the **City** as both an Additional Insured and a Loss Payee as its interest may appear.

22.1.4(a) Policies of such insurance shall specify that, in the event a loss occurs at an occupied facility, occupancy of such facility is permitted without the consent of the issuing insurance company.

22.1.4(b) Such insurance may be provided through an Installation Floater, at the **Contractor's** option, if it otherwise conforms with the requirements of this Article 22.1.4.

22.1.5 Commercial Automobile Liability Insurance: The **Contractor** shall provide Commercial Automobile Liability Insurance for liability arising out of ownership,

maintenance or use of any owned (if any), non-owned and hired vehicles to be used in connection with this **Contract**. Coverage shall be at least as broad as the latest edition of ISO Form CA0001. If vehicles are used for transporting hazardous materials, the Automobile Liability Insurance shall be endorsed to provide pollution liability broadened coverage for covered vehicles (endorsement CA 99 48) as well as proof of MCS 90.

22.1.6 **Contractors Pollution Liability Insurance:** If specified in Schedule A of the General Conditions, the **Contractor** shall maintain, or cause the **Subcontractor** doing such **Work** to maintain, Contractors Pollution Liability Insurance covering bodily injury and property damage. Such insurance shall provide coverage for actual, alleged or threatened emission, discharge, dispersal, seepage, release or escape of pollutants (including asbestos), including any loss, cost or expense incurred as a result of any cleanup of pollutants (including asbestos) or in the investigation, settlement or defense of any claim, action, or proceedings arising from the operations under this **Contract**. Such insurance shall be in the **Contractor's** name and list the **City** as an Additional Insured and any other entity specified in Schedule A. Coverage shall include, without limitation, (a) loss of use of damaged property or of property that has not been physically injured, (b) transportation, and (c) non-owned disposal sites.

22.1.6(a) Coverage for the **City** as Additional Insured shall specifically include the **City's** officials and employees and be at least as broad as provided to the **Contractor** for this **Project**.

22.1.6(b) If such insurance is written on a claims-made policy, such policy shall have a retroactive date on or before the effective date of this **Contract**, and continuous coverage shall be maintained, or an extended discovery period exercised, for a period of not less than three (3) years from the time the **Work** under this **Contract** is completed.

22.1.7 **Marine Insurance:**

22.1.7(a) **Marine Protection and Indemnity Insurance:** If specified in Schedule A of the General Conditions or if the **Contractor** engages in marine operations in the execution of any part of the **Work**, the **Contractor** shall maintain, or cause the **Subcontractor** doing such **Work** to maintain, Marine Protection and Indemnity Insurance with coverage at least as broad as Form SP-23. The insurance shall provide coverage for the **Contractor** or **Subcontractor** (whichever is doing this **Work**) and for the **City** (together with its officials and employees) and any other entity specified in Schedule A as an Additional Insured for bodily injury and property damage arising from marine operations under this **Contract**. Coverage shall include, without limitation, injury or death of crew members (if not fully provided through other insurance), removal of wreck, damage to piers, wharves and other fixed or floating objects and loss of or damage to any other vessel or craft, or to property on such other vessel or craft.

22.1.7(b) **Hull and Machinery Insurance:** If specified in Schedule A of the General Conditions or if the **Contractor** engages in marine operations in the execution of any part of the **Work**, the **Contractor** shall maintain, or cause the **Subcontractor** doing such **Work** to maintain, Hull and Machinery Insurance with coverage for the **Contractor** or **Subcontractor** (whichever is doing this **Work**) and for the **City** (together with its officials and employees) as Additional Insured at least as broad as the latest edition of American Institute Tug Form for all tugs used under this

Contract and Collision Liability at least as broad as the latest edition of American Institute Hull Clauses.

22.1.7(c) **Marine Pollution Liability Insurance:** If specified in Schedule A of the General Conditions or if the **Contractor** engages in marine operations in the execution of any part of the **Work**, the **Contractor** shall maintain, or cause the **Subcontractor** doing such Work to maintain, Marine Pollution Liability Insurance covering itself (or the Subcontractor doing such Work) as Named Insured and the **City** (together with its officials and employees) and any other entity specified in Schedule A as an Additional Insured. Coverage shall be at least as broad as that provided by the latest edition of Water Quality Insurance Syndicate Form and include, without limitation, liability arising from the discharge or substantial threat of a discharge of oil, or from the release or threatened release of a hazardous substance including injury to, or economic losses resulting from, the destruction of or damage to real property, personal property or natural resources.

22.1.8 The **Contractor** shall provide such other types of insurance, at such minimum limits and with such conditions, as are specified in Schedule A of the General Conditions.

22.2 General Requirements for Insurance Coverage and Policies:

22.2.1 All required insurance policies shall be maintained with companies that may lawfully issue the required policy and have an A.M. Best rating of at least A-/VII or a Standard and Poor's rating of at least A, unless prior written approval is obtained from the **City Corporation Counsel**.

22.2.2 The **Contractor** shall be solely responsible for the payment of all premiums for all required policies and all deductibles and self-insured retentions to which such policies are subject, whether or not the **City** is an insured under the policy.

22.2.3 In his/her sole discretion, the **Commissioner** may, subject to the approval of the **Comptroller** and the **City Corporation Counsel**, accept Letters of Credit and/or custodial accounts in lieu of required insurance.

22.2.4 The **City's** limits of coverage for all types of insurance required pursuant to Schedule A of the General Conditions shall be the greater of (i) the minimum limits set forth in Schedule A or (ii) the limits provided to the **Contractor** as Named Insured under all primary, excess, and umbrella policies of that type of coverage.

22.2.5 The **Contractor** may satisfy its insurance obligations under this Article 22 through primary policies or a combination of primary and excess/umbrella policies, so long as all policies provide the scope of coverage required herein.

22.2.6 Policies of insurance provided pursuant to this Article 22 shall be primary and non-contributing to any insurance or self-insurance maintained by the **City**.

22.3 Proof of Insurance:

22.3.1 For all types of insurance required by Article 22.1 and Schedule A, except for insurance required by Articles 22.1.4 and 22.1.7, the **Contractor** shall file proof of insurance in accordance with this Article 22.3 within ten (10) **Days** of award. For insurance

provided pursuant to Articles 22.1.4 and 22.1.7, proof shall be filed by a date specified by the **Commissioner** or ten (10) **Days** prior to the commencement of the portion of the **Work** covered by such policy, whichever is earlier.

22.3.2 For Workers' Compensation Insurance provided pursuant to Article 22.1.2, the **Contractor** shall submit one of the following forms: C-105.2 Certificate of Workers' Compensation Insurance; U-26.3 - State Insurance Fund Certificate of Workers' Compensation Insurance; Request for WC/DB Exemption (Form CE-200); equivalent or successor forms used by the New York State Workers' Compensation Board; or other proof of insurance in a form acceptable to the **Commissioner**. For Disability Benefits Insurance provided pursuant to Article 22.1.2, the **Contractor** shall submit DB-120.1 - Certificate Of Insurance Coverage Under The NYS Disability Benefits Law, Request for WC/DB Exemption (Form CE-200); equivalent or successor forms used by the New York State Workers' Compensation Board; or other proof of insurance in a form acceptable to the **Commissioner**. ACORD forms are not acceptable.

22.3.3 For policies provided pursuant to all of Article 22.1 other than Article 22.1.2, the **Contractor** shall submit one or more Certificates of Insurance on forms acceptable to the **Commissioner**. All such Certificates of Insurance shall certify (a) the issuance and effectiveness of such policies of insurance, each with the specified minimum limits (b) for insurance secured pursuant to Article 22.1.1 that the City and any other entity specified in Schedule A is an Additional Insured thereunder; (c) in the event insurance is required pursuant to Article 22.1.6 and/or Article 22.1.7, that the City is an Additional Insured thereunder; (d) the company code issued to the insurance company by the National Association of Insurance Commissioners (the NAIC number); and (e) the number assigned to the **Contract** by the **City**. All such Certificates of Insurance shall be accompanied by either a duly executed "Certification by Insurance Broker or Agent" in the form contained in Part III of Schedule A or copies of all policies referenced in such Certificate of Insurance as certified by an authorized representative of the issuing insurance carrier. If any policy is not available at the time of submission, certified binders may be submitted until such time as the policy is available, at which time a certified copy of the policy shall be submitted.

22.3.4 Documentation confirming renewals of insurance shall be submitted to the **Commissioner** prior to the expiration date of coverage of policies required under this **Contract**. Such proofs of insurance shall comply with the requirements of Articles 22.3.2 and 22.3.3.

22.3.5 The **Contractor** shall be obligated to provide the **City** with a copy of any policy of insurance provided pursuant to this Article 22 upon the demand for such policy by the **Commissioner** or the **City Corporation Counsel**.

22.4 Operations of the **Contractor**:

22.4.1 The **Contractor** shall not commence the **Work** unless and until all required certificates have been submitted to and accepted by the **Commissioner**. Acceptance by the **Commissioner** of a certificate does not excuse the **Contractor** from securing insurance consistent with all provisions of this Article 22 or of any liability arising from its failure to do so.

22.4.2 The **Contractor** shall be responsible for providing continuous insurance coverage in the manner, form, and limits required by this **Contract** and shall be authorized to perform **Work** only during the effective period of all required coverage.

22.4.3 In the event that any of the required insurance policies lapse, are revoked, suspended or otherwise terminated, for whatever cause, the **Contractor** shall immediately stop all **Work**, and shall not recommence **Work** until authorized in writing to do so by the **Commissioner**. Upon quitting the **Site**, except as otherwise directed by the **Commissioner**, the **Contractor** shall leave all plant, materials, equipment, tools, and supplies on the **Site**. **Contract** time shall continue to run during such periods and no extensions of time will be granted. The **Commissioner** may also declare the **Contractor** in default for failure to maintain required insurance.

22.4.4 In the event the **Contractor** receives notice, from an insurance company or other person, that any insurance policy required under this Article 22 shall be cancelled or terminated (or has been cancelled or terminated) for any reason, the **Contractor** shall immediately forward a copy of such notice to both the **Commissioner** and the New York City Comptroller, attn: Office of Contract Administration, Municipal Building, One Centre Street, room 1005, New York, New York 10007. Notwithstanding the foregoing, the **Contractor** shall ensure that there is no interruption in any of the insurance coverage required under this Article 22.

22.4.5 Where notice of loss, damage, occurrence, accident, claim or suit is required under an insurance policy maintained in accordance with this Article 22, the **Contractor** shall notify in writing all insurance carriers that issued potentially responsive policies of any such event relating to any operations under this **Contract** (including notice to Commercial General Liability insurance carriers for events relating to the **Contractor**'s own employees) no later than 20 days after such event. For any policy where the **City** is an Additional Insured, such notice shall expressly specify that "this notice is being given on behalf of the City of New York as Insured as well as the Named Insured." Such notice shall also contain the following information: the number of the insurance policy, the name of the named insured, the date and location of the damage, occurrence, or accident, and the identity of the persons or things injured, damaged or lost. The **Contractor** shall simultaneously send a copy of such notice to the City of New York c/o Insurance Claims Specialist, Affirmative Litigation Division, New York City Law Department, 100 Church Street, New York, New York 10007.

22.4.6 In the event of any loss, accident, claim, action, or other event that does or can give rise to a claim under any insurance policy required under this Article 22, the **Contractor** shall at all times fully cooperate with the **City** with regard to such potential or actual claim.

22.5 **Subcontractor Insurance:** In the event the **Contractor** requires any **Subcontractor** to procure insurance with regard to any operations under this **Contract** and requires such **Subcontractor** to name the **Contractor** as an **Additional Insured** thereunder, the **Contractor** shall ensure that the **Subcontractor** name the **City**, including its officials and employees, as an Additional Insured with coverage at least as broad as the most recent edition of ISO Form CG 20 26.

22.6 Wherever reference is made in Article 7 or this Article 22 to documents to be sent to the **Commissioner** (e.g., notices, filings, or submissions), such documents shall be sent to the address set forth in Schedule A of the General Conditions. In the event no address is set forth in Schedule A, such documents are to be sent to the **Commissioner**'s address as provided elsewhere in this **Contract**.

22.7 Apart from damages or losses covered by insurance provided pursuant to Articles 22.1.2, 22.1.3, or 22.1.5, the **Contractor** waives all rights against the **City**, including its officials and employees, for any damages or losses that are covered under any insurance required under this Article 22 (whether or

not such insurance is actually procured or claims are paid thereunder) or any other insurance applicable to the operations of the **Contractor** and/or its employees, agents, or **Subcontractors**.

22.8 In the event the **Contractor** utilizes a self-insurance program to satisfy any of the requirements of this Article 22, the **Contractor** shall ensure that any such self-insurance program provides the **City** with all rights that would be provided by traditional insurance under this Article 22, including but not limited to the defense and indemnification obligations that insurers are required to undertake in liability policies.

22.9 Materiality/Non-Waiver: The **Contractor's** failure to secure policies in complete conformity with this Article 22, or to give an insurance company timely notice of any sort required in this **Contract** or to do anything else required by this Article 22 shall constitute a material breach of this **Contract**. Such breach shall not be waived or otherwise excused by any action or inaction by the **City** at any time.

22.10 Pursuant to General Municipal Law Section 108, this **Contract** shall be void and of no effect unless **Contractor** maintains Workers' Compensation Insurance for the term of this **Contract** to the extent required and in compliance with the New York State Workers' Compensation Law.

22.11 Other Remedies: Insurance coverage provided pursuant to this Article 22 or otherwise shall not relieve the **Contractor** of any liability under this **Contract**, nor shall it preclude the **City** from exercising any rights or taking such other actions available to it under any other provisions of this **Contract** or **Law**.

ARTICLE 23. MONEY RETAINED AGAINST CLAIMS

23.1 If any claim shall be made by any person or entity (including **Other Contractors** with the **City** on this **Project**) against the **City** or against the **Contractor** and the **City** for any of the following:

(a) An alleged loss, damage, injury, theft or vandalism of any of the kinds referred to in Articles 7 and 12, plus the reasonable costs of defending the **City**, which in the opinion of the **Comptroller** may not be paid by an insurance company (for any reason whatsoever); or

(b) An infringement of copyrights, patents or use of patented articles, tools, etc., as referred to in Article 57; or

(c) Damage claimed to have been caused directly or indirectly by the failure of the **Contractor** to perform the **Work** in strict accordance with this **Contract**,

the amount of such claim, or so much thereof as the **Comptroller** may deem necessary, may be withheld by the **Comptroller**, as security against such claim, from any money due hereunder. The **Comptroller**, in his/her discretion, may permit the **Contractor** to substitute other satisfactory security in lieu of the monies so withheld.

23.2 If an action on such claim is timely commenced and the liability of the **City**, or the **Contractor**, or both, shall have been established therein by a final judgment of a court of competent jurisdiction, or if such claim shall have been admitted by the **Contractor** to be valid, the **Comptroller** shall pay such judgment or admitted claim out of the monies retained by the **Comptroller** under the provisions of this Article 23, and return the balance, if any, without interest, to the **Contractor**.

ARTICLE 24. MAINTENANCE AND GUARANTY

24.1 The **Contractor** shall promptly repair, replace, restore or rebuild, as the **Commissioner** may determine, any finished **Work** in which defects of materials or workmanship may appear or to which damage may occur because of such defects, during the one (1) year period subsequent to the date of **Substantial Completion** (or use and occupancy in accordance with Article 16), except where other periods of maintenance and guaranty are provided for in Schedule A.

24.2 As security for the faithful performance of its obligations hereunder, the **Contractor**, upon filing its requisition for payment on **Substantial Completion**, shall deposit with the **Commissioner** a sum equal to one (1%) percent of the price (or the amount fixed in Schedule A of the General Conditions) in cash or certified check upon a state or national bank and trust company or a check of such bank and trust company signed by a duly authorized officer thereof and drawn to the order of the **Comptroller**, or obligations of the **City**, which the **Comptroller** may approve as of equal value with the sum so required.

24.3 In lieu of the above, the **Contractor** may make such security payment to the **City** by authorizing the **Commissioner** in writing to deduct the amount from the **Substantial Completion** payment which shall be deemed the deposit required above.

24.4 If the **Contractor** has faithfully performed all of its obligations hereunder the **Commissioner** shall so certify to the **Comptroller** within five (5) **Days** after the expiration of one (1) year from the date of **Substantial Completion** and acceptance of the **Work** or within thirty (30) **Days** after the expiration of the guarantee period fixed in the **Specifications**. The security payment shall be repaid to the **Contractor** without interest within thirty (30) **Days** after certification by the **Commissioner** to the **Comptroller** that the **Contractor** has faithfully performed all of its obligations hereunder.

24.5 Notice by the **Commissioner** to the **Contractor** to repair, replace, rebuild or restore such defective or damaged **Work** shall be timely, pursuant to this article, if given not later than ten (10) **Days** subsequent to the expiration of the one (1) year period or other periods provided for herein.

24.6 If the **Contractor** shall fail to repair, replace, rebuild or restore such defective or damaged **Work** promptly after receiving such notice, the **Commissioner** shall have the right to have the **Work** done by others in the same manner as provided for in the completion of a defaulted **Contract**, under Article 51.

24.7 If the security payment so deposited is insufficient to cover the cost of such **Work**, the **Contractor** shall be liable to pay such deficiency on demand by the **Commissioner**.

24.8 The **Engineer's** certificate setting forth the fair and reasonable cost of repairing, replacing, rebuilding or restoring any damaged or defective **Work** when performed by one other than the **Contractor**, shall be binding and conclusive upon the **Contractor** as to the amount thereof.

24.9 The **Contractor** shall obtain all manufacturers' warranties and guaranties of all equipment and materials required by this **Contract** in the name of the **City** and shall deliver same to the **Commissioner**. All of the **City's** rights and title and interest in and to said manufacturers' warranties and guaranties may be assigned by the **City** to any subsequent purchasers of such equipment and materials or lessees of the premises into which the equipment and materials have been installed.

CHAPTER VI: CHANGES, EXTRA WORK, AND DOCUMENTATION OF CLAIM

ARTICLE 25. CHANGES

25.1 Changes may be made to this **Contract** only as duly authorized in writing by the **Commissioner** in accordance with the **Law** and this **Contract**. All such changes, modifications, and amendments will become a part of the **Contract**. **Work** so ordered shall be performed by the **Contractor**.

25.2 **Contract** changes will be made only for **Work** necessary to complete the **Work** included in the original scope of the **Contract** and/or for non-material changes to the scope of the **Contract**. Changes are not permitted for any material alteration in the scope of **Work** in the **Contract**.

25.3 The **Contractor** shall be entitled to a price adjustment for **Extra Work** performed pursuant to a written change order. Adjustments to price shall be computed in one or more of the following ways:

25.3.1 By applicable unit prices specified in the **Contract**; and/or

25.3.2 By agreement of a fixed price; and/or

25.3.3 By time and material records; and/or

25.3.4 In any other manner approved by the **CCPO**.

25.4 All payments for change orders are subject to pre-audit by the **Engineering Audit Officer** and may be post-audited by the **Comptroller** and/or the **Agency**.

ARTICLE 26. METHODS OF PAYMENT FOR OVERRUNS AND EXTRA WORK

26.1 **Overrun of Unit Price Item**: An overrun is any quantity of a unit price item which the **Contractor** is directed to provide which is in excess of one hundred twenty-five (125%) percent of the estimated quantity for that item set forth in the bid schedule.

26.1.1 For any unit price item, the **Contractor** will be paid at the unit price bid for any quantity up to one hundred twenty-five (125%) percent of the estimated quantity for that item set forth in the bid schedule. If during the progress of the **Work**, the actual quantity of any unit price item required to complete the **Work** approaches the estimated quantity for that item, and for any reason it appears that the actual quantity of any unit price item necessary to complete the **Work** will exceed the estimated quantity for that item by twenty-five (25%) percent, the **Contractor** shall immediately notify the **Engineer** of such anticipated overrun. The **Contractor** shall not be compensated for any quantity of a unit price item provided which is in excess of one hundred twenty-five (125%) percent of the estimated quantity for that item set forth in the bid schedule without written authorization from the **Engineer**.

26.1.2 If the actual quantity of any unit price item necessary to complete the **Work** will exceed one hundred twenty five (125%) percent of the estimated quantity for that item set forth in the bid schedule, the **City** reserves the right and the **Contractor** agrees to negotiate a new unit price for such item. In no event shall such negotiated new unit price exceed the unit bid price. If the **City** and **Contractor** cannot agree on a new unit price, then the **City** shall order the **Contractor** and the **Contractor** agrees to provide additional quantities of

the item on the basis of time and material records for the actual and reasonable cost as determined under Article 26.2, but in no event at a unit price exceeding the unit price bid.

26.2 Extra Work: For **Extra Work** where payment is by agreement on a fixed price in accordance with Article 25.3.2, the price to be paid for such **Extra Work** shall be based on the fair and reasonable estimated cost of the items set forth below. For **Extra Work** where payment is based on time and material records in accordance with Article 25.3.3, the price to be paid for such **Extra Work** shall be the actual and reasonable cost of the items set forth below, calculated in accordance with the formula specified therein, if any.

26.2.1 Necessary materials (including transportation to the **Site**); plus

26.2.2 Necessary direct labor, including payroll taxes (subject to statutory wage caps) and supplemental benefits; plus

26.2.3 Sales and personal property taxes, if any, required to be paid on materials not incorporated into such **Extra Work**; plus

26.2.4 Reasonable rental value of **Contractor**-owned (or **Subcontractor**-owned, as applicable), necessary plant and equipment other than **Small Tools**, plus fuel/energy costs: Except for fuel costs for pick-up trucks which shall be reimbursed based on a consumption of five (5) gallons per shift, fuel costs shall be reimbursed based on actual costs or, in the absence of auditable documentation, the following fuel consumption formula per operating hour: $(.035) \times (\text{HP rating}) \times (\text{Fuel cost/gallon})$. Reasonable rental value is defined as the lower of either seventy-five percent of the monthly prorated rental rates established in "The AED Green Book, Rental Rates and Specifications for Construction Equipment" published by Equipment Watch (the "Green Book"), or seventy-five percent of the monthly prorated rental rates established in the "Rental Rate Blue Book for Construction Equipment" published by Equipment Watch (the "Blue Book") (the applicable Blue Book rate being for rental only without the addition of any operational costs listed in the Blue Book). The reasonable rental value is deemed to be inclusive of all operating costs except for fuel/energy consumption and equipment operator's wages/costs. For multiple shift utilization, reimbursement shall be calculated as follows: first shift shall be seventy-five (75%) percent of such rental rates; second shift shall be sixty (60%) percent of the first shift rate; and third shift shall be forty (40%) percent of the first shift rate. Equipment on standby shall be reimbursed at one-third (1/3) the prorated monthly rental rate. **Contractor**-owned (or **Subcontractor**-owned, as applicable) equipment includes equipment from rental companies affiliated with or controlled by the **Contractor** (or **Subcontractor**, as applicable), as determined by the **Commissioner**. In establishing cost reimbursement for non-operating **Contractor**-owned (or **Subcontractor**-owned, as applicable) equipment (scaffolding, sheeting systems, road plates, etc.), the City may restrict reimbursement to a purchase-salvage/life cycle basis if less than the computed rental costs; plus

26.2.5 Necessary installation and dismantling of such plant and equipment, including transportation to and from the **Site**, if any, provided that, in the case of non-**Contractor**-owned (or non-**Subcontractor**-owned, as applicable) equipment rented from a third party, the cost of installation and dismantling are not allowable if such costs are included in the rental rate; plus

26.2.6 Necessary fees charged by governmental entities; plus

26.2.7 Necessary construction-related service fees charged by non-governmental entities, such as landfill tipping fees; plus

26.2.8 Reasonable rental costs of non-**Contractor**-owned (or non-**Subcontractor**-owned, as applicable) necessary plant and equipment other than **Small Tools**, plus fuel/energy costs. Except for fuel costs for pick-up trucks which shall be reimbursed based on a consumption of five (5) gallons per shift, fuel costs shall be reimbursed based on actual costs or, in the absence of auditable documentation, the following fuel consumption formula per hour of operation: $(.035) \times (\text{HP rating}) \times (\text{Fuel cost/gallon})$. In lieu of renting, the **City** reserves the right to direct the purchase of non-operating equipment (scaffolding, sheeting systems, road plates, etc.), with payment on a purchase-salvage/life cycle basis, if less than the projected rental costs; plus

26.2.9 Workers' Compensation Insurance; and any insurance coverage expressly required by the **City** for the performance of the **Extra Work** which is different than the types of insurance required by Article 22 and Schedule A of the General Conditions. The cost of Workers' Compensation Insurance is subject to applicable payroll limitation caps and shall be based upon the carrier's Manual Rate for such insurance derived from the applicable class Loss Cost ("LC") and carrier's Lost Cost Multiplier ("LCM") approved by the New York State Department of Financial Services, and with the exception of experience rating, rate modifiers as promulgated by the New York Compensation Insurance Rating Board ("NYCIRB"); plus

26.2.10 Additional costs incurred as a result of the **Extra Work** for performance and payment bonds; plus

26.2.11 Twelve percent (12%) percent of the total of items in Articles 26.2.1 through 26.2.5 as compensation for overhead, except that no percentage for overhead will be allowed on **Payroll Taxes** or on the premium portion of overtime pay or on sales and personal property taxes. Overhead shall include without limitation, all costs and expenses in connection with administration, management superintendence, small tools, and insurance required by Schedule A of the General Conditions other than Workers' Compensation Insurance; plus

26.2.12 Ten (10%) percent of the total of items in Articles 26.2.1 through 26.2.5, plus the items in Article 26.2.11, as compensation for profit, except that no percentage for profit will be allowed on **Payroll Taxes** or on the premium portion of overtime pay or on sales and personal property taxes; plus

26.2.13 Five (5%) percent of the total of items in Articles 26.2.6 through 26.2.10 as compensation for overhead and profit.

26.3 Where the **Extra Work** is performed in whole or in part by other than the **Contractor's** own forces pursuant to Article 26.2, the **Contractor** shall be paid, subject to pre-audit by the **Engineering Audit Officer**, the cost of such **Work** computed in accordance with Article 26.2 above, plus an additional allowance of five (5%) percent to cover the **Contractor's** overhead and profit.

26.4 Where a change is ordered, involving both **Extra Work** and omitted or reduced **Contract Work**, the **Contract** price shall be adjusted, subject to pre-audit by the **EAO**, in an amount based on the difference between the cost of such **Extra Work** and of the omitted or reduced **Work**.

26.5 Where the **Contractor** and the **Commissioner** can agree upon a fixed price for **Extra Work** in accordance with Article 25.3.2 or another method of payment for **Extra Work** in accordance with

Article 25.3.4, or for **Extra Work** ordered in connection with omitted **Work**, such method, subject to pre-audit by the **EAO**, may, at the option of the **Commissioner**, be substituted for the cost plus a percentage method provided in Article 26.2; provided, however, that if the **Extra Work** is performed by a **Subcontractor**, the **Contractor** shall not be entitled to receive more than an additional allowance of five (5%) percent for overhead and profit over the cost of such **Subcontractor's Work** as computed in accordance with Article 26.2.

ARTICLE 27. RESOLUTION OF DISPUTES

27.1 All disputes between the **City** and the **Contractor** of the kind delineated in this Article 27.1 that arise under, or by virtue of, this **Contract** shall be finally resolved in accordance with the provisions of this Article 27 and the **PPB Rules**. This procedure for resolving all disputes of the kind delineated herein shall be the exclusive means of resolving any such disputes.

27.1.1 This Article 27 shall not apply to disputes concerning matters dealt with in other sections of the **PPB Rules**, or to disputes involving patents, copyrights, trademarks, or trade secrets (as interpreted by the courts of New York State) relating to proprietary rights in computer software.

27.1.2 This Article 27 shall apply only to disputes about the scope of **Work** delineated by the **Contract**, the interpretation of **Contract** documents, the amount to be paid for **Extra Work** or disputed work performed in connection with the **Contract**, the conformity of the **Contractor's Work** to the **Contract**, and the acceptability and quality of the **Contractor's Work**; such disputes arise when the **Engineer**, **Resident Engineer**, **Engineering Audit Officer**, or other designee of the **Commissioner** makes a determination with which the **Contractor** disagrees.

27.2 All determinations required by this Article 27 shall be made in writing clearly stated, with a reasoned explanation for the determination based on the information and evidence presented to the party making the determination. Failure to make such determination within the time required by this Article 27 shall be deemed a non-determination without prejudice that will allow application to the next level.

27.3 During such time as any dispute is being presented, heard, and considered pursuant to this Article 27, the **Contract** terms shall remain in force and the **Contractor** shall continue to perform **Work** as directed by the **ACCO** or the **Engineer**. Failure of the **Contractor** to continue **Work** as directed shall constitute a waiver by the **Contractor** of its claim.

27.4 Presentation of Disputes to **Commissioner**.

Notice of Dispute and Agency Response. The **Contractor** shall present its dispute in writing ("Notice of Dispute") to the **Commissioner** within thirty (30) Days of receiving written notice of the determination or action that is the subject of the dispute. This notice requirement shall not be read to replace any other notice requirements contained in the **Contract**. The Notice of Dispute shall include all the facts, evidence, documents, or other basis upon which the **Contractor** relies in support of its position, as well as a detailed computation demonstrating how any amount of money claimed by the **Contractor** in the dispute was arrived at. Within thirty (30) Days after receipt of the detailed written submission comprising the complete Notice of Dispute, the **Engineer**, **Resident Engineer**, **Engineering Audit Officer**, or other designee of the **Commissioner** shall submit to the **Commissioner** all materials he or she deems pertinent to the dispute. Following initial submissions to the **Commissioner**, either party may demand of the other the production of any document or other material the demanding party believes may be relevant to the dispute. The requested party shall produce all relevant materials that are not otherwise

protected by a legal privilege recognized by the courts of New York State. Any question of relevancy shall be determined by the **Commissioner** whose decision shall be final. Willful failure of the **Contractor** to produce any requested material whose relevancy the **Contractor** has not disputed, or whose relevancy has been affirmatively determined, shall constitute a waiver by the **Contractor** of its claim.

27.4.1 **Commissioner Inquiry.** The **Commissioner** shall examine the material and may, in his or her discretion, convene an informal conference with the **Contractor**, the **ACCO**, and the **Engineer, Resident Engineer, Engineering Audit Officer**, or other designee of the **Commissioner** to resolve the issue by mutual consent prior to reaching a determination. The **Commissioner** may seek such technical or other expertise as he or she shall deem appropriate, including the use of neutral mediators, and require any such additional material from either or both parties as he or she deems fit. The **Commissioner's** ability to render, and the effect of, a decision hereunder shall not be impaired by any negotiations in connection with the dispute presented, whether or not the **Commissioner** participated therein. The **Commissioner** may or, at the request of any party to the dispute, shall compel the participation of any **Other Contractor** with a contract related to the **Work** of this **Contract**, and that **Contractor** shall be bound by the decision of the **Commissioner**. Any **Other Contractor** thus brought into the dispute resolution proceeding shall have the same rights and obligations under this Article 27 as the **Contractor** initiating the dispute.

27.4.2 **Commissioner Determination.** Within thirty (30) **Days** after the receipt of all materials and information, or such longer time as may be agreed to by the parties, the **Commissioner** shall make his or her determination and shall deliver or send a copy of such determination to the **Contractor**, the **ACCO**, and **Engineer, Resident Engineer, Engineering Audit Officer**, or other designee of the **Commissioner**, as applicable, together with a statement concerning how the decision may be appealed.

27.4.3 **Finality of Commissioner's Decision.** The **Commissioner's** decision shall be final and binding on all parties, unless presented to the Contract Dispute Resolution Board pursuant to this Article 27. The **City** may not take a petition to the Contract Dispute Resolution Board. However, should the **Contractor** take such a petition, the **City** may seek, and the Contract Dispute Resolution Board may render, a determination less favorable to the **Contractor** and more favorable to the **City** than the decision of the **Commissioner**.

27.5 **Presentation of Dispute to the Comptroller.** Before any dispute may be brought by the **Contractor** to the Contract Dispute Resolution Board, the **Contractor** must first present its claim to the **Comptroller** for his or her review, investigation, and possible adjustment.

27.5.1 **Time, Form, and Content of Notice.** Within thirty (30) **Days** of its receipt of a decision by the **Commissioner**, the **Contractor** shall submit to the **Comptroller** and to the **Commissioner** a Notice of Claim regarding its dispute with the **Agency**. The Notice of Claim shall consist of (i) a brief written statement of the substance of the dispute, the amount of money, if any, claimed and the reason(s) the **Contractor** contends the dispute was wrongly decided by the **Commissioner**; (ii) a copy of the written decision of the **Commissioner**; and (iii) a copy of all materials submitted by the **Contractor** to the **Agency**, including the Notice of Dispute. The **Contractor** may not present to the **Comptroller** any material not presented to the **Commissioner**, except at the request of the **Comptroller**.

27.5.2 Response. Within thirty (30) **Days** of receipt of the Notice of Claim, the **Agency** shall make available to the **Comptroller** a copy of all material submitted by the **Agency** to the **Commissioner** in connection with the dispute. The **Agency** may not present to the **Comptroller** any material not presented to the **Commissioner** except at the request of the **Comptroller**.

27.5.3 **Comptroller** Investigation. The **Comptroller** may investigate the claim in dispute and, in the course of such investigation, may exercise all powers provided in Sections 7-201 and 7-203 of the Administrative Code. In addition, the **Comptroller** may demand of either party, and such party shall provide, whatever additional material the **Comptroller** deems pertinent to the claim, including original business records of the **Contractor**. Willful failure of the **Contractor** to produce within fifteen (15) **Days** any material requested by the **Comptroller** shall constitute a waiver by the **Contractor** of its claim. The **Comptroller** may also schedule an informal conference to be attended by the **Contractor**, **Agency** representatives, and any other personnel desired by the **Comptroller**.

27.5.4 Opportunity of **Comptroller** to Compromise or Adjust Claim. The **Comptroller** shall have forty-five (45) **Days** from his or her receipt of all materials referred to in Article 27.5.3 to investigate the disputed claim. The period for investigation and compromise may be further extended by agreement between the **Contractor** and the **Comptroller**, to a maximum of ninety (90) **Days** from the **Comptroller's** receipt of all materials. The **Contractor** may not present its petition to the Contract Dispute Resolution Board until the period for investigation and compromise delineated in this Article 27.5.4 has expired. In compromising or adjusting any claim hereunder, the **Comptroller** may not revise or disregard the terms of the **Contract** between the parties.

27.6 Contract Dispute Resolution Board. There shall be a Contract Dispute Resolution Board composed of:

27.6.1 The chief administrative law judge of the Office of Administrative Trials and Hearings (OATH) or his/her designated OATH administrative law judge, who shall act as chairperson, and may adopt operational procedures and issue such orders consistent with this Article 27 as may be necessary in the execution of the Contract Dispute Resolution Board's functions, including, but not limited to, granting extensions of time to present or respond to submissions;

27.6.2 The **CCPO** or his/her designee; any designee shall have the requisite background to consider and resolve the merits of the dispute and shall not have participated personally and substantially in the particular matter that is the subject of the dispute or report to anyone who so participated; and

27.6.3 A person with appropriate expertise who is not an employee of the **City**. This person shall be selected by the presiding administrative law judge from a prequalified panel of individuals, established and administered by OATH with appropriate background to act as decision-makers in a dispute. Such individual may not have a contract or dispute with the **City** or be an officer or employee of any company or organization that does, or regularly represents persons, companies, or organizations having disputes with the **City**.

27.7 Petition to the Contract Dispute Resolution Board. In the event the claim has not been settled or adjusted by the **Comptroller** within the period provided in this Article 27, the **Contractor**,

within thirty (30) **Days** thereafter, may petition the Contract Dispute Resolution Board to review the **Commissioner's** determination.

27.7.1 **Form and Content of Petition by Contractor.** The **Contractor** shall present its dispute to the Contract Dispute Resolution Board in the form of a petition, which shall include (i) a brief written statement of the substance of the dispute, the amount of money, if any, claimed, and the reason(s) the **Contractor** contends the dispute was wrongly decided by the **Commissioner**; (ii) a copy of the written Decision of the **Commissioner**, (iii) copies of all materials submitted by the **Contractor** to the Agency; (iv) a copy of the written decision of the **Comptroller**, if any, and (v) copies of all correspondence with, or written material submitted by the **Contractor**, to the **Comptroller**. The **Contractor** shall concurrently submit four (4) complete sets of the Petition: one set to the City Corporation Counsel (Attn: Commercial and Real Estate Litigation Division) and three (3) sets to the Contract Dispute Resolution Board at OATH's offices with proof of service on the City Corporation Counsel. In addition, the **Contractor** shall submit a copy of the written statement of the substance of the dispute, cited in (i) above, to both the **Commissioner** and the **Comptroller**.

27.7.2 **Agency Response.** Within thirty (30) **Days** of its receipt of the Petition by the City Corporation Counsel, the **Agency** shall respond to the brief written statement of the **Contractor** and make available to the Contract Dispute Resolution Board all material it submitted to the **Commissioner** and **Comptroller**. Three (3) complete copies of the **Agency** response shall be provided to the Contract Dispute Resolution Board and one to the **Contractor**. Extensions of time for submittal of the **Agency** response shall be given as necessary upon a showing of good cause or, upon consent of the parties, for an initial period of up to thirty (30) **Days**.

27.7.3 **Further Proceedings.** The Contract Dispute Resolution Board shall permit the **Contractor** to present its case by submission of memoranda, briefs, and oral argument. The Contract Dispute Resolution Board shall also permit the **Agency** to present its case in response to the **Contractor** by submission of memoranda, briefs, and oral argument. If requested by the City Corporation Counsel, the **Comptroller** shall provide reasonable assistance in the preparation of the **Agency's** case. Neither the **Contractor** nor the **Agency** may support its case with any documentation or other material that was not considered by the **Comptroller**, unless requested by the Contract Dispute Resolution Board. The Contract Dispute Resolution Board, in its discretion, may seek such technical or other expert advice as it shall deem appropriate and may seek, on its own or upon application of a party, any such additional material from any party as it deems fit. The Contract Dispute Resolution Board, in its discretion, may combine more than one dispute between the parties for concurrent resolution.

27.7.4 **Contract Dispute Resolution Board Determination.** Within forty-five (45) **Days** of the conclusion of all written submissions and oral arguments, the Contract Dispute Resolution Board shall render a written decision resolving the dispute. In an unusually complex case, the Contract Dispute Resolution Board may render its decision in a longer period, not to exceed ninety (90) **Days**, and shall so advise the parties at the commencement of this period. The Contract Dispute Resolution Board's decision must be consistent with the terms of the **Contract**. Decisions of the Contract Dispute Resolution Board shall only resolve matters before the Contract Dispute Resolution Board and shall not have precedential effect with respect to matters not before the Contract Dispute Resolution Board.

27.7.5 Notification of Contract Dispute Resolution Board Decision. The Contract Dispute Resolution Board shall send a copy of its decision to the **Contractor**, the **ACCO**, the **Engineer**, the **Comptroller**, the **City Corporation Counsel**, the **CCPO**, and the **PPB**. A decision in favor of the **Contractor** shall be subject to the prompt payment provisions of the **PPB Rules**. The Required Payment Date shall be thirty (30) Days after the date the parties are formally notified of the Contract Dispute Resolution Board's decision.

27.7.6 Finality of Contract Dispute Resolution Board Decision. The Contract Dispute Resolution Board's decision shall be final and binding on all parties. Any party may seek review of the Contract Dispute Resolution Board's decision solely in the form of a challenge, filed within four (4) months of the date of the Contract Dispute Resolution Board's decision, in a court of competent jurisdiction of the State of New York, County of New York pursuant to Article 78 of the Civil Practice Law and Rules. Such review by the court shall be limited to the question of whether or not the Contract Dispute Resolution Board's decision was made in violation of lawful procedure, was affected by an error of **Law**, or was arbitrary and capricious or an abuse of discretion. No evidence or information shall be introduced or relied upon in such proceeding that was not presented to the Contract Dispute Resolution Board in accordance with this Article 27.

27.8 Any termination, cancellation, or alleged breach of the **Contract** prior to or during the pendency of any proceedings pursuant to this Article 27 shall not affect or impair the ability of the **Commissioner** or Contract Dispute Resolution Board to make a binding and final decision pursuant to this Article 27.

ARTICLE 28. RECORD KEEPING FOR EXTRA OR DISPUTED WORK OR WORK ON A TIME & MATERIALS BASIS

28.1 While the **Contractor** or any of its **Subcontractors** is performing **Work** on a time and material basis or **Extra Work** on a time and material basis ordered by the **Commissioner** under Article 25, or where the **Contractor** believes that it or any of its **Subcontractors** is performing **Extra Work** but a final determination by **Agency** has not been made, or the **Contractor** or any of its **Subcontractors** is performing disputed **Work** (whether on or off the **Site**), or complying with a determination or order under protest in accordance with Articles 11, 27, and 30, in each such case the **Contractor** shall furnish the **Resident Engineer** daily with three (3) copies of written statements signed by the **Contractor's** representative at the **Site** showing:

28.1.1 The name, trade, and number of each worker employed on such **Work** or engaged in complying with such determination or order, the number of hours employed, and the character of the **Work** each is doing; and

28.1.2 The nature and quantity of any materials, plant and equipment furnished or used in connection with the performance of such **Work** or compliance with such determination or order, and from whom purchased or rented.

28.2 A copy of such statement will be countersigned by the **Resident Engineer**, noting thereon any items not agreed to or questioned, and will be returned to the **Contractor** within two (2) **Days** after submission.

28.3 The **Contractor** and its **Subcontractors**, when required by the **Commissioner**, or the **Comptroller**, shall also produce for inspection, at the office of the **Contractor** or **Subcontractor**, any and all of its books, bid documents, financial statements, vouchers, records, daily job diaries and reports,

and cancelled checks, and any other documents relating to showing the nature and quantity of the labor, materials, plant and equipment actually used in the performance of such **Work**, or in complying with such determination or order, and the amounts expended therefor, and shall permit the **Commissioner** and the **Comptroller** to make such extracts therefrom, or copies thereof, as they or either of them may desire.

28.4 In connection with the examination provided for herein, the **Commissioner**, upon demand therefor, will produce for inspection by the **Contractor** such records as the **Agency** may have with respect to such **Extra Work** or disputed **Work** performed under protest pursuant to order of the **Commissioner**, except those records and reports which may have been prepared for the purpose of determining the accuracy and validity of the **Contractor's** claim.

28.5 Failure to comply strictly with these requirements shall constitute a waiver of any claim for extra compensation or damages on account of the performance of such **Work** or compliance with such determination or order.

ARTICLE 29. OMITTED WORK

29.1 If any **Contract Work** in a lump sum **Contract**, or if any part of a lump sum item in a unit price, lump sum, or percentage-bid **Contract** is omitted by the **Commissioner** pursuant to Article 33, the **Contract** price, subject to audit by the EAO, shall be reduced by a pro rata portion of the lump sum bid amount based upon the percent of **Work** omitted subject to Article 29.4. For the purpose of determining the pro rata portion of the lump sum bid amount, the bid breakdown submitted in accordance with Article 41 shall be considered, but shall not be the determining factor.

29.2 If the whole of a lump sum item or units of any other item is so omitted by the **Commissioner** in a unit price, lump sum, or percentage-bid **Contract**, then no payment will be made therefor except as provided in Article 29.4.

29.3 For units that have been ordered but are only partially completed, the unit price shall be reduced by a pro rata portion of the unit price bid based upon the percentage of **Work** omitted subject to Article 29.4.

29.4 In the event the **Contractor**, with respect to any omitted **Work**, has purchased any non-cancelable material and/or equipment that is not capable of use except in the performance of this **Contract** and has been specifically fabricated for the sole purpose of this **Contract**, but not yet incorporated into the **Work**, the **Contractor** shall be paid for such material and/or equipment in accordance with Article 64.2.1(b); provided, however, such payment is contingent upon the **Contractor's** delivery of such material and/or equipment in acceptable condition to a location designated by the **City**.

29.5 The **Contractor** agrees to make no claim for damages or for loss of overhead and profit with regard to any omitted **Work**.

ARTICLE 30. NOTICE AND DOCUMENTATION OF COSTS AND DAMAGES; PRODUCTION OF FINANCIAL RECORDS

30.1 If the **Contractor** shall claim to be sustaining damages by reason of any act or omission of the **City** or its agents, it shall submit to the **Commissioner** within forty-five (45) **Days** from the time such damages are first incurred, and every thirty (30) **Days** thereafter to the extent additional damages are being incurred for the same condition, verified statements of the details and the amounts of such

damages, together with documentary evidence of such damages. The **Contractor** may submit any of the above statements within such additional time as may be granted by the **Commissioner** in writing upon written request therefor. Failure of the **Commissioner** to respond in writing to a written request for additional time within thirty (30) **Days** shall be deemed a denial of the request. On failure of the **Contractor** to strictly comply with the foregoing provisions, such claims shall be deemed waived and no right to recover on such claims shall exist. Damages that the **Contractor** may claim in any action or dispute resolution procedure arising under or by reason of this **Contract** shall not be different from or in excess of the statements and documentation made pursuant to this Article 30. This Article 30.1 does not apply to claims submitted to the **Commissioner** pursuant to Article 11 or to claims disputing a determination under Article 27.

30.2 In addition to the foregoing statements, the **Contractor** shall, upon notice from the **Commissioner**, produce for examination at the **Contractor's** office, by the **Engineer, Architect or Project Manager**, all of its books of account, bills, invoices, payrolls, subcontracts, time books, daily reports, bank deposit books, bank statements, check books, and cancelled checks, showing all of its acts and transactions in connection with or relating to or arising by reason of this **Contract**, and submit itself and persons in its employment, for examination under oath by any person designated by the **Commissioner** or **Comptroller** to investigate claims made or disputes against the **City** under this **Contract**. At such examination, a duly authorized representative of the **Contractor** may be present.

30.3 In addition to the statements required under Article 28 and this Article 30, the **Contractor** and/or its **Subcontractor** shall, within thirty (30) **Days** upon notice from the **Commissioner** or **Comptroller**, produce for examination at the **Contractor's** and/or **Subcontractor's** office, by a representative of either the **Commissioner** or **Comptroller**, all of its books of account, bid documents, financial statements, accountant workpapers, bills, invoices, payrolls, subcontracts, time books, daily reports, bank deposit books, bank statements, check books, and cancelled checks, showing all of its acts and transactions in connection with or relating to or arising by reason of this **Contract**. Further, the **Contractor** and/or its **Subcontractor** shall submit any person in its employment, for examination under oath by any person designated by the **Commissioner** or **Comptroller** to investigate claims made or disputes against the **City** under this **Contract**. At such examination, a duly authorized representative of the **Contractor** may be present.

30.4 Unless the information and examination required under Article 30.3 is provided by the **Contractor** and/or its **Subcontractor** upon thirty (30) **Days'** notice from the **Commissioner** or **Comptroller**, or upon the **Commissioner's** or **Comptroller's** written authorization to extend the time to comply, the **City** shall be released from all claims arising under, relating to or by reason of this **Contract**, except for sums certified by the **Commissioner** to be due under the provisions of this **Contract**. It is further stipulated and agreed that no person has the power to waive any of the foregoing provisions and that in any action or dispute resolution procedure against the **City** to recover any sum in excess of the sums certified by the **Commissioner** to be due under or by reason of this **Contract**, the **Contractor** must allege in its complaint and prove, at trial or during such dispute resolution procedure, compliance with the provisions of this Article 30.

30.5 In addition, after the commencement of any action or dispute resolution procedure by the **Contractor** arising under or by reason of this **Contract**, the **City** shall have the right to require the **Contractor** to produce for examination under oath, up until the trial of the action or hearing before the Contract Dispute Resolution Board, the books and documents described in Article 30.3 and submit itself and all persons in its employ for examination under oath. If this Article 30 is not complied with as required, then the **Contractor** hereby consents to the dismissal of the action or dispute resolution procedure.

CHAPTER VII: POWERS OF THE RESIDENT ENGINEER, THE ENGINEER OR ARCHITECT AND THE COMMISSIONER

ARTICLE 31. THE RESIDENT ENGINEER

31.1 The **Resident Engineer** shall have the power to inspect, supervise, and control the performance of the **Work**, subject to review by the **Commissioner**. The **Resident Engineer** shall not, however, have the power to issue an **Extra Work** order, except as specifically designated in writing by the **Commissioner**.

ARTICLE 32. THE ENGINEER OR ARCHITECT OR PROJECT MANAGER

32.1 The **Engineer** or **Architect** or **Project Manager**, in addition to those matters elsewhere herein delegated to the **Engineer** and expressly made subject to his/her determination, direction or approval, shall have the power, subject to review by the **Commissioner**:

32.1.1 To determine the amount, quality, and location of the **Work** to be paid for hereunder; and

32.1.2 To determine all questions in relation to the **Work**, to interpret the **Contract Drawings, Specifications, and Addenda**, and to resolve all patent inconsistencies or ambiguities therein; and

32.1.3 To determine how the **Work** of this **Contract** shall be coordinated with **Work** of **Other Contractors** engaged simultaneously on this **Project**, including the power to suspend any part of the **Work**, but not the whole thereof; and

32.1.4 To make minor changes in the **Work** as he/she deems necessary, provided such changes do not result in a net change in the cost to the **City** or to the **Contractor** of the **Work** to be done under the **Contract**; and

32.1.5 To amplify the **Contract Drawings**, add explanatory information and furnish additional **Specifications** and drawings, consistent with this **Contract**.

32.2 The foregoing enumeration shall not imply any limitation upon the power of the **Engineer** or **Architect** or **Project Manager**, for it is the intent of this **Contract** that all of the **Work** shall generally be subject to his/her determination, direction, and approval, except where the determination, direction or approval of someone other than the **Engineer** or **Architect** or **Project Manager** is expressly called for herein.

32.3 The **Engineer** or **Architect** or **Project Manager** shall not, however, have the power to issue an **Extra Work** order, except as specifically designated in writing by the **Commissioner**.

ARTICLE 33. THE COMMISSIONER

33.1 The **Commissioner**, in addition to those matters elsewhere herein expressly made subject to his/her determination, direction or approval, shall have the power:

33.1.1 To review and make determinations on any and all questions in relation to this **Contract** and its performance; and

33.1.2 To modify or change this **Contract** so as to require the performance of **Extra Work** (subject, however, to the limitations specified in Article 25) or the omission of **Contract Work**; and

33.1.3 To suspend the whole or any part of the **Work** whenever in his/her judgment such suspension is required:

33.1.3(a) In the interest of the **City** generally; or

33.1.3(b) To coordinate the **Work** of the various contractors engaged on this **Project** pursuant to the provisions of Article 12; or

33.1.3(c) To expedite the completion of the entire **Project** even though the completion of this particular **Contract** may thereby be delayed.

ARTICLE 34. NO ESTOPPEL

34.1 Neither the **City** nor any **Agency**, official, agent or employee thereof, shall be bound, precluded or estopped by any determination, decision, approval, order, letter, payment or certificate made or given under or in connection with this **Contract** by the **City**, the **Commissioner**, the **Engineer**, the **Resident Engineer**, or any other official, agent or employee of the **City**, either before or after the final completion and acceptance of the **Work** and payment therefor:

34.1.1 From showing the true and correct classification, amount, quality or character of the **Work** actually done; or that any such determination, decision, order, letter, payment or certificate was untrue, incorrect or improperly made in any particular, or that the **Work**, or any part thereof, does not in fact conform to the requirements of this **Contract**; and

34.1.2 From demanding and recovering from the **Contractor** any overpayment made to it, or such damages as the **City** may sustain by reason of the **Contractor's** failure to perform each and every part of its **Contract**.

CHAPTER VIII: LABOR PROVISIONS

ARTICLE 35. EMPLOYEES

35.1 The **Contractor** and its **Subcontractors** shall not employ on the **Work**:

35.1.1 Anyone who is not competent, faithful and skilled in the **Work** for which he/she shall be employed; and whenever the **Commissioner** shall inform the **Contractor**, in writing, that any employee is, in his/her opinion, incompetent, unfaithful or disobedient, that employee shall be discharged from the **Work** forthwith, and shall not again be employed upon it; or

35.1.2 Any labor, materials or means whose employment, or utilization during the course of this **Contract**, may tend to or in any way cause or result in strikes, work stoppages, delays, suspension of **Work** or similar troubles by workers employed by the **Contractor** or its **Subcontractors**, or by any of the trades working in or about the buildings and premises where **Work** is being performed under this **Contract**, or by **Other Contractors** or their **Subcontractors** pursuant to other contracts, or on any other building or premises owned or operated by the **City**, its **Agencies**, departments, boards or authorities. Any violation by the **Contractor** of this requirement may, upon certification of the **Commissioner**, be considered as proper and sufficient cause for declaring the **Contractor** to be in default, and for the **City** to take action against it as set forth in Chapter X of this **Contract**, or such other article of this **Contract** as the **Commissioner** may deem proper; or

35.1.3 In accordance with Section 220.3-e of the Labor Law of the State of New York (hereinafter "Labor Law"), the **Contractor** and its **Subcontractors** shall not employ on the **Work** any apprentice, unless he/she is a registered individual; under a bona fide program registered with the New York State Department of Labor. The allowable ratio of apprentices to journey-level workers in any craft classification shall not be greater than the ratio permitted to the **Contractor** as to its work force on any job under the registered program. Any employee listed on a payroll at an apprentice wage rate, who is not registered as above, shall be paid the wage rate determined by the **Comptroller** of the **City** for the classification of **Work** actually performed. The **Contractor** or **Subcontractor** will be required to furnish written evidence of the registration of its program and apprentices as well as all the appropriate ratios and wage rates, for the area of the construction prior to using any apprentices on the **Contract Work**.

35.2 If the total cost of the **Work** under this **Contract** is at least two hundred fifty thousand (\$250,000) dollars, all laborers, workers, and mechanics employed in the performance of the **Contract** on the public work site, either by the **Contractor**, **Subcontractor** or other person doing or contracting to do the whole or a part of the **Work** contemplated by the **Contract**, shall be certified prior to performing any **Work** as having successfully completed a course in construction safety and health approved by the United States Department of Labor's Occupational Safety and Health Administration that is at least ten (10) hours in duration.

35.3 In accordance with Local Law Nos. 30-2012 and 33-2012, codified at sections 6-132 and 12-113 of the Administrative Code, respectively,

35.3.1 The **Contractor** shall not take an adverse personnel action with respect to an officer or employee in retaliation for such officer or employee making a report of information concerning conduct which such officer or employee knows or reasonably believes to involve corruption, criminal activity, conflict of interest, gross mismanagement or abuse of authority by any officer or employee relating to this **Contract** to (a) the Commissioner of the Department of Investigation, (b) a member of the New York City Council, the Public Advocate, or the **Comptroller**, or (c) the **CCPO**, **ACCO**, **Agency head**, or **Commissioner**.

35.3.2 If any of the **Contractor's** officers or employees believes that he or she has been the subject of an adverse personnel action in violation of Article 35.3.1, he or she shall be entitled to bring a cause of action against the **Contractor** to recover all relief necessary to make him or her whole. Such relief may include but is not limited to: (a) an injunction to restrain continued retaliation, (b) reinstatement to the position such employee would have had but for the retaliation or to an equivalent position, (c) reinstatement of full fringe benefits and seniority rights, (d) payment of two times back

pay, plus interest, and (e) compensation for any special damages sustained as a result of the retaliation, including litigation costs and reasonable attorney's fees.

35.3.3 The **Contractor** shall post a notice provided by the **City** in a prominent and accessible place on any site where work pursuant to the **Contract** is performed that contains information about:

35.3.3(a) how its employees can report to the New York City Department of Investigation allegations of fraud, false claims, criminality or corruption arising out of or in connection with the **Contract**; and

35.3.3(b) the rights and remedies afforded to its employees under Administrative Code sections 7-805 (the New York City False Claims Act) and 12-113 (the Whistleblower Protection Expansion Act) for lawful acts taken in connection with the reporting of allegations of fraud, false claims, criminality or corruption in connection with the **Contract**.

35.3.4 For the purposes of this Article 35.3, "adverse personnel action" includes dismissal, demotion, suspension, disciplinary action, negative performance evaluation, any action resulting in loss of staff, office space, equipment or other benefit, failure to appoint, failure to promote, or any transfer or assignment or failure to transfer or assign against the wishes of the affected officer or employee.

35.3.5 This Article 35.3 is applicable to all of the **Contractor's Subcontractors** having subcontracts with a value in excess of \$100,000; accordingly, the **Contractor** shall include this rider in all subcontracts with a value a value in excess of \$100,000.

35.4 Article 35.3 is not applicable to this **Contract** if it is valued at \$100,000 or less. Articles 35.3.1, 35.3.2, 35.3.4, and 35.3.5 are not applicable to this **Contract** if it was solicited pursuant to a finding of an emergency.

35.5 Paid Sick Leave Law.

35.5.1 Introduction and General Provisions.

35.5.1(a) The Earned Sick Time Act, also known as the Paid Sick Leave Law ("PSLL"), requires covered employees who annually perform more than 80 hours of work in New York City to be provided with paid sick time.² Contractors of the **City** or of other governmental entities may be required to provide sick time pursuant to the PSLL.

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

² Pursuant to the PSLL, if fewer than five employees work for the same employer, as determined pursuant to New York City Administrative Code § 20-912(g), such employer has the option of providing such employees uncompensated sick time.

35.5.1(c) The **Contractor** agrees to comply in all respects with the 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 there are links to the PSLL and the associated Rules as well as additional resources for employers, such as Frequently Asked Questions, timekeeping tools and model forms, and an event calendar of upcoming presentations and webinars at which the **Contractor** can get more information about how to comply with the PSLL. The **Contractor** acknowledges that it is responsible for compliance with the PSLL notwithstanding any inconsistent language contained herein.

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

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

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

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

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

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

35.5.2(d) An employer must not require an employee, as a condition of taking sick time, to search for a replacement. However, an employer may require an employee to provide: reasonable notice of the need to use sick time; reasonable documentation that the use of sick time was needed for a reason above if for an absence of more than three consecutive work days; and/or written confirmation that an employee used sick time pursuant to the PSLL. However, an employer may not require documentation specifying the nature of a medical condition or otherwise require disclosure of the details of a medical condition as a condition of providing sick time and health information obtained solely due to an employee's use of sick time pursuant to the PSLL must be treated by the employer as confidential.

35.5.2(e) If an employer chooses to impose any permissible discretionary requirement as a condition of using sick time, it must provide to all employees a written policy containing those requirements, using a delivery method that reasonably ensures that employees receive the policy. If such employer has not provided its written policy, it may not deny sick time to an employee because of non-compliance with such a policy.

35.5.2(f) Sick time to which an employee is entitled must be paid no later than the payday for the next regular payroll period beginning after the sick time was used.

35.5.3 Exemptions and Exceptions. Notwithstanding the above, the PSLL does not apply to any of the following:

35.5.3(a) an independent contractor who does not meet the definition of employee under section 190(2) of the New York State Labor Law;

35.5.3(b) an employee covered by a valid collective bargaining agreement in effect on April 1, 2014, until the termination of such agreement;

35.5.3(c) an employee in the construction or grocery industry covered by a valid collective bargaining agreement if the provisions of the PSLL are expressly waived in such collective bargaining agreement;

35.5.3(d) an employee covered by another valid collective bargaining agreement if such provisions are expressly waived in such agreement and such agreement provides a benefit comparable to that provided by the PSLL for such employee;

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

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

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

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

35.5.4 Retaliation Prohibited. An employer may not threaten or engage in retaliation against an employee for exercising or attempting in good faith to exercise any right provided by the 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** and located in New York City). The **Contractor** shall reasonably cooperate with SBS and the City on specific outreach events, including "Hire-on-the-Spot" events, for the hiring of trades workers in connection with the **Work**. If provided elsewhere in this **Contract**, this **Contract** is subject to a project labor agreement.

35.6.1 Enrollment. The **Contractor** shall enroll with the HireNYC system, found at www.nyc.gov/sbs, within thirty (30) days after the registration of this **Contract** pursuant to Section 328 of the New York City Charter. The **Contractor** shall provide information about the business, designate a primary contact and say whether it intends to hire for any entry to mid-level job opportunities arising from this **Contract** and located in New York City, and, if so, the approximate start date of the first hire.

35.6.2 Job Posting Requirements.

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

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

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

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

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

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

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

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

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

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

ARTICLE 36. NO DISCRIMINATION

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

ARTICLE 37. LABOR LAW REQUIREMENTS

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

ARTICLE 38. PAYROLL REPORTS

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

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

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

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

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

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

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

ARTICLE 39. DUST HAZARDS

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

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

CHAPTER IX: PARTIAL AND FINAL PAYMENTS

ARTICLE 40. CONTRACT PRICE

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

ARTICLE 41. BID BREAKDOWN ON LUMP SUM

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

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

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

ARTICLE 42. PARTIAL PAYMENTS

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

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

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

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

ARTICLE 43. PROMPT PAYMENT

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

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

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

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

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

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

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

ARTICLE 44. SUBSTANTIAL COMPLETION PAYMENT

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

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

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

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

44.1.2 A **Final Approved Punch List**.

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

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

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

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

ARTICLE 45. FINAL PAYMENT

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

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

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

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

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

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

ARTICLE 46. ACCEPTANCE OF FINAL PAYMENT

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

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

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

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

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

ARTICLE 47. APPROVAL BY PUBLIC DESIGN COMMISSION

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

CHAPTER X: CONTRACTOR'S DEFAULT

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

ARTICLE 49. EXERCISE OF THE RIGHT TO DECLARE DEFAULT

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

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

ARTICLE 50. QUITTING THE SITE

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

ARTICLE 51. COMPLETION OF THE WORK

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

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

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

ARTICLE 52. PARTIAL DEFAULT

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

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

ARTICLE 53. PERFORMANCE OF UNCOMPLETED WORK

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

ARTICLE 54. OTHER REMEDIES

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

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

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

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

CHAPTER XI: MISCELLANEOUS PROVISIONS

ARTICLE 55. CONTRACTOR'S WARRANTIES

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

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

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

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

ARTICLE 56. CLAIMS AND ACTIONS THEREON

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

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

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

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

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

ARTICLE 57. INFRINGEMENT

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

ARTICLE 58. NO CLAIM AGAINST OFFICIALS, AGENTS OR EMPLOYEES

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

ARTICLE 59. SERVICE OF NOTICES

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

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

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

ARTICLE 60. UNLAWFUL PROVISIONS DEEMED STRICKEN FROM CONTRACT

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

ARTICLE 61. ALL LEGAL PROVISIONS DEEMED INCLUDED

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

ARTICLE 62. TAX EXEMPTION

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

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

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

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

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

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

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

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

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

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

ARTICLE 63. INVESTIGATION(S) CLAUSE

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

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

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

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

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

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

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

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

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

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

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

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

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

63.8 Definitions:

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

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

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

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

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

ARTICLE 64. TERMINATION BY THE CITY

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

64.1.1 Stop Work on the date specified in the notice;

64.1.2 Take such action as may be necessary for the protection and preservation of the City's materials and property;

64.1.3 Cancel all cancelable orders for material and equipment;

64.1.4 Assign to the City and deliver to the Site or another location designated by the Commissioner, any non-cancelable orders for material and equipment that is not capable of use except in the performance of this Contract and has been specifically fabricated for the sole purpose of this Contract and not incorporated in the Work;

64.1.5 Take no action which will increase the amounts payable by the City under this 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 contraction of comparable quality, the **Agency** shall refer such bids to the Mayor, the Speaker or other officials, as appropriate, who may determine, in accordance with applicable **Law**, that it is in the best interest of the **City** that the **Contract** be awarded to other than the lowest responsible pursuant to Section 313(b)(2) of the **City Charter**.

69.1.4 In the case of **Contracts** let by other than competitive sealed bidding, if a prospective **Contractor** does not agree to these conditions, no **Agency**, elected official or the **City Council** shall award the **Contract** to that bidder unless the **Agency** seeking to use the goods, services or construction certifies in writing that the **Contract** is necessary for the **Agency** to perform its functions and there is no other responsible **Contractor** who will supply goods, services or construction of comparable quality at a comparable price.

69.2 In accordance with Section 6-115.1 of the Administrative Code, the **Contractor** stipulates that such **Contractor** and any individual or legal entity in which the **Contractor** holds a ten (10%) percent or greater ownership interest in the **Contractor** either:

69.2.1 Have no business operations in Northern Ireland, or

69.2.2 Shall take lawful steps in good faith to conduct any business operations they have in Northern Ireland in accordance with the MacBride Principles, and shall permit independent monitoring of their compliance with such principles.

69.3 For purposes of this Article, the following terms shall have the following meanings:

69.3.1 "MacBride Principles" shall mean those principles relating to nondiscrimination in employment and freedom of work-place opportunity which require employers doing business in Northern Ireland to:

69.3.1(a) increase the representation of individuals from under-represented religious groups in the workforce, including managerial, supervisory, administrative, clerical and technical jobs;

69.3.1(b) take steps to promote adequate security for the protection of employees from under-represented religious groups both at the work-place and while traveling to and from **Work**;

69.3.1(c) ban provocative religious or political emblems from the workplace;

69.3.1(d) publicly advertise all job openings and make special recruitment efforts to attract applicants from under-represented religious groups;

69.3.1(e) establish layoff, recall, and termination procedures which do not in practice favor a particular religious group;

69.3.1(f) abolish all job reservations, apprenticeship restrictions and different employment criteria which discriminate on the basis of religion;

69.3.1(g) develop training programs that will prepare substantial numbers of current employees from under-represented religious groups for skilled jobs, including the expansion of existing programs and the creation of new programs to train, upgrade, and improve the skills of workers from under-represented religious groups;

69.3.1(h) establish procedures to assess, identify, and actively recruit employees from under-represented religious groups with potential for further advancement; and

69.3.1(i) appoint a senior management staff member to oversee affirmative action efforts and develop a timetable to ensure their full implementation.

69.4 The **Contractor** agrees that the covenants and representations in Article 69.2 are material conditions to this **Contract**. In the event the **Agency** receives information that the **Contractor** who made the stipulation required by this Article 69 is in violation thereof, the **Agency** shall review such information and give the **Contractor** an opportunity to respond. If the **Agency** finds that a violation has occurred, the **Agency** shall have the right to declare the **Contractor** in default and/or terminate this **Contract** for cause and procure supplies, services or **Work** from another source in the manner the **Agency** deems proper. In the event of such termination, the **Contractor** shall pay to the **Agency**, or the **Agency** in its sole discretion may withhold from any amounts otherwise payable to the **Contractor**, the difference between the **Contract** price for the uncompleted portion of this **Contract** and the cost to the **Agency** of completing performance of this **Contract** either itself or by engaging another **Contractor** or **Contractors**. In the case of a requirement **Contract**, the **Contractor** shall be liable for such difference in price for the entire amount of supplies required by the **Agency** for the uncompleted term of **Contractor's Contract**. In the case of a construction **Contract**, the **Agency** shall also have the right to hold the **Contractor** in partial or total default in accordance with the default provisions of this **Contract**, and/or may seek debarment or suspension of the **Contractor**. The rights and remedies of the **Agency** hereunder shall be in addition to, and not in lieu of, any rights and remedies the **Agency** has pursuant to this **Contract** or by operation of **Law**.

ARTICLE 70. ELECTRONIC FILING/NYC DEVELOPMENT HUB

70.1 The **Contractor** shall electronically file all alteration type-2 and alteration type-3 applications via the New York City Development Hub Web site, except applications for the following types of minor alterations: enlargements, curb cuts, legalizations, fire alarms, builders pavement plans, and jobs filed on Landmark Preservation Commission calendared properties. All such filings must be professionally certified. Information about electronic filing via the New York City Development Hub is available on the City Department of Buildings Web site at www.nyc.gov/buildings.

ARTICLE 71. PROHIBITION OF TROPICAL HARDWOODS

71.1 Tropical hardwoods, as defined in Section 165 of the New York State Finance Law (Finance Law), shall not be utilized in the performance of this **Contract** except as expressly permitted by Section 165 of the Finance Law.

ARTICLE 72. CONFLICTS OF INTEREST

72.1 Section 2604 of the City Charter and other related provisions of the City Charter, the Administrative Code, and the Penal Law are applicable under the terms of this **Contract** in relation to conflicts of interest and shall be extended to **Subcontractors** authorized to perform **Work**, labor and services pursuant to this **Contract** and further, it shall be the duty and responsibility of the **Contractor** to so inform its respective **Subcontractors**. Notice is hereby given that, under certain circumstances, penalties may be invoked against the donor as well as the recipient of any form of valuable gift.

ARTICLE 73. MERGER CLAUSE

73.1 The written **Contract** herein, contains all the terms and conditions agreed upon by the parties hereto, and no other agreement, oral or otherwise, regarding the subject matter of this **Contract** shall be deemed to exist or to bind any of the parties hereto, or to vary any of the terms contained herein.

ARTICLE 74. STATEMENT OF WORK

74.1 The **Contractor** shall furnish all labor and materials and perform all **Work** in strict accordance with the **Specifications** and **Addenda** thereto, numbered as shown in Schedule A.

ARTICLE 75. COMPENSATION TO BE PAID TO CONTRACTOR

75.1 The **City** will pay and the **Contractor** will accept in full consideration for the performance of the **Contract**, subject to additions and deductions as provided herein, the total sum shown in Schedule A, this said sum being the amount at which the **Contract** was awarded to the **Contractor** at a public letting thereof, based upon the **Contractor's** bid for the **Contract**.

ARTICLE 76. ELECTRONIC FUNDS TRANSFER

76.1 In accordance with Section 6-107.1 of the Administrative Code, the **Contractor** agrees to accept payments under this **Contract** from the **City** by electronic funds transfer (EFT). An EFT is any

transfer of funds, other than a transaction originated by check, draft or similar paper instrument, which is initiated through an electronic terminal, telephonic instrument or computer or magnetic tape so as to order, instruct or authorize a financial institution to debit or credit an account. Prior to the first payment made under this **Contract**, the **Contractor** shall designate one financial institution or other authorized payment agent and shall complete the attached "EFT Vendor Payment Enrollment Form" in order to provide the Commissioner of the City Department of Finance with information necessary for the **Contractor** to receive electronic funds transfer payments through a designated financial institution or authorized payment agent. The crediting of the amount of a payment to the appropriate account on the books of a financial institution or other authorized payment agent designated by the **Contractor** shall constitute full satisfaction by the **City** for the amount of the payment under this **Contract**. The account information supplied by the **Contractor** to facilitate the electronic funds transfer shall remain confidential to the fullest extent provided by Law.

76.2 The **Commissioner** may waive the application of the requirements of this Article 76 to payments on contracts entered into pursuant to Section 315 of the **City Charter**. In addition, the Commissioner of the Department of Finance and the Comptroller may jointly issue standards pursuant to which the **Agency** may waive the requirements of this Article 76 for payments in the following circumstances: (i) for individuals or classes of individuals for whom compliance imposes a hardship; (ii) for classifications or types of checks; or (iii) in other circumstances as may be necessary in the interest of the **City**.

ARTICLE 77. RECORDS RETENTION

77.1 The **Contractor** agrees to retain all books, records, and other documents relevant to this **Contract** for six years after the final payment or termination of this **Contract**, whichever is later. **City**, state, and federal auditors and any other persons duly authorized by the **City** shall have full access to and the right to examine any such books, records, and other documents during the retention period.

ARTICLE 78. EXAMINATION AND VIEWING OF SITE, CONSIDERATION OF OTHER SOURCES OF INFORMATION AND CHANGED SITE CONDITIONS

78.1 Pre-Bidding (Investigation) Viewing of Site – Bidders must carefully view and examine the **Site** of the proposed **Work**, as well as its adjacent area, and seek other usual sources of information, for they will be conclusively presumed to have full knowledge of any and all conditions and hazards on, about or above the **Site** relating to or affecting in any way the performance of the **Work** to be done under the **Contract** that were or should have been known by a reasonably prudent bidder. To arrange a date for visiting the **Site**, bidders are to contact the **Agency** contact person specified in the bid documents.

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

**ARTICLE 79. PARTICIPATION BY MINORITY-OWNED AND WOMEN-OWNED
BUSINESS ENTERPRISES IN CITY PROCUREMENT**

NOTICE TO ALL PROSPECTIVE CONTRACTORS

ARTICLE I. M/WBE PROGRAM

Local Law No. 129 of 2005 added and Local Law 1 of 2013 amended Section 6-129 of the Administrative Code of the City of New York (hereinafter "Section 6-129"). Section 6-129 establishes the program for participation in City procurement ("M/WBE Program") by minority-owned business enterprises ("MBEs") and women-owned business enterprises ("WBEs"), certified in accordance with Section 1304 of the New York City Charter. As stated in Section 6-129, the intent of the program is to address the impact of discrimination on the City's procurement process, and to promote the public interest in avoiding fraud and favoritism in the procurement process, increasing competition for City business, and lowering contract costs. The contract provisions contained herein are pursuant to Section 6-129, and the rules of the Department of Small Business Services ("DSBS") promulgated thereunder.

If this Contract is subject to the M/WBE Program established by Section 6-129, the specific requirements of MBE and/or WBE participation for this Contract are set forth in Schedule B of the Contract (entitled the "M/WBE Utilization Plan"), and are detailed below. The Contractor must comply with all applicable MBE and WBE requirements for this Contract.

All provisions of Section 6-129 are hereby incorporated in the Contract by reference and all terms used herein that are not defined herein shall have the meanings given such terms in Section 6-129. Article I, Part A, below, sets forth provisions related to the participation goals for construction, standard and professional services contracts. Article I, Part B, below, sets forth miscellaneous provisions related to the M/WBE Program.

PART A

**PARTICIPATION GOALS FOR CONSTRUCTION, STANDARD
AND PROFESSIONAL SERVICES CONTRACTS OR TASK ORDERS**

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

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

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

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

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

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

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

(ii) **Participation Goals** on a Master Services Agreement will be established for individual Task Orders issued after the Master Services Agreement is awarded. If **Participation Goals** have been established on a Task Order, a contractor shall be required to submit a Schedule B – M/WBE Utilization Plan For Independently Registered Task Orders That Are Issued Pursuant to Master Services Agreements, Part II (see Pages 2-4) indicating: (a) whether the contractor is an MBE or WBE, or qualified joint venture; (b) the percentage of work it intends to award to direct subcontractors; and (c) in cases where the contractor intends to award direct subcontracts, a description of the type and dollar value of work designated for participation by MBEs and/or WBEs, and the time frames in which such work is scheduled to begin and end. The contractor must engage in good faith efforts to meet the **Participation Goals** as established for the Task Order unless Agency has granted the contractor a pre-award waiver of the Participation Goals in accordance with Section 6-129 and Part A, Section 10 below.

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

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

6. MBE and WBE firms must be certified by DSBS in order for the Contractor to credit such firms' participation toward the attainment of the **Participation Goals**. Such certification must occur prior to the

firms' commencement of work. A list of MBE and WBE firms may be obtained from the DSBS website at www.nyc.gov/buycertified, by emailing DSBS at buyer@sbs.nyc.gov, by calling (212) 513-6356, or by visiting or writing DSBS at 110 William St., New York, New York, 10038, 7th floor. Eligible firms that have not yet been certified may contact DSBS in order to seek certification by visiting www.nyc.gov/getcertified, emailing MWBE@sbs.nyc.gov, or calling the DSBS certification helpline at (212) 513-6311. A firm that is certified as both an MBE and a WBE may be counted either toward the goal for MBEs or the goal for WBEs, but not both. No credit shall be given for participation by a graduate MBE or graduate WBE, as defined in Section 6-129(c)(20).

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

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

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

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

(b) To apply for a full or partial waiver of the **Participation Goals**, a bidder, proposer, or contractor, as applicable, must complete Part III (Page 5) of Schedule B and submit such request no later than seven (7) calendar days prior to the date and time the bids, proposals, or Task Orders are due, in writing to the Agency by email at poped@ddc.nyc.gov or via facsimile at (718) 391-1886. Bidders, proposers, or contractors, as applicable, who have submitted requests will receive an Agency response by no later than two (2) calendar days prior to the due date for bids, proposals, or Task Orders; provided, however, that if that date would fall on a weekend or holiday, an Agency response will be provided by close-of-business on the business day before such weekend or holiday date.

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

(d) Agency may grant a full or partial waiver of the **Participation Goals** to a bidder, proposer or contractor, as applicable, who demonstrates—before submission of the bid, proposal or Task Order, as applicable—that it has legitimate business reasons for proposing the level of subcontracting in its **M/WBE Utilization Plan**. In making its determination, Agency shall consider factors that shall include, but not be limited to, whether the bidder, proposer or contractor, as applicable, has the capacity and the bona fide intention to perform the Contract without any subcontracting, or to perform the Contract without awarding the amount of subcontracts represented by the **Participation Goals**. In making such determination, Agency may consider whether the **M/WBE Utilization Plan** is consistent with past subcontracting practices of the bidder, proposer or contractor, as applicable, whether the bidder, proposer or contractor, as applicable, has made efforts to form a joint venture with a certified firm, and whether the bidder, proposer, or contractor, as applicable, has made good faith efforts to identify other portions of the Contract that it intends to subcontract.

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

- (i) The Contractor advertised opportunities to participate in the Contract, where appropriate, in general circulation media, trade and professional association publications and small business media, and publications of minority and women's business organizations;
- (ii) The Contractor provided notice of specific opportunities to participate in the Contract, in a timely manner, to minority and women's business organizations;
- (iii) The Contractor sent written notices, by certified mail or facsimile, in a timely manner, to advise MBEs or WBEs that their interest in the Contract was solicited;
- (iv) The Contractor made efforts to identify portions of the work that could be substituted for portions originally designated for participation by MBEs and/or WBEs in the **M/WBE Utilization Plan**, and for which the Contractor claims an inability to retain MBEs or WBEs;
- (v) The Contractor held meetings with MBEs and/or WBEs prior to the date their bids or proposals were due, for the purpose of explaining in detail the scope and requirements of the work for which their bids or proposals were solicited;
- (vi) The Contractor made efforts to negotiate with MBEs and/or WBEs as relevant to perform specific subcontracts, or act as suppliers or service providers;
- (vii) Timely written requests for assistance made by the Contractor to Agency's **M/WBE liaison officer** and to DSBS;
- (viii) Description of how recommendations made by DSBS and Agency were acted upon and an explanation of why action upon such recommendations did not lead to the desired level of participation of MBEs and/or WBEs.

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

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

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

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

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

PART B: MISCELLANEOUS

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

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

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

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

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

ARTICLE II. ENFORCEMENT

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

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

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

- (a) entering into an agreement with the Contractor allowing the Contractor to cure the violation;
- (b) revoking the Contractor's pre-qualification to bid or make proposals for future contracts;
- (c) making a finding that the Contractor is in default of the Contract;
- (d) terminating the Contract;
- (e) declaring the Contractor to be in breach of Contract;
- (f) withholding payment or reimbursement;
- (g) determining not to renew the Contract;
- (h) assessing actual and consequential damages;
- (i) assessing liquidated damages or reducing fees, provided that liquidated damages may be based on amounts representing costs of delays in carrying out the purposes of the M/WBE Program, or in meeting the purposes of the Contract, the costs of meeting utilization goals through additional procurements, the administrative costs of investigation and enforcement, or other factors set forth in the Contract;
- (j) exercising rights under the Contract to procure goods, services or construction from another contractor and charge the cost of such contract to the Contractor that has been found to be in noncompliance; or
- (k) taking any other appropriate remedy.

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

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

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

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

IN WITNESS WHEREOF, the ^{Deputy} 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: 
Deputy Commissioner

CONTRACTOR: JR CRUZ CORP.

By: 
(Member of Firm or Officer of Corporation)

Title: VICE PRESIDENT / SECRETARY

(Where Contractor is a Corporation, add):
Attest:


Secretary

(Seal)

ACKNOWLEDGEMENT OF PRINCIPAL, IF A CORPORATION

State of New York County of Queens ss:

On this 15TH day of Dec, 2017, before me personally came MATTHEW CRUZ to me known who, being by me duly sworn did depose and say that he resides at 74 HICKORY LANE LINDROFT NJ, 07738 that he is the VICE PRESIDENT/SECRETARY 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.

ANTHONY M. APITALI
Notary Public, State of New York
No. 43-4748045
Qualified in Richmond County
Commission Expires December 31, 2017

Anthony M. Apitali
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:

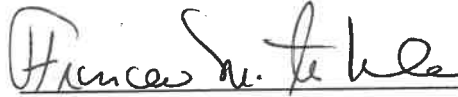
On this _____ day of _____, _____, before me personally appeared _____ to me known, and known to me to be the person described in and who executed the foregoing instrument; and acknowledged that he executed the same.

Notary Public or Commissioner of Deeds

ACKNOWLEDGEMENT BY COMMISSIONER

State of New York County of Queens ss:

On this 15th day of DEC, 2017 before me personally came Eric MacFaulane 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

FRANCIS M. DELUCA
Notary Public, State of New York
No. 43-4748045
Qualified in Richmond County
Commission Expires December 31, 2017

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

Twenty-seven million, eight hundred ninety-three thousand, four hundred twenty-eight dollars and forty-two cents.

Dollars (\$ 27,893,428.42)

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.


Deputy Commissioner

COMPTROLLER'S CERTIFICATE

The City of New York _____

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

\$ _____

Comptroller

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

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

PERFORMANCE BOND #1 (Page 1)

PERFORMANCE BOND #1

KNOW ALL PERSONS BY THESE PRESENTS;

That we, _____

hereinafter referred to as the “Principal,”
and, _____

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

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

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

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

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

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

PERFORMANCE BOND #1 (Page 2)

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

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

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

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

PERFORMANCE BOND #1 (Page 3)

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

_____ day of _____, 20____.
 (Seal)

 Principal (L.S.)

By: _____
 (Seal) Surety

By: _____
 Surety

(Seal) By: _____
 Surety

By: _____
 Surety

(Seal) By: _____
 Surety

By: _____
 Surety

(Seal) By: _____
 Surety

By: _____
 Surety

(Seal) By: _____
 Surety

Bond Premium Rate _____

Bond Premium Cost _____

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

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

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

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

PERFORMANCE BOND #1 (Page 4)

ACKNOWLEDGMENT OF PRINCIPAL IF A CORPORATION

State of _____ County of _____ ss:

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

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

Notary Public or Commissioner of Deeds.

ACKNOWLEDGMENT OF PRINCIPAL IF A PARTNERSHIP

State of _____ County of _____ ss:

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

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

Notary Public or Commissioner of Deeds.

ACKNOWLEDGMENT OF PRINCIPAL IF AN INDIVIDUAL

State of _____ County of _____ ss:

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

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

Notary Public or Commissioner of Deeds

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

Affix Acknowledgments and Justification of Sureties.

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

Bond No. 015200832

PERFORMANCE BOND #2 (Page 1)

PERFORMANCE BOND #2

KNOW ALL PERSONS BY THESE PRESENTS:

That we, _____

JRCruz Corp.

675 Line Road, Aberdeen, NJ 07747

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

Liberty Mutual Insurance Company

1200 MacArthur Blvd., Mahwah, NJ 07430

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 _____

Twenty Seven Million Eight Hundred Ninety Three Thousand Four Hundred Twenty Eight Dollars and 42/100

(\$ 27,893,428.42) 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

FMS ID: SER200226, E-Pin: 85017B0101001, DDC Pin: 8502017SE0021C, Construction of Storm and Sanitary Sewers

in Glen Street, Borough of Staten Island

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

_____ 13th _____ day of _____ December _____ 20 17 _____

(Seal) _____
JRCruz Corp. _____ (L.S.)
Principal

(Seal) By: Matthew J. Cruz
Matthew J. Cruz, Vice President/Secretary
Surety
Liberty Mutual Insurance Company

(Seal) By: Lisa Nosal
Lisa Nosal, Atty-In-Fact (P: 973-890-0900 F: 973-890-9038)
Surety

(Seal) By: _____
Surety

(Seal) By: _____
Surety

(Seal) By: _____
Surety

(Seal) By: _____
Surety

Bond Premium Rate _____

Bond Premium Cost _____

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

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

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

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

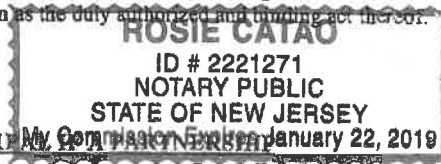
PERFORMANCE BOND #2 (Page 4)

ACKNOWLEDGMENT OF PRINCIPAL IF A CORPORATION

State of New Jersey County of Monmouth ss:

On this 13th day of December, 2017 before me personally
came Matthew J. Cruz,
to me known, who, being by me duly sworn did depose and say that he resides
at 74 Hickory Lane, Lincroft, NJ 07738; that he/she is the Vice President/Secretary
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.


Notary Public or Commissioner of Deeds.



ACKNOWLEDGMENT OF PRINCIPAL IF A PARTNERSHIP

State of _____ County of _____ ss:

On this _____ day of _____, 20____ before me personally
came _____,
to me known, who, being by me duly sworn did depose and say that he/she resides
at _____,
_____ that he/she is _____ partner of
_____, a limited/general partnership existing under the laws of the State of
_____, the partnership described in and which executed the foregoing instrument;
and that he/she signed his/her name to the foregoing instrument as the duly authorized and binding act of
said partnership.

Notary Public or Commissioner of Deeds

ACKNOWLEDGMENT OF PRINCIPAL IF AN INDIVIDUAL

State of _____ County of _____ ss:

On this _____ day of _____, 20____ before me personally
came _____,
to me known, who, being by me duly sworn did depose and say that he/she resides
at _____,
_____ and that he/she is the individual whose name is
subscribed to the within instrument and acknowledged to me that by his/her signature on the
instrument, said individual executed the instrument.

Notary Public or Commissioner of Deeds

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

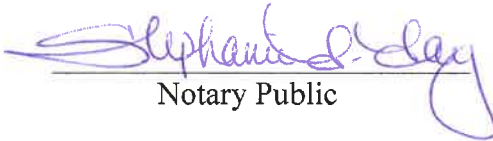
Affix Acknowledgments and Justification of Sureties.

ACKNOWLEDGEMENT OF SURETY

State of New Jersey]
 |-ss
County of Passaic]

On 12/13/2017, before me personally came Lisa Nosal to me known, who, being by me duly sworn, did depose and say that she is an attorney-in-fact of Liberty Mutual Insurance Company the corporation described in and which executed the within instrument; that she knows the corporate seal of said corporation, and that the seal affixed to the within instrument is such corporate seal, and that she signed the said instrument and affixed the said seal as Attorney-in-Fact by authority of the Board of Directors of said corporation and by authority of this office under the Standing Resolutions thereof.

My Commission expires:


Notary Public



THIS POWER OF ATTORNEY IS NOT VALID UNLESS IT IS PRINTED ON RED BACKGROUND.

This Power of Attorney limits the acts of those named herein, and they have no authority to bind the Company except in the manner and to the extent herein stated.

Certificate No. 7937391

Liberty Mutual Insurance Company
The Ohio Casualty Insurance Company West American Insurance Company

POWER OF ATTORNEY

KNOWN ALL PERSONS BY THESE PRESENTS: That The Ohio Casualty Insurance Company is a corporation duly organized under the laws of the State of New Hampshire, that Liberty Mutual Insurance Company is a corporation duly organized under the laws of the State of Massachusetts, and West American Insurance Company is a corporation duly organized under the laws of the State of Indiana (herein collectively called the "Companies"), pursuant to and by authority herein set forth, does hereby name, constitute and appoint, Lisa Nosal; Pamela J. Boyle; Robert E. Culnen; Joseph W. Mallory; Louis A. Vlahakes

all of the city of Totowa state of NJ each individually if there be more than one named, its true and lawful attorney-in-fact to make, execute, seal, acknowledge and deliver, for and on its behalf as surety and as its act and deed, any and all undertakings, bonds, recognizances and other surety obligations, in pursuance of these presents and shall be as binding upon the Companies as if they have been duly signed by the president and attested by the secretary of the Companies in their own proper persons.

IN WITNESS WHEREOF, this Power of Attorney has been subscribed by an authorized officer or official of the Companies and the corporate seals of the Companies have been affixed thereto this 13th day of November, 2017.



The Ohio Casualty Insurance Company
Liberty Mutual Insurance Company
West American Insurance Company

By: David M. Carey
David M. Carey, Assistant Secretary

STATE OF PENNSYLVANIA ss
COUNTY OF MONTGOMERY

On this 13th day of November, 2017, before me personally appeared David M. Carey, who acknowledged himself to be the Assistant Secretary of Liberty Mutual Insurance Company, The Ohio Casualty Company, and West American Insurance Company, and that he, as such, being authorized so to do, execute the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

IN WITNESS WHEREOF, I have hereunto subscribed my name and affixed my notarial seal at King of Prussia, Pennsylvania, on the day and year first above written.



COMMONWEALTH OF PENNSYLVANIA
Notarial Seal
Teresa Pastella, Notary Public
Upper Merion Twp., Montgomery County
My Commission Expires March 28, 2021
Member, Pennsylvania Association of Notaries

By: Teresa Pastella
Teresa Pastella, Notary Public

This Power of Attorney is made and executed pursuant to and by authority of the following By-laws and Authorizations of The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company which resolutions are now in full force and effect reading as follows:

ARTICLE IV – OFFICERS – Section 12. Power of Attorney. Any officer or other official of the Corporation authorized for that purpose in writing by the Chairman or the President, and subject to such limitation as the Chairman or the President may prescribe shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Corporation to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact, subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Corporation by their signature and execution of any such instruments and to attach thereto the seal of the Corporation. When so executed such instruments shall be as binding as if signed by the President and attested to by the Secretary. Any power or authority granted to any representative or attorney-in-fact under the provisions of this article may be revoked at any time by the Board, the Chairman, the President or by the officer or officers granting such power or authority.

ARTICLE XIII – Execution of Contracts – SECTION 5. Surety Bonds and Undertakings. Any officer of the Company authorized for that purpose in writing by the chairman or the president, and subject to such limitations as the chairman or the president may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Company by their signature and execution of any such instruments and to attach thereto the seal of the Company. When so executed such instruments shall be as binding as if signed by the president and attested by the secretary.

Certificate of Designation – The President of the Company, acting pursuant to the Bylaws of the Company, authorizes David M. Carey, Assistant Secretary to appoint such attorneys-in-fact as may be necessary to act on behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations.

Authorization – By unanimous consent of the Company's Board of Directors, the Company consents that facsimile or mechanically reproduced signature of any assistant secretary of the Company, wherever appearing upon a certified copy of any power of attorney issued by the Company in connection with surety bonds, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

I, Renee C. Llewellyn, the undersigned, Assistant Secretary, The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company do hereby certify that the original power of attorney of which the foregoing is a full, true and correct copy of the Power of Attorney executed by said Companies, is in full force and effect and has not been revoked.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seals of said Companies this 13th day of December, 2017.



By: Renee C. Llewellyn
Renee C. Llewellyn, Assistant Secretary

Not valid for mortgage, note, loan, letter of credit, currency rate, interest rate or residual value guarantees.

To confirm the validity of this Power of Attorney call 1-610-832-8240 between 9:00 am and 4:30 pm EST on any business day.



LIBERTY MUTUAL INSURANCE COMPANY
FINANCIAL STATEMENT — DECEMBER 31, 2016

| Assets | Liabilities |
|--|--|
| Cash and Bank Deposits | Unearned Premiums |
| \$1,092,914,837 | \$6,929,723,299 |
| *Bonds — U.S Government | Reserve for Claims and Claims Expense |
| 1,406,763,970 | 17,233,877,300 |
| *Other Bonds | Funds Held Under Reinsurance Treaties |
| 11,379,916,523 | 208,362,823 |
| *Stocks | Reserve for Dividends to Policyholders |
| 10,349,761,988 | 944,909 |
| Real Estate | Additional Statutory Reserve |
| 290,265,760 | 39,649,905 |
| Agents' Balances or Uncollected Premiums | Reserve for Commissions, Taxes and |
| 4,709,977,463 | Other Liabilities |
| Accrued Interest and Rents | 3,061,117,958 |
| 112,757,395 | Total |
| Other Admitted Assets | \$27,473,676,194 |
| <u>14,659,523,751</u> | Special Surplus Funds |
| Total Admitted Assets | \$95,257,334 |
| <u>\$44,001,881,687</u> | Capital Stock |
| | 10,000,000 |
| | Paid in Surplus |
| | 9,229,250,104 |
| | Unassigned Surplus |
| | 7,193,698,055 |
| | Surplus to Policyholders |
| | <u>16,528,205,493</u> |
| | Total Liabilities and Surplus |
| | <u>\$44,001,881,687</u> |



* Bonds are stated at amortized or investment value; Stocks at Association Market Values.
The foregoing financial information is taken from Liberty Mutual Insurance Company's financial statement filed with the state of Massachusetts Department of Insurance.

I, TIM MIKOLAJEWSKI, Assistant Secretary of Liberty Mutual Insurance Company, do hereby certify that the foregoing is a true, and correct statement of the Assets and Liabilities of said Corporation, as of December 31, 2016, to the best of my knowledge and belief.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the seal of said Corporation at Seattle, Washington, this 23rd day of March, 2017.

T. Mikolajewski

Assistant Secretary

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

Bond No. 015200832

PAYMENT BOND (Page 1)

PAYMENT BOND

KNOW ALL PERSONS BY THESE PRESENTS, That we, _____

JRCruz Corp.

675 Line Road, Aberdeen, NJ 07747

hereinafter referred to as the "Principal", and _____

Liberty Mutual Insurance Company

1200 MacArthur Blvd., Mahwah, NJ 07430

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

Twenty Seven Million Eight Hundred Ninety Three Thousand Four Hundred Twenty Eight Dollars and 42/100

(\$ 27,893,428.42) 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

FMS ID: SER200226, E-Pin: 85017B0101001, DDC Pin: 8502017SE0021C, Construction of Storm and Sanitary Sewers

in Glen Street, Borough of Staten Island

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 13th day of December, 2017.

(Seal) _____ JRCruz Corp. (L.S.)
Principal
By: Matthew J. Cruz
Matthew J. Cruz, Vice President/Secretary
Liberty Mutual Insurance Company
(Seal) _____
Surety
By: Lisa Nosal
Lisa Nosal, Atty-In-Fact (P: 973-890-0900 F: 973-890-9038)

(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.

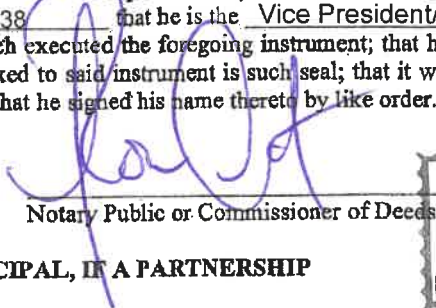
Payment Bond (Pages 108 to 111): Use for any contract for which a Payment Bond is required.

PAYMENT BOND (Page 4)

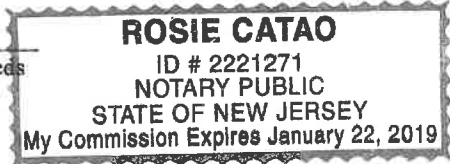
ACKNOWLEDGMENT OF PRINCIPAL, IF A CORPORATION

State of New Jersey County of Monmouth ss:

On this 13th day of December, 2017, before me personally came Matthew J. Cruz to me known, who, being by me duly sworn did depose and say that he resides at 74 Hickory Lane, Lincroft, NJ 07738 that he is the Vice President/Secretary 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.



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.

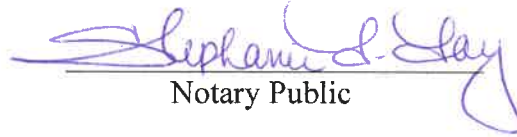
Affix Acknowledgments and Justification of Sureties.

ACKNOWLEDGEMENT OF SURETY

State of New Jersey]
]-ss
County of Passaic]

On 12/13/2017, before me personally came Lisa Nosal to me known, who, being by me duly sworn, did depose and say that she is an attorney-in-fact of Liberty Mutual Insurance Company the corporation described in and which executed the within instrument; that she knows the corporate seal of said corporation, and that the seal affixed to the within instrument is such corporate seal, and that she signed the said instrument and affixed the said seal as Attorney-in-Fact by authority of the Board of Directors of said corporation and by authority of this office under the Standing Resolutions thereof.

My Commission expires:


Notary Public

STEPHANIE F. FOY
NOTARY PUBLIC
STATE OF NEW JERSEY
MY COMMISSION EXPIRES OCTOBER 27, 2018

THIS POWER OF ATTORNEY IS NOT VALID UNLESS IT IS PRINTED ON RED BACKGROUND.

This Power of Attorney limits the acts of those named herein, and they have no authority to bind the Company except in the manner and to the extent herein stated.

Certificate No. 7937392

Liberty Mutual Insurance Company
The Ohio Casualty Insurance Company West American Insurance Company

POWER OF ATTORNEY

KNOWN ALL PERSONS BY THESE PRESENTS: That The Ohio Casualty Insurance Company is a corporation duly organized under the laws of the State of New Hampshire, that Liberty Mutual Insurance Company is a corporation duly organized under the laws of the State of Massachusetts, and West American Insurance Company is a corporation duly organized under the laws of the State of Indiana (herein collectively called the "Companies"), pursuant to and by authority herein set forth, does hereby name, constitute and appoint. Lisa Nosal; Pamela J. Boyle; Robert E. Culnen; Joseph W. Mallory; Louis A. Vlahakes

all of the city of Totowa, state of NJ each individually if there be more than one named, its true and lawful attorney-in-fact to make, execute, seal, acknowledge and deliver, for and on its behalf as surety and as its act and deed, any and all undertakings, bonds, recognizances and other surety obligations, in pursuance of these presents and shall be as binding upon the Companies as if they have been duly signed by the president and attested by the secretary of the Companies in their own proper persons.

IN WITNESS WHEREOF, this Power of Attorney has been subscribed by an authorized officer or official of the Companies and the corporate seals of the Companies have been affixed thereto this 13th day of November, 2017.



The Ohio Casualty Insurance Company
Liberty Mutual Insurance Company
West American Insurance Company

By: David M. Carey
David M. Carey, Assistant Secretary

STATE OF PENNSYLVANIA ss
COUNTY OF MONTGOMERY

On this 13th day of November, 2017, before me personally appeared David M. Carey, who acknowledged himself to be the Assistant Secretary of Liberty Mutual Insurance Company, The Ohio Casualty Company, and West American Insurance Company, and that he, as such, being authorized so to do, execute the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

IN WITNESS WHEREOF, I have hereunto subscribed my name and affixed my notarial seal at King of Prussia, Pennsylvania, on the day and year first above written.



COMMONWEALTH OF PENNSYLVANIA
Notarial Seal
Teresa Pastella, Notary Public
Upper Merion Two., Montgomery County
My Commission Expires March 28, 2021
Member, Pennsylvania Association of Notaries

By: Teresa Pastella
Teresa Pastella, Notary Public

This Power of Attorney is made and executed pursuant to and by authority of the following By-laws and Authorizations of The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company which resolutions are now in full force and effect reading as follows.

ARTICLE IV – OFFICERS – Section 12. Power of Attorney. Any officer or other official of the Corporation authorized for that purpose in writing by the Chairman or the President, and subject to such limitation as the Chairman or the President may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Corporation to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact, subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Corporation by their signature and execution of any such instruments and to attach thereto the seal of the Corporation. When so executed such instruments shall be as binding as if signed by the President and attested to by the Secretary. Any power or authority granted to any representative or attorney-in-fact under the provisions of this article may be revoked at any time by the Board, the Chairman, the President or by the officer or officers granting such power or authority.

ARTICLE XIII – Execution of Contracts – SECTION 5. Surety Bonds and Undertakings. Any officer of the Company authorized for that purpose in writing by the chairman or the president, and subject to such limitations as the chairman or the president may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Company by their signature and execution of any such instruments and to attach thereto the seal of the Company. When so executed such instruments shall be as binding as if signed by the president and attested by the secretary.

Certificate of Designation – The President of the Company, acting pursuant to the Bylaws of the Company, authorizes David M. Carey, Assistant Secretary to appoint such attorneys-in-fact as may be necessary to act on behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations.

Authorization – By unanimous consent of the Company's Board of Directors, the Company consents that facsimile or mechanically reproduced signature of any assistant secretary of the Company, wherever appearing upon a certified copy of any power of attorney issued by the Company in connection with surety bonds, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

I, Renee C. Llewellyn, the undersigned, Assistant Secretary, The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company do hereby certify that the original power of attorney of which the foregoing is a full, true and correct copy of the Power of Attorney executed by said Companies, is in full force and effect and has not been revoked.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seals of said Companies this 13th day of December, 2017.



By: Renee C. Llewellyn
Renee C. Llewellyn, Assistant Secretary

Not valid for mortgage, note, loan, letter of credit, currency rate, interest rate or residual value guarantees.

To confirm the validity of this Power of Attorney call 1-610-832-8240 between 9:00 am and 4:30 pm EST on any business day.



LIBERTY MUTUAL INSURANCE COMPANY
FINANCIAL STATEMENT — DECEMBER 31, 2016

| Assets | Liabilities |
|---|---|
| Cash and Bank Deposits..... \$1,092,914,837 | Unearned Premiums..... \$6,929,723,299 |
| * Bonds — U.S Government..... 1,406,763,970 | Reserve for Claims and Claims Expense 17,233,877,300 |
| * Other Bonds..... 11,379,916,523 | Funds Held Under Reinsurance Treaties..... 208,362,823 |
| * Stocks 10,349,761,988 | Reserve for Dividends to Policyholders..... 944,909 |
| Real Estate..... 290,265,760 | Additional Statutory Reserve..... 39,649,905 |
| Agents' Balances or Uncollected Premiums..... 4,709,977,463 | Reserve for Commissions, Taxes and |
| Accrued Interest and Rents..... 112,757,395 | Other Liabilities <u>3,061,117,958</u> |
| Other Admitted Assets..... <u>14,659,523,751</u> | Total..... \$27,473,676,194 |
| Total Admitted Assets..... <u>\$44,001,881,687</u> | Special Surplus Funds..... \$95,257,334 |
| | Capital Stock..... 10,000,000 |
| | Paid in Surplus..... 9,229,250,104 |
| | Unassigned Surplus..... 7,193,698,055 |
| | Surplus to Policyholders..... <u>16,528,205,493</u> |
| | Total Liabilities and Surplus..... <u>\$44,001,881,687</u> |



* Bonds are stated at amortized or investment value; Stocks at Association Market Values.
The foregoing financial information is taken from Liberty Mutual Insurance Company's financial statement filed with the state of Massachusetts Department of Insurance.

I, TIM MIKOLAJEWSKI, Assistant Secretary of Liberty Mutual Insurance Company, do hereby certify that the foregoing is a true, and correct statement of the Assets and Liabilities of said Corporation, as of December 31, 2016, to the best of my knowledge and belief.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the seal of said Corporation at Seattle, Washington, this 23rd day of March, 2017.

T. Mikolajewski

Assistant Secretary



CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)
12/12/2017

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 be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

| | | |
|---|---|-------------------------------------|
| PRODUCER TransAmerican Associates Inc. 651 Old Mount Pleasant Avenue Suite 255 Livingston NJ 07039 | CONTACT NAME: John D Rocco PHONE (A/C, No, Ext): (973)251-2646 E-MAIL ADDRESS: jrocco@taains.com | FAX (A/C, No): (973)251-2651 |
| | INSURER(S) AFFORDING COVERAGE | |
| INSURED JRCRUZ Corp. 675 Line Road Aberdeen NJ 07747 | INSURER A: Starr Indemnity & Liability Company | NAIC # 38318 |
| | INSURER B: United States Fire Insurance | NAIC # 21113 |
| | INSURER C: State Insurance Fund of New York | NAIC # 36102 |
| | INSURER D: Endurance American Insurance Co | NAIC # 10641 |
| | INSURER E: Aspen American Insurance Company | NAIC # 43460 |
| | INSURER F: Columbia Casualty Company | NAIC # 31127 |

COVERAGES **CERTIFICATE NUMBER:** CL1791308384 **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

| INSR LTR | TYPE OF INSURANCE | ADDL INSD | SUBR WVD | POLICY NUMBER | POLICY EFF (MM/DD/YYYY) | POLICY EXP (MM/DD/YYYY) | LIMITS |
|----------|--|-----------|----------|---------------------------------|-------------------------|-------------------------|--|
| A | <input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: <input checked="" type="checkbox"/> POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC OTHER: | X | | 1000090014171 | 6/30/2017 | 7/1/2018 | EACH OCCURRENCE \$ 1,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 50,000 MED EXP (Any one person) \$ 5,000 PERSONAL & ADV INJURY \$ 1,000,000 GENERAL AGGREGATE \$ 10,000,000 PRODUCTS - COMP/OP AGG \$ 2,000,000 |
| B | <input checked="" type="checkbox"/> AUTOMOBILE LIABILITY <input type="checkbox"/> ANY AUTO <input type="checkbox"/> ALL OWNED AUTOS <input type="checkbox"/> HIRED AUTOS <input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> NON-OWNED AUTOS | X | | 1337414031 | 6/30/2017 | 7/1/2018 | COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ |
| A D | <input checked="" type="checkbox"/> UMBRELLA LIAB <input type="checkbox"/> EXCESS LIAB <input checked="" type="checkbox"/> RETENTION \$ 10,000 | | | 1000095007171 EXC10007347502 | 6/30/2017 6/30/2017 | 7/1/2018 7/1/2018 | EACH OCCURRENCE \$ 10,000,000 AGGREGATE \$ 10,000,000 |
| C | WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below | | N/A | G 13237946 | 4/1/2017 | 4/1/2018 | <input checked="" type="checkbox"/> PER STATUTE <input type="checkbox"/> OTH-ER E.L. EACH ACCIDENT \$ E.L. DISEASE - EA EMPLOYEE \$ E.L. DISEASE - POLICY LIMIT \$ |
| E | CONTRACTOR'S EQUIPMENT | | | IMZ267017 | 6/30/2017 | 7/1/2018 | PER RENTAL ITEM 1,000,000 |
| F | PROFESSIONAL LIABILITY | | | CE0591863631 | 9/18/2017 | 9/18/2018 | LIMIT PER OCC & AGG 1,000,000 |

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
PROJECT: SER200226 - CONSTRUCTION OF STORM, SANITARY SEWERS IN GLEN STREET ETC., - BOROUGH OF STATEN ISLAND. DDC PIN: 8502017SE0021C. CITY OF NEW YORK, INCLUDING ITS OFFICIALS AND EMPLOYEES WITH COVERAGE AT LEAST AS BROAD AS ISO FORM CG2010 AND CG2037. ALL PERSON(S) OR ORGANIZATION(S), IF ANY, THAT ARTICLE 22.1 (B) OF THE CONTRACT REQUIRES TO BE NAMED ADDITIONAL INSURED(S) WITH COVERAGE AT LEAST AS BROAD AS ISO FORM CG2026. THE ADDITIONAL INSURED ENDORSEMENT SHALL EITHER SPECIFY THE ENTITY'S NAME, IF KNOWN, OR THE ENTITY'S TITLE. (E.G., PROJECT MANAGER) NATIONAL GRID.
AND ALL OTHER INDEMNIFIED PARTIES ARE ADDITIONAL INSUREDS UNDER ALL POLICIES SHOWN ABOVE OTHER THAN

| | |
|---|--|
| CERTIFICATE HOLDER CITY OF NEW YORK DEPARTMENT OF DESIGN AND CONSTRUCTION 3030 THOMSON AVE 4TH FLOOR (IDCNY BUILDING) LONG ISLAND CITY, NY 11101 | CANCELLATION SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE John D Rocco/LISAS |
|---|--|

COMMENTS/REMARKS

WORKERS COMPENSATION.



CERTIFICATE OF PROPERTY INSURANCE

DATE (MM/DD/YYYY)

12/12/2017

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.

If this certificate is being prepared for a party who has an insurable interest in the property, do not use this form. Use ACORD 27 or ACORD 28.

| | | |
|---|--|-------------------------------------|
| PRODUCER TransAmerican Associates Inc. 651 Old Mount Pleasant Avenue Suite 255 Livingston NJ 07039 | CONTACT NAME: John D Rocco PHONE (A/C. No. Ext): (973)251-2646 E-MAIL ADDRESS: jrocco@taains.com PRODUCER CUSTOMER ID: 00000070 | FAX (A/C. No): (973)251-2651 |
| | INSURER(S) AFFORDING COVERAGE | |
| INSURED JRCRUZ Corp. 675 Line Road Aberdeen NJ 07747 | INSURER A: Aspen American Insurance Company NAIC # 43460 | |
| | INSURER B: | |
| | INSURER C: | |
| | INSURER D: | |
| | INSURER E: | |
| | INSURER F: | |

COVERAGES

CERTIFICATE NUMBER: CP1762300513

REVISION NUMBER:

LOCATION OF PREMISES / DESCRIPTION OF PROPERTY (Attach ACORD 101, Additional Remarks Schedule, if more space is required)

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 | POLICY NUMBER | POLICY EFFECTIVE DATE (MM/DD/YYYY) | POLICY EXPIRATION DATE (MM/DD/YYYY) | COVERED PROPERTY | LIMITS | |
|----------|---|--|------------------------------------|-------------------------------------|------------------|---|------------|
| A | <input checked="" type="checkbox"/> PROPERTY | ENGINEER'S FIELD OFFICE IMZ267017 | 6/30/2017 | 7/1/2018 | BUILDING | \$ | |
| | CAUSES OF LOSS | | | | DEDUCTIBLES | PERSONAL PROPERTY | \$ |
| | BASIC | | | | BUILDING | BUSINESS INCOME | \$ |
| | BROAD | | | | CONTENTS | EXTRA EXPENSE | \$ |
| | <input checked="" type="checkbox"/> SPECIAL | | | | | RENTAL VALUE | \$ |
| | EARTHQUAKE | | | | | BLANKET BUILDING | \$ |
| | WIND | | | | | <input checked="" type="checkbox"/> BLANKET PERS PROP | \$ 500,000 |
| | FLOOD | | | | | BLANKET BLDG & PP | \$ |
| | | | | | | | \$ |
| | | | | | | | \$ |
| | INLAND MARINE | TYPE OF POLICY | | | \$ | | |
| | CAUSES OF LOSS | | | | \$ | | |
| | NAMED PERILS | POLICY NUMBER | | | \$ | | |
| | CRIME | | | | \$ | | |
| | TYPE OF POLICY | | | | \$ | | |
| | BOILER & MACHINERY / EQUIPMENT BREAKDOWN | | | | \$ | | |
| | | | | | \$ | | |
| | | | | | \$ | | |

SPECIAL CONDITIONS / OTHER COVERAGES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)

PROJECT: SER200226 - CONSTRUCTION OF STORM, SANITARY SEWERS IN GLEN STREET ETC., - BOROUGH OF STATEN ISLAND. DDC PIN: 8502017SE0021C. CITY OF NEW YORK, INCLUDING ITS OFFICIALS AND EMPLOYEES WITH COVERAGE AT LEAST AS BROAD AS ISO FORM CG2010 AND CG2037. ALL PERSON(S) OR ORGANIZATION(S), IF ANY, THAT ARTICLE 22.1 (B) OF THE CONTRACT REQUIRES TO BE NAMED ADDITIONAL

CERTIFICATE HOLDER**CANCELLATION**

CITY OF NEW YORK DEPARTMENT OF DESIGN AND CONSTRUCTION
 3030 THOMSON AVENUE
 4TH FLOOR (IDCNY BUILDING)
 LONG ISLAND CITY, NY 11101

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

John D Rocco/LISAS

COMMENTS/REMARKS

INSURED(S) WITH COVERAGE AT LEAST AS BROAD AS ISO FORM CG2026. THE ADDITIONAL INSURED ENDORSEMENT SHALL EITHER SPECIFY THE ENTITY'S NAME, IF KNOWN, OR THE ENTITY'S TITLE. (E.G., PROJECT MANAGER) NATIONAL GRID.
AND ALL OTHER INDEMNIFIED PARTIES ARE ADDITIONAL INSUREDS UNDER ALL POLICIES SHOWN ABOVE OTHER THAN WORKERS COMPENSATION.



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

***** 223373796
LOVELL SAFETY MGMT CO., LLC
110 WILLIAM STREET 12TH FLR
NEW YORK NY 10038



Scan to Validate

POLICYHOLDER
JR CRUZ CORP.
675 LINE ROAD
ABERDEEN NJ 07747

CERTIFICATE HOLDER RE: (IDCNY BLDG)
CITY OF NEW YORK DEPARTMENT OF
DESIGN & CONSTRUCTION
30-30 THOMSON AVE, 4TH FLOOR
LONG ISLAND CITY NY 11101

| POLICY NUMBER | CERTIFICATE NUMBER | POLICY PERIOD | DATE |
|---------------|--------------------|--------------------------|------------|
| G1323 794-6 | 98364 | 04/01/2017 TO 04/01/2018 | 12/12/2017 |

THIS IS TO CERTIFY THAT THE POLICYHOLDER NAMED ABOVE IS INSURED WITH THE NEW YORK STATE INSURANCE FUND UNDER POLICY NO. 1323 794-6, COVERING THE ENTIRE OBLIGATION OF THIS POLICYHOLDER FOR WORKERS' COMPENSATION UNDER THE NEW YORK WORKERS' COMPENSATION LAW WITH RESPECT TO ALL OPERATIONS IN THE STATE OF NEW YORK, EXCEPT AS INDICATED BELOW.

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

THIS 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: 1008318398



CERTIFICATE OF INSURANCE COVERAGE UNDER THE NYS DISABILITY BENEFITS LAW

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


| | |
|--|---|
| <p>1a. Legal Name and Address of Insured (Use street address only) JRCRUZ CORP. 675 LINE ROAD ABERDEEN, NJ 07747</p> <p><i>Work Location of Insured (Only required if coverage is specifically limited to certain locations in New York State, i.e., a Wrap-Up Policy)</i></p> | <p>1b. Business Telephone Number of Insured (732) 290-0700</p> <p>1c. NYS Unemployment Insurance Employer Registration Number of Insured 46107757</p> <p>1d. Federal Employer Identification Number of Insured or Social Security Number 22 3373796</p> |
| <p>2. Name and Address of the Entity Requesting Proof of Coverage (Entity Being Listed as the Certificate Holder) NYC DEPARTMENT OF DESIGN AND CONSTRUCTION 3030 THOMSON AVE LONG ISLAND CITY NY 11101</p> | <p>3a. Name of Insurance Carrier The Guardian Life Insurance Company of America</p> <p>3b. Policy Number of entity listed in box "1a": 00952226-0001</p> <p>3c. Policy effective period: 06/13/2017 to 06/13/2018</p> |

4. Policy Covers:

a. All of the employer's employees eligible under the New York Disability Benefits Law

b. Only the following class or classes of the 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 Benefits insurance coverage as described above.


 By: Stuart J. Shaw, FSA, MAAA
(Signature of insurance carrier's authorized representative or NYS Licensed Insurance Agent of that insurance carrier)

Date Signed: 06/15/2017

Telephone Number: 1-888-278-4542

Title: Vice President, Group Insurance

IMPORTANT: If Box "4a" is 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" is checked, this certificate is NOT COMPLETE for purposes of Section 220, Subd. 8 of the Disability Benefits Law. It must be mailed for completion to the Workers' Compensation Board, DB Plans Acceptance Unit, 328 State Street, Schenectady, NY 12305

PART 2. To be completed by NYS Workers' Compensation Board (Only if box "4b" 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 Benefits Law with respect to all of his/her employees.

Date Signed: _____ By: _____
(Signature of NYS Workers' Compensation Board Employee)

Telephone Number: _____ Title: _____

Please Note: Only insurance carriers licensed to write NYS disability benefits insurance policies and NYS licensed insurance agents of those insurance carriers are authorized to issue Form DB-120.1. Insurance brokers are NOT authorized to issue this form.

Additional Instructions for Form DB-120.1

By signing this form, the insurance carrier identified in box "3" on this form is certifying that it is insuring the business referenced in box "1a" for disability benefits under the New York State Disability 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".

Will the carrier notify the certificate holder within 10 days of a policy being cancelled for non-payment of premium or within 30 days if cancelled for any other reason or if the insured is otherwise eliminated from the coverage indicated on this certificate prior to the end of the policy effective period? YES NO

This certificate is issued as a matter of information only and confers no rights upon the certificate holder. This certificate does not amend, extend or alter the coverage afforded by the policy listed, nor does it confer any rights or responsibilities beyond those contained in the referenced policy.

This certificate may be used as evidence of a Disability Benefits contract of insurance only while the underlying policy is in effect.

Please Note: Upon the cancellation of the disability 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 Benefits Coverage or other authorized proof that the business is complying with the mandatory coverage requirements of the New York State Disability Benefits Law.

DISABILITY 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 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 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.

TransAmerican Associates, Inc.

[Name of broker or agent (typewritten)]

651 Old Mount Pleasant Ave., Suite #255, Livingston, NJ 07039

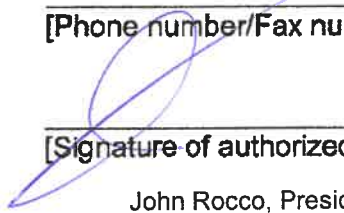
[Address of broker or agent (typewritten)]

JRocco@taains.com

[Email address of broker or agent (typewritten)]

Phone# 973-251-2646 / Fax# 973-251-2651

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



[Signature of authorized official, broker, or agent]


John Rocco, President

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

State of New Jersey)

County of Morris) ss.:

Sworn to before me this 12th day of December, 2017



NOTARY PUBLIC FOR THE STATE OF New Jersey

ANDREA IVERSON
NOTARY PUBLIC
STATE OF NEW JERSEY
MY COMMISSION EXPIRES DEC. 28, 2020

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, _____

hereinafter referred to as the "Principal,"

and, _____

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

of _____

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

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

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

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

Performance Bond #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

_____ day of _____ 20 _____
(Seal)

Principal (L.S.)

By: _____
(Seal) Surety

By: _____

Surety

(Seal) By: _____

Surety

(Seal) By: _____

Surety

(Seal) By: _____

Surety

(Seal) By: _____

Surety

Bond Premium Rate _____
Bond Premium Cost _____

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

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

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

Performance Bond #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 _____ 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 resides at _____

_____ ; that he/she is the _____ 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.

Notary Public or Commissioner of Deeds.

ACKNOWLEDGMENT OF PRINCIPAL IF A PARTNERSHIP

State of _____ County of _____ ss:

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

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

Notary Public or Commissioner of Deeds

ACKNOWLEDGMENT OF PRINCIPAL IF AN INDIVIDUAL

State of _____ County of _____ ss:

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

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

Notary Public or Commissioner of Deeds

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

Affix Acknowledgments and Justification of Sureties.

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, _____

hereinafter referred to as the "Principal", and _____

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

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

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

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

NOW, THEREFORE, the conditions of this obligation are such that if the Principal, his or its representatives or assigns 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 _____ day of _____, _____.

(Seal) _____ (L.S.)
Principal

By: _____

(Seal) _____
Surety

By: _____

(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 _____ County of _____ ss:

On this ____ day of _____, _____, before me personally came _____ to me known, who, being by me duly sworn did depose and say that he resides at _____ that he is the _____ 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.

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.

(NO TEXT ON THIS PAGE)

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) 669-7974. 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. 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.

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 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 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 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

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)

BLASTER

Blaster

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$44.93**

Supplemental Benefit Rate per Hour: **\$46.24**

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: **\$45.78**
Supplemental Benefit Rate per Hour: **\$46.24**

Blaster - Trac Drill Hydraulic

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: **\$40.12**
Supplemental Benefit Rate per Hour: **\$46.24**

Blaster - Wagon: Air Trac: Quarry Bar: Drillrunners

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: **\$39.31**
Supplemental Benefit Rate per Hour: **\$46.24**

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: **\$38.23**
Supplemental Benefit Rate per Hour: **\$46.24**

Blaster - Powder Carriers

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: **\$34.20**
Supplemental Benefit Rate per Hour: **\$46.24**

Blaster - Hydraulic Trac Drill Chuck Tender

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: **\$32.88**
Supplemental Benefit Rate per Hour: **\$46.24**

Blaster - Chuck Tender & Nipper

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: **\$32.10**
Supplemental Benefit Rate per Hour: **\$46.24**

Blaster - Magazine Keepers: (Watch Person)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: **\$17.80**
Supplemental Benefit Rate per Hour: **\$46.24**

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)

BOILERMAKER

Boilermaker

Effective Period: 7/1/2017 - 6/30/2018

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

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.

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

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)

BRICKLAYER

Bricklayer

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$55.10

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.

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

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

Memorial Day

Independence Day

Labor Day

Columbus Day

Presidential Election Day

Thanksgiving Day

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

Day after Thanksgiving
Christmas Day

Paid Holidays

None

Shift Rates

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

(Carpenters District Council)

CARPENTER - 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: \$51.63

Supplemental Benefit Rate per Hour: \$48.65

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

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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

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)

CARPENTER - HIGH RISE CONCRETE FORMS

Carpenter High Rise A

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$50.28**

Supplemental Benefit Rate per Hour: **\$40.18**

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: **\$15.55**

Overtime

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

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

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

Overtime Holidays

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

New Year's Day

President's Day

Good Friday

Memorial Day

Independence Day

Labor Day

Columbus Day

Presidential Election Day

Thanksgiving Day

Christmas Day

Paid Holidays

None

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

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)

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

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)

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: **\$23.00**

Supplemental Note: **\$25.75 on Saturdays; \$28.50 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: **\$16.00**

Supplemental Note: **\$17.25 on Saturdays; \$18.50 on Sundays & Holidays**

Overtime Description

Time and one half the regular rate after 7 hour day (time and one half the regular rate after an 8 hour day when working with Dockbuilders on pile cap forms and for work below street level to the top of the foundation wall, not to exceed 2 feet or 3 feet above the sidewalk-brick shelf, when working on the foundation and structure.)

Overtime

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

Overtime Holidays

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

New Year's Day

President's Day

Good Friday

Memorial Day

Independence Day

Labor Day

Columbus Day

Presidential Election Day

Thanksgiving Day

Christmas Day

Paid Holidays

1/2 day before Christmas Day

1/2 day before New Year's Day

Shift Rates

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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

(Cement Concrete Workers District Council)

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)

CORE DRILLER

Core Driller

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

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
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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

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)

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 with respect to base course, paving, and flag 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
Independence Day
Labor Day
Thanksgiving Day
Christmas Day

Paid Holidays

1/2 day on Christmas Eve if work is performed in the A.M.

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(Local #197)

DIVER

Diver (Marine)

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$65.38**

Supplemental Benefit Rate per Hour: **\$48.65**

Diver Tender (Marine)

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$46.44**

Supplemental Benefit Rate per Hour: **\$48.65**

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

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

New Year's Day

President's Day

Memorial Day

Independence Day

Labor Day

Columbus Day

Presidential Election Day

Thanksgiving Day

Christmas Day

Paid Holidays

None

Shift Rates

When three shifts are utilized each shift shall work seven and one half-hours (7 1/2 hours) and paid for 8 hours, allowing for one half hour for lunch.

(Carpenters District Council)

DOCKBUILDER - PILE DRIVER

Dockbuilder - Pile Driver

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$51.63**

Supplemental Benefit Rate per Hour: **\$48.65**

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

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

New Year's Day

President's Day

Memorial Day

Independence Day

Labor Day

Columbus Day

Presidential Election Day

Thanksgiving Day

Christmas Day

Paid Holidays

None

Shift Rates

Off shift work commencing between 5:00 P.M. and 11:00 P.M. shall work eight and one half hours allowing for one half hour for lunch. The wage rate shall be 113% of the straight time hourly wage rate.

(Carpenters District Council)

DRIVER: TRUCK (TEAMSTER)

Driver - Dump Truck

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$41.18**

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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: **\$41.46**

Supplemental Benefit Rate per Hour: **\$43.65**

Supplemental Note: Over 40 hours worked: at time and one half rate - \$16.65; at double time rate - \$22.20

Driver - Euclid & Turnapull Operator

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$42.03**

Supplemental Benefit Rate per Hour: **\$43.65**

Supplemental Note: Over 40 hours worked: at time and one half rate - \$16.65; at double time rate - \$22.20

Overtime Description

For Paid Holidays: Holiday pay for all holidays shall be prorated based two hours per day for each day worked in the holiday week, not to exceed 8 hours of holiday pay. For Thanksgiving week, the prorated share shall be 5 1/3 hours of holiday pay for each day worked in Thanksgiving week.

Overtime

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

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

Overtime Holidays

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

New Year's Day

President's Day

Memorial Day

Independence Day

Labor Day

Columbus Day

Veteran's Day

Thanksgiving Day

Day after Thanksgiving

Christmas Day

Paid Holidays

New Year's Day

President's Day

Memorial Day

Independence Day

Labor Day

Columbus Day

Veteran's Day

Thanksgiving Day

Day after Thanksgiving

Christmas Day

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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.

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

Election Day

Thanksgiving Day

Christmas Day

(Local #282)

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

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)

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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

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.

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

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.

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

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§220 PREVAILING WAGE SCHEDULE

Columbus Day
Veteran's Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Paid Holidays

None

(Local #3)

ELECTRICIAN - ALARM TECHNICIAN

(Scope of Work - Inspect, test, repair, and replace defective, malfunctioning, or broken devices, components and controls of Fire, Burglar and Security Systems)

Alarm Technician

Effective Period: 7/1/2017 - 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
Martin Luther King Jr. Day
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Day after Thanksgiving

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Christmas Day

Shift Rates

Night Differential is based upon a ten percent (10%) differential between the hours of 4:00 P.M. and 12:30 A.M. and a fifteen percent (15%) differential for the hours 12:00 A.M. to 8:00 A.M.

Vacation

At least 1 year of employment.....ten (10) days
5 years or more of employment.....fifteen (15) days
10 years of employment.....twenty (20) days
Plus one Personal Day per year

Sick Days:

One day per Year. Up to 4 vacation days may be used as sick days.

(Local #3)

ELECTRICIAN-STREET LIGHTING WORKER

Electrician - Electro Pole Electrician

Effective Period: 7/1/2017 - 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**

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

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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)

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**

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.

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Existing buildings: work performed after an 8 hour day, Saturday, Sunday or between 5:30pm and 7:00 am shall be paid time and one half.

Overtime

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

Paid Holidays

New Year's Day
President's Day
Good Friday
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Vacation

Employer contributes 8% of regular basic hourly rate as vacation pay for employees with more than 15 years of service, and 6% for employees with 5 to 15 years of service, and 4% for employees with less than 5 years of service.

(Local #1)

ELEVATOR REPAIR & MAINTENANCE

Elevator Service/Modernization Mechanic

Effective Period: 7/1/2017 - 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**

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.

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Time and one half the regular rate for work on a holiday plus the day's pay.

Paid Holidays

New Year's Day
President's Day
Good Friday
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Shift Rates

Afternoon shift - regularly hourly rate plus a (15%) fifteen percent differential. Graveyard shift - time and one half the regular rate.

Vacation

Employer contributes 8% of regular basic hourly rate as vacation pay for employees with more than 15 years of service, and 6% for employees with 5 to 15 years of service, and 4% for employees with less than 5 years of service.

(Local #1)

ENGINEER

Engineer - Heavy Construction Operating Engineer I

Cherry pickers 20 tons and over and Loaders (rubber tired and/or tractor type with a manufacturer's minimum rated capacity of six cubic yards and over).

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$65.94**

Supplemental Benefit Rate per Hour: **\$35.41**

Supplemental Note: **\$63.67** on overtime

Shift Wage Rate: **\$105.50**

Engineer - Heavy Construction Operating Engineer II

Backhoes, Basin Machines, Groover, Mechanical Sweepers, Bobcat, Boom Truck, Barrier Transport (Barrier Mover) & machines of similar nature. Operation of Churn Drills and machines of a similar nature, Stetco Silent Hoist and machines of similar nature, Vac-Alls, Meyers Machines, John Beam and machines of a similar nature, Ross Carriers and Travel Lifts and machines of a similar nature, Bulldozers, Scrapers and Turn-a-Pulls: Tugger Hoists (Used exclusively for handling excavated material); Tractors with attachments, Hyster and Roustabout Cranes, Cherry pickers. Austin Western, Grove and machines of a similar nature, Scoopmobiles, Monorails, Conveyors, Trenchers: Loaders-Rubber Tired and Tractor: Barber Greene and Eimco Loaders and Eimco

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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: **\$63.98**

Supplemental Benefit Rate per Hour: **\$35.41**

Supplemental Note: \$63.67 on overtime

Shift Wage Rate: **\$102.37**

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: **\$60.69**

Supplemental Benefit Rate per Hour: **\$35.41**

Supplemental Note: \$63.67 on overtime

Shift Wage Rate: **\$97.10**

Engineer - Heavy Construction Maintenance Engineer I

Installing, Repairing, Maintaining, Dismantling and Manning of all equipment including Steel Cutting, Bending and Heat Sealing Machines, Mechanical Heaters, Grout Pumps, Bentonite Pumps & Plants, Screening Machines, Fusion Coupling Machines, Tunnel Boring Machines Moles and Machines of a similar nature, Power Packs, Mechanical Hydraulic Jacks; all drill rigs including but not limited to Churn, Rotary Caisson, Raised Bore & Drills of a similar nature; Personnel, Inspection & Safety Boats or any boats used to perform functions of same, Mine Hoists, Whirlies, all Climbing Cranes, all Tower Cranes, including but not limited to Truck Mounted and Crawler Type and machines of similar nature; Maintaining Hydraulic Drills and machines of a similar nature; Well Point System-Installation and dismantling; Burning, Welding, all Pumps regardless of size and/or motor power, except River Cofferdam Pumps and Wells Point Pumps; Motorized Buggies (three or more); equipment used in the cleaning and televising of sewers, but not limited to jet-rodder/vacuum truck, vacall/vactor, closed circuit television inspection equipment; high powered water pumps, jet pumps; screed machines and concrete finishing machines of a similar nature; vermeers.

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$63.68**

Supplemental Benefit Rate per Hour: **\$35.41**

Supplemental Note: \$63.67 on overtime

Shift Wage Rate: **\$101.89**

Engineer - Heavy Construction Maintenance Engineer II

On Base Mounted Tower Cranes

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$83.66**

Supplemental Benefit Rate per Hour: **\$35.41**

Supplemental Note: \$63.67 on overtime

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§220 PREVAILING WAGE SCHEDULE

Shift Wage Rate: \$133.86

Engineer - Heavy Construction Maintenance Engineer III

On Generators, Light Towers

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$42.01

Supplemental Benefit Rate per Hour: \$35.41

Supplemental Note: \$63.67 on overtime

Shift Wage Rate: \$67.22

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: \$43.11

Supplemental Benefit Rate per Hour: \$35.41

Supplemental Note: \$63.67 on overtime

Shift Wage Rate: \$68.98

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: \$57.42

Supplemental Benefit Rate per Hour: \$35.41

Supplemental Note: \$63.67 on overtime

Shift Wage Rate: \$91.87

Engineer - Heavy Construction Oilers II

All gasoline, electric, diesel or air operated Shovels, Draglines, Backhoes, Keystones, Pavers, Guniting Machines, Battery of Compressors, Crawler Cranes, two-person Trenching Machines.

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$39.70

Supplemental Benefit Rate per Hour: \$35.41

Supplemental Note: \$63.67 on overtime

Shift Wage Rate: \$63.52

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

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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
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

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.

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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)

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**

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

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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 for the first eight hours worked, Double time the regular time rate for Saturday for work performed in excess of eight hours, Double time the regular rate for Sunday and Double time the regular rate for work on a holiday.

Paid Holidays

- New Year's Day
- Lincoln's Birthday
- President's Day
- Memorial Day
- Independence Day
- Labor Day
- Columbus Day
- Veteran's Day
- Thanksgiving Day
- Day after Thanksgiving
- Christmas Day

Employees must work at least one day in the payroll week in which the holiday occurs to receive the paid holiday

(Operating Engineer Local #15-D)

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

Field Engineer - BC Party Chief

Effective Period: 7/1/2017 - 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**

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

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Time and one half the regular rate after a 7 hour work and time and one half the regular rate for Saturday for the first seven hours worked, Double time the regular time rate for Saturday for work performed in excess of seven hours, Double time the regular rate for Sunday and Double time the regular rate for work on a holiday.

Paid Holidays

New Year's Day
President's Day
Good Friday
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Christmas Day

Employees must work at least one day in the payroll week in which the holiday occurs to receive the paid holiday

(Operating Engineer Local #15-D)

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

Field Engineer - HC Party Chief

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$68.09**

Supplemental Benefit Rate per Hour: **\$33.54**

Supplemental Note: Overtime benefit rate - \$46.86 per hour (time & one half), \$60.18 per hour (double time).

Field Engineer - HC Instrument Person

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$49.98**

Supplemental Benefit Rate per Hour: **\$33.54**

Supplemental Note: Overtime benefit rate - \$46.86 per hour (time & one half), \$60.18 per hour (double time).

Field Engineer - HC Rodperson

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$41.93**

Supplemental Benefit Rate per Hour: **\$33.54**

Supplemental Note: Overtime benefit rate - \$46.86 per hour (time & one half), \$60.18 per hour (double time).

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Overtime Description

Time and one half the regular rate after an 8 hour day, Time and one half the regular rate for Saturday for the first eight hours worked, Double time the regular time rate for Saturday for work performed in excess of eight hours, Double time the regular rate for Sunday and Double time the regular rate for work on a holiday.

Paid Holidays

New Year's Day
Lincoln's Birthday
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Christmas Day

Employees must work at least one day in the payroll week in which the holiday occurs to receive the paid holiday

(Operating Engineer Local #15-D)

ENGINEER - FIELD (STEEL ERECTION)

Field Engineer - Steel Erection Party Chief

Effective Period: 7/1/2017 - 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).

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.

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Overtime

Time and one half the regular rate after an 8 hour day.
Double time the regular rate for Sunday.
Double time the regular rate for work on the following holiday(s).

Paid Holidays

New Year's Day
Lincoln's Birthday
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Christmas Day

Employees must work at least one day in the payroll week in which the holiday occurs to receive the paid holiday

(Operating Engineer Local #15-D)

ENGINEER - OPERATING

Operating Engineer - Road & Heavy Construction I

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

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: **\$73.90**
Supplemental Benefit Rate per Hour: **\$31.10**
Supplemental Note: **\$56.50** overtime hours
Shift Wage Rate: **\$118.24**

Operating Engineer - Road & Heavy Construction II

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

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: **\$76.51**
Supplemental Benefit Rate per Hour: **\$31.10**
Supplemental Note: **\$56.50** overtime hours
Shift Wage Rate: **\$122.42**

Operating Engineer - Road & Heavy Construction III

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

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Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: **\$78.96**
Supplemental Benefit Rate per Hour: **\$31.10**
Supplemental Note: \$56.50 overtime hours
Shift Wage Rate: **\$126.34**

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: **\$77.07**
Supplemental Benefit Rate per Hour: **\$31.10**
Supplemental Note: \$56.50 overtime hours
Shift Wage Rate: **\$123.31**

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: **\$75.55**
Supplemental Benefit Rate per Hour: **\$31.10**
Supplemental Note: \$56.50 overtime hours
Shift Wage Rate: **\$120.88**

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: **\$71.78**
Supplemental Benefit Rate per Hour: **\$31.10**
Supplemental Note: \$56.50 overtime hours
Shift Wage Rate: **\$114.85**

Operating Engineer - Road & Heavy Construction VII

Barrier Movers , Barrier Transport and Machines of a Similar Nature.

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: **\$57.96**
Supplemental Benefit Rate per Hour: **\$31.10**
Supplemental Note: \$56.50 overtime hours
Shift Wage Rate: **\$92.74**

Operating Engineer - Road & Heavy Construction VIII

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Utility Compressors

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$44.98**

Supplemental Benefit Rate per Hour: **\$31.10**

Supplemental Note: \$56.50 overtime hours

Shift Wage Rate: **\$56.70**

Operating Engineer - Road & Heavy Construction IX

Horizontal Boring Rig

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$68.25**

Supplemental Benefit Rate per Hour: **\$31.10**

Supplemental Note: \$56.50 overtime hours

Shift Wage Rate: **\$109.20**

Operating Engineer - Road & Heavy Construction X

Elevators (manually operated as personnel hoist).

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$62.73**

Supplemental Benefit Rate per Hour: **\$31.10**

Supplemental Note: \$56.50 overtime hours

Shift Wage Rate: **\$100.37**

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: **\$48.73**

Supplemental Benefit Rate per Hour: **\$31.10**

Supplemental Note: \$56.50 overtime hours

Shift Wage Rate: **\$77.97**

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: **\$72.53**

Supplemental Benefit Rate per Hour: **\$31.10**

Supplemental Note: \$56.50 overtime hours

Shift Wage Rate: **\$116.05**

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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: **\$70.24**

Supplemental Benefit Rate per Hour: **\$31.10**

Supplemental Note: \$56.50 overtime hours

Shift Wage Rate: **\$112.38**

Operating Engineer - Road & Heavy Construction XIV

Concrete Mixer

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$67.16**

Supplemental Benefit Rate per Hour: **\$31.10**

Supplemental Note: \$56.50 overtime hours

Shift Wage Rate: **\$107.46**

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: **\$45.27**

Supplemental Benefit Rate per Hour: **\$31.10**

Supplemental Note: \$56.50 overtime hours

Shift Wage Rate: **\$72.43**

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: **\$64.13**

Supplemental Benefit Rate per Hour: **\$31.10**

Supplemental Note: \$56.50 overtime hours

Shift Wage Rate: **\$102.61**

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: **\$64.63**

Supplemental Benefit Rate per Hour: **\$31.10**

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Supplemental Note: \$56.50 overtime hours
Shift Wage Rate: \$103.41

Operating Engineer - Road & Heavy Construction XVIII

Tower Crane

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: \$92.76
Supplemental Benefit Rate per Hour: \$31.10
Supplemental Note: \$56.50 overtime hours
Shift Wage Rate: \$148.42

Operating Engineer - Paving I

Asphalt Spreaders, Autogrades (C.M.I.), Roto/Mil

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: \$71.78
Supplemental Benefit Rate per Hour: \$31.10
Supplemental Note: \$56.50 overtime hours
Shift Wage Rate: \$114.85

Operating Engineer - Paving II

Asphalt Roller

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: \$69.91
Supplemental Benefit Rate per Hour: \$31.10
Supplemental Note: \$56.50 overtime hours
Shift Wage Rate: \$111.86

Operating Engineer - Paving III

Asphalt Plants

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: \$59.14
Supplemental Benefit Rate per Hour: \$31.10
Supplemental Note: \$56.50 overtime hours
Shift Wage Rate: \$94.62

Operating Engineer - Concrete I

Cranes

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: \$76.73

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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: **\$45.62**
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: **\$61.31**
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: **\$79.54**
Supplemental Benefit Rate per Hour: **\$31.10**
Supplemental Note: \$56.50 overtime hours
Shift Wage Rate: **\$127.26**

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: **\$76.43**
Supplemental Benefit Rate per Hour: **\$31.10**
Supplemental Note: \$56.50 overtime hours
Shift Wage Rate: **\$122.29**

Operating Engineer - Steel Erection III

Compressors, Welding Machines.

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: **\$45.34**
Supplemental Benefit Rate per Hour: **\$31.10**
Supplemental Note: \$56.50 overtime hours
Shift Wage Rate: **\$72.54**

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Operating Engineer - Steel Erection IV

Compressors - Not Combined with Welding Machine.

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$43.17**

Supplemental Benefit Rate per Hour: **\$31.10**

Supplemental Note: \$56.50 overtime hours

Shift Wage Rate: **\$69.07**

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: **\$63.12**

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: **\$47.26**

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: **\$71.85**

Supplemental Benefit Rate per Hour: **\$31.10**

Supplemental Note: \$56.50 overtime hours

Operating Engineer - Building Work IV

Stone Derrick, Cranes, Hydraulic Cranes Boom Trucks.

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$76.12**

Supplemental Benefit Rate per Hour: **\$31.10**

Supplemental Note: \$56.50 overtime hours

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

Operating Engineer - Building Work V

Dismantling and Erection of Cranes, Relief Engineer.

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$70.13

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: \$69.39

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: \$55.17

Supplemental Benefit Rate per Hour: \$31.10

Supplemental Note: \$56.50 overtime hours

For New House Car projects Wage Rate per Hour \$44.02

Overtime Description

On jobs of more than one shift, if an Employee fails to report for work through any cause over which the Employer has no control, the Employee on duty will continue to work at the rate of single time.

For House Cars and Rack & Pinion only: Overtime paid at time and one-half for all hours in excess of eight hours in a day, Saturday, Sunday and Holidays worked.

Overtime

Double time the regular rate after an 8 hour day.

Double time the regular time rate for Saturday.

Double time the regular rate for Sunday.

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

Paid Holidays

New Year's Day

Lincoln's Birthday

President's Day

Memorial Day

Independence Day

Labor Day

Columbus Day

Veteran's Day

Thanksgiving Day

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

Day after Thanksgiving
Christmas Day

Employees must work at least one day in the payroll week in which the holiday occurs to receive the paid holiday

Shift Rates

For Steel Erection Only: Shifts may be worked at the single time rate at other than the regular working hours (8:00 A.M. to 4:30 P.M.) on the following work ONLY: Heavy construction jobs on work below the street level, over railroad tracks and on building jobs.

(Operating Engineer Local #14)

FLOOR COVERER

(Interior vinyl composition tile, sheath vinyl linoleum and wood parquet tile including site preparation and synthetic turf not including site preparation)

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

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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

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)

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: **\$38.44**

Supplemental Note: Supplemental Benefit Overtime Rate: **\$47.54**

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

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)

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: **\$23.78**

Supplemental Benefit Rate per Hour: **\$20.14**

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)

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**

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

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)

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.

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: **\$36.33**
Supplemental Benefit Rate per Hour: **\$28.72**

House Wrecker - Tier B

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: **\$25.56**
Supplemental Benefit Rate per Hour: **\$21.13**

Overtime

Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).
New Year's Day
President's Day
Memorial Day
Independence Day
Labor Day
Thanksgiving Day
Christmas Day

Paid Holidays

None

(Mason Tenders District Council)

IRON WORKER - ORNAMENTAL

Iron Worker - Ornamental

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: **\$44.00**
Supplemental Benefit Rate per Hour: **\$50.57**
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.

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

Overtime

Double time the regular rate for Sunday.

Overtime Holidays

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

New Year's Day
President's Day
Memorial Day
Independence Day
Labor Day
Thanksgiving Day
Christmas Day

Paid Holidays

None

Shift Rates

For off shift work - 8 hours pay for 7 hours of work. When two or three shifts are employed on a job, Monday through Friday, the workday for each shift shall be seven hours and paid for ten and one-half hours at the single time rate. When two or three shifts are worked on Saturday, Sunday or holidays, each shift shall be seven hours and paid fifteen and three-quarters hours.

(Local #580)

IRON WORKER - STRUCTURAL

Iron Worker - Structural

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$49.75

Supplemental Benefit Rate per Hour: \$71.10

Supplemental Note: Supplemental benefits are to be paid at the applicable overtime rate when overtime is in effect.

Overtime Description

Monday through Friday- the first eight hours are paid at straight time, the 9th and 10th hours are paid at time and one-half the regular rate, all additional weekday overtime is paid at double the regular rate. Saturdays- the first eight hours are paid at time and one-half the regular rate, double time thereafter. Sunday-all shifts are paid at double time.

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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

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

New Year's Day
President's Day
Memorial Day
Independence Day
Labor Day
Thanksgiving Day
Christmas Day

Paid Holidays

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

Shift Rates

Monday through Friday - First Shift: First eight hours are paid at straight time, the 9th & 10th hours are paid at time and a half, double time paid thereafter. Second and third Shifts: First eight hours are paid at time and one-half, double time thereafter. Saturdays: All shifts, first eight hours paid at time and one-half, double time thereafter: Sunday all shifts are paid at double time.

(Local #40 & #361)

LABORER

(Foundation, Concrete, Excavating, Street Pipe Layer and Common)

Laborer

Excavation and foundation work for buildings, heavy construction, engineering work, and hazardous waste removal in connection with the above work. Landscaping tasks in connection with heavy construction work, engineering work and building projects. Projects include, but are not limited to pollution plants, sewers, parks, subways, bridges, highways, etc.

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$41.50**

Supplemental Benefit Rate per Hour: **\$40.63**

Overtime

Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.

Overtime Holidays

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

New Year's Day
Memorial Day
Independence Day
Labor Day

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

Columbus Day
Thanksgiving Day
Christmas Day

Paid Holidays

Labor Day
Thanksgiving Day

Shift Rates

When two shifts are employed, single time rate shall be paid for each shift. When three shifts are found necessary, each shift shall work seven and one half hours (7 ½), but shall be paid for eight (8) hours of labor, and be permitted one half hour for lunch.

(Local #731)

LANDSCAPING

(Landscaping tasks, as well as tree pruning, tree removing, spraying and maintenance in connection with the planting of street trees and the planting of trees in city parks but not when such activities are performed as part of, or in connection with, other construction or reconstruction projects.)

Landscaper (Above 6 years experience)

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$27.75

Supplemental Benefit Rate per Hour: \$15.05

Landscaper (3 - 6 years experience)

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$26.75

Supplemental Benefit Rate per Hour: \$15.05

Landscaper (up to 3 years experience)

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$24.25

Supplemental Benefit Rate per Hour: \$15.05

Groundperson

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$24.25

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

Supplemental Benefit Rate per Hour: \$15.05

Tree Remover / Pruner

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$32.75

Supplemental Benefit Rate per Hour: \$15.05

Landscaper Sprayer (Pesticide Applicator)

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$22.75

Supplemental Benefit Rate per Hour: \$15.05

Watering - Plant Maintainer

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$17.72

Supplemental Benefit Rate per Hour: \$15.05

Overtime Description

For all overtime work performed, supplemental benefits shall include an additional seventy-five (\$0.75) cents per hour.

Overtime

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

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

Time and one half the regular rate for work on a holiday plus the day's pay.

Paid Holidays

New Year's Day

Memorial Day

Independence Day

Labor Day

Thanksgiving Day

Christmas Day

Shift Rates

Work performed on a 4pm to 12am shift has a 15% differential. Work performed on a 12am to 8am shift has a 20% differential.

(Local #175)

MARBLE MECHANIC

Marble Setter

Effective Period: 7/1/2017 - 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

Christmas Day

Paid Holidays

None

(Local #7)

MASON TENDER

Mason Tender

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$37.55**

Supplemental Benefit Rate per Hour: **\$29.99**

Overtime

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

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

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

Overtime Holidays

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

New Year's Day

President's Day

Memorial Day

Independence Day

Labor Day

Thanksgiving Day

Christmas Day

Paid Holidays

None

Shift Rates

The Employer may work two (2) shifts with the first shift at the straight time wage rate and the second shift receiving eight (8) hours paid for seven (7) hours work at the straight time wage rate.

(Local #79)

MASON TENDER (INTERIOR DEMOLITION WORKER)

Mason Tender Tier A

Tier A Interior Demolition Worker performs all burning, chopping, and other technically skilled tasks related to interior demolition work.

Effective Period: 7/1/2017 - 6/30/2018

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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

Supplemental Benefit Rate per Hour: **\$23.75**

Mason Tender Tier B

Tier B Interior Demolition Worker performs manual work and work incidental to demolition work, such as loading and carting of debris from the work site to an area where it can be loaded in to bins/trucks for removal. Also performs clean-up of the site when demolition is completed.

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$25.38**

Supplemental Benefit Rate per Hour: **\$18.07**

Overtime

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

Time and one half the regular rate for Sunday.

Overtime Holidays

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

New Year's Day

President's Day

Memorial Day

Independence Day

Labor Day

Thanksgiving Day

Christmas Day

Paid Holidays

None

(Local #79)

METALLIC LATHER

Metallic Lather

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$44.53**

Supplemental Benefit Rate per Hour: **\$42.67**

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.

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

Double time the regular rate for Sunday.

Overtime Holidays

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

New Year's Day
Washington's Birthday
Memorial Day
Independence Day
Labor Day
Columbus Day
Thanksgiving Day
Christmas Day

Paid Holidays

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

Shift Rates

There will be no shift differential paid on the first shift if more than one shift is employed. The shift differential will remain \$12/hour on the second and third shift for the first eight (8) hours if worked. There will be no pyramiding on overtime worked on second and third shifts. The time and one half (1.5x) rate will be against the base wage rate, not the shift differential

(Local #46)

MILLWRIGHT

Millwright

Effective Period: 7/1/2017 - 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.

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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

Labor Day
Columbus Day
Presidential Election Day
Thanksgiving Day
Christmas Day

Paid Holidays

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

Shift Rates

The first shift shall receive the straight time rate of pay. The second shift receives the straight time rate of pay plus fifteen (15%) per cent. Members of the second shift shall be allowed one half hour to eat, with this time being included in the hours of the workday established. There must be a first shift to work a second shift. All additional hours worked shall be paid at the time and one-half rate of pay plus fifteen (15%) per cent for weekday hours.

(Local #740)

MOSAIC MECHANIC

Mosaic Mechanic - Mosaic & Terrazzo Mechanic

Effective Period: 7/1/2017 - 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.

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.

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

Double time the regular rate for Sunday.

Overtime Holidays

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

New Year's Day
Washington's Birthday
Good Friday
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Paid Holidays

None

(Local #7)

PAINTER

Painter - Brush & Roller

Effective Period: 7/1/2017 - 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

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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

Independence Day
Labor Day
Columbus Day
Thanksgiving Day
Christmas Day

Paid Holidays
None

(District Council of Painters #9)

PAINTER - METAL POLISHER

METAL POLISHER

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: **\$28.88**
Supplemental Benefit Rate per Hour: **\$6.96**

METAL POLISHER - NEW CONSTRUCTION

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: **\$29.83**
Supplemental Benefit Rate per Hour: **\$6.96**

METAL POLISHER - SCAFFOLD OVER 34 FEET

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: **\$32.38**
Supplemental Benefit Rate per Hour: **\$6.96**

Overtime Description

All work performed on Saturdays shall be paid at time-in-a half. The exception being; for suspended scaffold work and work deemed as a construction project; an eight (8) hour shift lost during the week due to circumstances beyond the control of the employer, up to a maximum of eight (8) hours per week, may be worked on Saturday at the straight time rate.

Overtime

Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.
Saturday may be used as a make-up day at straight time when a day is lost during that week to inclement weather.
Triple time the regular rate for work on the following holiday(s).

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

Paid Holidays

New Year's Day
Martin Luther King Jr. Day
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Shift Rates

Four Days a week at Ten (10) hours straight a day.

Local 8A-28A

PAINTER - STRIPER

Striper (paint)

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$35.00**

Supplemental Benefit Rate per Hour: **\$12.32**

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: **\$12.32**

Supplemental Note: Overtime Supplemental Benefit rate - \$8.02; New Hire Rate (0-3 months) - \$0.00

Overtime

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

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

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

Paid Holidays

New Year's Day
Good Friday
Memorial Day
Independence Day
Labor Day

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

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)

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**

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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

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)

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.
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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

Thanksgiving Day
Day after Thanksgiving
Christmas Day

Paid Holidays

None

Shift Rates

Evening shift - 4:30 P.M. to 12:00 Midnight (regular rate of pay); any work performed before 7:00 A.M. shall be at time and one half the regular base rate of pay.

(District Council of Painters #9)

PAVER AND ROADBUILDER

Paver & Roadbuilder - Formsetter

Effective Period: 7/1/2017 - 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

(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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

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.

(Local #1010)

PLASTERER

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

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 (½) hour to eat with this time being included in the seven (7) hours of work.

(Local #262)

PLASTERER - TENDER

Plasterer - Tender

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$37.55**

Supplemental Benefit Rate per Hour: **\$29.99**

Overtime

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

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

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

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

Overtime Holidays

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

New Year's Day

Washington's Birthday

Memorial Day

Independence Day

Labor Day

Presidential Election Day

Thanksgiving Day

Christmas Day

Paid Holidays

None

Shift Rates

When work commences outside regular work hours, workers receive an hour additional (differential) wage and supplement payment. Eight hours pay for seven hours work or nine hours pay for eight hours work.

(Mason Tenders District Council)

PLUMBER

Plumber

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$67.25**

Supplemental Benefit Rate per Hour: **\$30.55**

Supplemental Note: Overtime supplemental benefit rate per hour: **\$61.10**

Plumber - Temporary Services

Temporary Services - When there are no Plumbers on the job site, there may be three shifts designed to cover the entire twenty-four hour period, including weekends if necessary, at the following rate straight time.

Effective Period: 7/1/2017 - 6/30/2018

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

Supplemental Benefit Rate per Hour: **\$24.36**

Overtime Description

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

Double time the regular rate after a 7 hour day - unless for new construction site work where the plumbing contract price is \$1.5 million or less, the hours of labor can be 8 hours per day at the employers option. On Alteration jobs when other mechanical trades at the site are working an eighth hour at straight time, then the plumber shall also work an eighth hour at straight time.

Overtime

Double time the regular time rate for Saturday.
Double time the regular rate for Sunday.

Overtime Holidays

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

New Year's Day
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Shift Rates

Shift work, when directly specified in public agency or authority documents where plumbing contract is \$8 million or less, will be permitted. 30% shift premium shall be paid for wages and fringe benefits for 4:00 pm and midnight shifts Monday to Friday. 50% shift premium shall be paid for wages and fringe benefits for 4:00 pm and midnight shift work performed on weekends. For shift work on holidays, double time wages and fringe benefits shall be paid.

(Plumbers Local #1)

PLUMBER (MECHANICAL EQUIPMENT AND SERVICE)

(Mechanical Equipment and Service work shall include any repair and/or replacement of the present plumbing system.)

Plumber

Effective Period: 7/1/2017 - 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.

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
President's Day
Memorial Day
Independence Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Paid Holidays

None

(Plumbers Local # 1)

PLUMBER (RESIDENTIAL RATES FOR 1, 2 AND 3 FAMILY HOME CONSTRUCTION)

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$46.66

Supplemental Benefit Rate per Hour: \$22.07

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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

30% shift premium shall be paid for wages and fringe benefits for 4:00 pm and midnight shifts Monday to Friday. 50% shift premium shall be paid for wages and fringe benefits for 4:00 pm and midnight shift work performed on weekends. For shift work on holidays, double time wages and fringe benefits shall be paid.

(Plumbers Local #1)

PLUMBER: PUMP & TANK
Oil Trades (Installation and Maintenance)

Plumber - Pump & Tank

Effective Period: 7/1/2017 - 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

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)

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

**POINTER, WATERPROOFER, CAULKER, SANDBLASTER,
STEAMBLASTER**
(Exterior Building Renovation)

Journeyperson

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)

ROOFER

Roofer

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$41.50**

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

Supplemental Benefit Rate per Hour: **\$30.87**

Overtime

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

Time and one half the regular rate for Saturday.

Time and one half the regular rate for Sunday.

Overtime Holidays

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

New Year's Day

Memorial Day

Independence Day

Labor Day

Thanksgiving Day

Christmas Day

Paid Holidays

None

Shift Rates

Second shift - Regular hourly rate plus a 10% differential. Third shift - Regular hourly rate plus a 15% differential.

(Local #8)

SHEET METAL WORKER

Sheet Metal Worker

Effective Period: 7/1/2017 - 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.)

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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

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)

SHEET METAL WORKER - SPECIALTY **(Decking & Siding)**

Sheet Metal Specialty Worker

The first worker to perform this work must be paid at the rate of the Sheet Metal Worker. The second and third workers shall be paid the Specialty Worker Rate. The ratio of One Sheet Metal Worker, then Two Specialty Workers shall be utilized thereafter.

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$44.57**

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

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)

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

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**

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

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)

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

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)

STEAMFITTER

Steamfitter I

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

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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

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.

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

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**

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

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

**STEAMFITTER - REFRIGERATION AND AIR CONDITIONER
(Maintenance and Installation Service Person)**

Refrigeration and Air Conditioner Mechanic

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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

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.

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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

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

Martin Luther King Jr. Day
President's Day
Memorial Day
Columbus Day

Paid Holidays

New Year's Day
Martin Luther King Jr. Day
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Christmas Day

(Local #638B)

STONE MASON - SETTER

Stone Mason - Setter

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$51.08**

Supplemental Benefit Rate per Hour: **\$38.10**

Overtime

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

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

Overtime Holidays

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

New Year's Day
Washington's Birthday
Good Friday
Memorial Day
Independence Day
Labor Day
Thanksgiving Day
Christmas Day

Paid Holidays

1/2 day on Christmas Eve if work is performed in the A.M.

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

Shift Rates

For all work outside the regular workday (8:00 A.M. to 3:30 P.M. Monday through Friday), the pay shall be straight time plus a ten percent (10%) differential.

(Bricklayers District Council)

TAPER

Drywall Taper

Effective Period: 7/1/2017 - 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)

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

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

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.

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

(C.W.A.)

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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

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)

TIMBERPERSON

Timberperson

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$46.99

Supplemental Benefit Rate per Hour: \$48.26

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.

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
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Presidential Election Day
Thanksgiving Day
Christmas Day

Paid Holidays

None

Shift Rates

Off shift work commencing between 5:00 P.M. and 11:00 P.M. shall work eight and one half hours allowing for one half hour for lunch. The wage rate shall be 113% of the straight time hourly wage rate.

(Local #1536)

TUNNEL WORKER

Blasters, Mucking Machine Operators (Compressed Air Rates)

Effective Period: 7/1/2017 - 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
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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

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

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).

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
Election Day
Veteran's Day
Thanksgiving Day
Christmas Day

(Local #147)

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.

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ASBESTOS HANDLER

(Ratio of Apprentice Journeyman: 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 Journeyman's rate
Supplemental Benefit Rate Per Hour: \$16.45

Asbestos Handler (Second 1000 Hours)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 80% of Journeyman's rate
Supplemental Benefit Rate Per Hour: \$16.45

Asbestos Handler (Third 1000 Hours)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 83% of Journeyman's rate
Supplemental Benefit Rate Per Hour: \$16.45

Asbestos Handler (Fourth 1000 Hours)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 89% of Journeyman's rate
Supplemental Benefit Rate Per Hour: \$16.45

(Local #78)

BOILERMAKER

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

Boilermaker (First Year)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 65% of Journeyman's rate
Supplemental Benefit Rate Per Hour: \$30.43
Effective 1/1/2017 - Supplemental Benefit Rate Per Hour: \$30.84

Boilermaker (Second Year: 1st Six Months)

Effective Period: 7/1/2017 - 6/30/2018

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

Wage Rate Per Hour: 70% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: \$32.13
Effective 1/1/2017 - Supplemental Benefit Rate Per Hour: \$32.57

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: \$33.82
Effective 1/1/2017 - Supplemental Benefit Rate Per Hour: \$34.29

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: \$35.53
Effective 1/1/2017 - Supplemental Benefit Rate Per Hour: \$36.03

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: \$37.23
Effective 1/1/2017 - Supplemental Benefit Rate Per Hour: \$37.76

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: \$38.93
Effective 1/1/2017 - Supplemental Benefit Rate Per Hour: \$39.51

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: \$40.63
Effective 1/1/2017 - Supplemental Benefit Rate Per Hour: \$41.22

(Local #5)

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)

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: \$32.52

Carpenter (Second Year)

Effective Period: 7/1/2017 - 6/30/2018

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

Supplemental Benefit Rate Per Hour For Building Apprentice: \$31.34

Supplemental Benefit Rate Per Hour For Heavy Apprentice: \$32.52

Carpenter (Third Year)

Effective Period: 7/1/2017 - 6/30/2018

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

Supplemental Benefit Rate Per Hour For Building Apprentice: \$31.34

Supplemental Benefit Rate Per Hour For Heavy Apprentice: \$32.52

Carpenter (Fourth Year)

Effective Period: 7/1/2017 - 6/30/2018

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

Supplemental Benefit Rate Per Hour For Building Apprentice: \$31.34

Supplemental Benefit Rate Per Hour For Heavy Apprentice: \$32.52

(Carpenters District Council)

**CARPENTER - HIGH RISE CONCRETE FORMS
(Ratio of Apprentice to Journeyman: 1 to 1, 2 to 5)**

Carpenter - High Rise (First Year)

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$16.86

Supplemental Benefit Rate per Hour: \$15.55

Carpenter - High Rise (Second Year)

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$23.16

Supplemental Benefit Rate per Hour: \$15.55

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: \$15.55

Carpenter - High Rise (Fourth Year)

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$37.07

Supplemental Benefit Rate per Hour: \$15.55

(Carpenters District Council)

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: \$16.25

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: \$21.08

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: \$21.90

Cement & Concrete Worker (Hired after 2/6/2016 - First 1334 hours)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: \$17.00
Supplemental Benefit Rate Per Hour: \$10.75

Cement & Concrete Worker (Hired after 2/6/2016 - Second 1334 hours)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: \$22.10
Supplemental Benefit Rate Per Hour: \$15.13

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: \$15.63

(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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

Wage Rate Per Hour: 70% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: 75% of Journeyperson's rate

Derrickperson & Rigger (stone) - Second Year: 2nd Six Months

Effective Period: 7/1/2017 - 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)

**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: \$32.52

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: \$32.52

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: \$32.52

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: \$32.52

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

(Carpenters District Council)

ELECTRICIAN

(Ratio of Apprentice to Journeyman: 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**

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

Supplemental Benefit Rate per Hour: **\$13.90**
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)

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**

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

Effective Period: 3/17/2018 - 6/30/2018
Wage Rate Per Hour: 50% of Journeyman'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 Journeyman's rate
Supplemental Rate Per Hour: \$30.31

Effective Period: 3/17/2018 - 6/30/2018
Wage Rate Per Hour: 55% of Journeyman'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 Journeyman's rate
Supplemental Rate Per Hour: \$31.19

Effective Period: 3/17/2018 - 6/30/2018
Wage Rate Per Hour: 65% of Journeyman'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 Journeyman's rate
Supplemental Rate Per Hour: \$32.07

Effective Period: 3/17/2018 - 6/30/2018
Wage Rate Per Hour: 75% of Journeyman's rate
Supplemental Rate Per Hour: \$33.60

(Local #1)

ELEVATOR REPAIR & MAINTENANCE
(Ratio of Apprentice to Journeyman: 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 Journeyman's rate
Supplemental Benefit Per Hour: \$29.80

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 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)

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: \$24.28
Supplemental Benefit Rate per Hour: \$23.41

Engineer - Second Year

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: **\$30.35**
Supplemental Benefit Rate per Hour: **\$23.41**

Engineer - Third Year

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: **\$33.38**
Supplemental Benefit Rate per Hour: **\$23.41**

Engineer - Fourth Year

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: **\$36.41**
Supplemental Benefit Rate per Hour: **\$23.41**

(Local #15)

ENGINEER - OPERATING
(Ratio of Apprentice to Journeyman: 1 to 1, 1 to 5)

Operating Engineer - First Year

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour 40% of Journeyman'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 Journeyman'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 Journeyman's Rate
Supplemental Benefit Per Hour: **\$20.85**

(Local #14)

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)

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: \$14.14
Effective 1/9/2017 - Supplemental Rate Per Hour: \$14.24

Glazier (Second Year)

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 Journeyman's rate
Supplemental Rate Per Hour: \$23.77
Effective 1/9/2017 - Supplemental Rate Per Hour: \$24.08

Glazier (Third Year)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 60% of Journeyman's rate
Supplemental Rate Per Hour: \$26.73
Effective 01/09/2017 - Supplemental Rate Per Hour: \$27.09

Glazier (Fourth Year)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 80% of Journeyman's rate
Supplemental Rate Per Hour: \$32.14
Effective 01/09/2017 - Supplemental Rate Per Hour: \$32.63

(Local #1281)

**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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

(Local #12)

**HOUSE WRECKER
(TOTAL DEMOLITION)
(Ratio of Apprentice to Journeyman: 1 to 1, 1 to 3)**

House Wrecker - First Year

Effective Period: 7/1/2017 - 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)

**IRON WORKER - ORNAMENTAL
(Ratio of Apprentice to Journeyman: 1 to 1, 1 to 4)**

Iron Worker (Ornamental) - 1st Ten Months

Effective Period: 7/1/2017 - 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: \$38.65

Iron Worker (Ornamental) - 11 -16 Months

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 55% of Journeyperson's rate
Supplemental Rate Per Hour: \$39.84

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: \$41.03

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: \$43.42

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: \$45.80

(Local #580)

IRON WORKER - STRUCTURAL
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 6)

Iron Worker (Structural) - 1st Six Months

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: \$25.97
Supplemental Benefit Rate per Hour: \$49.26

Iron Worker (Structural) - 7- 18 Months

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: \$26.57
Supplemental Benefit Rate per Hour: \$49.26

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

Iron Worker (Structural) - 19 - 36 months

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: \$27.17

Supplemental Benefit Rate per Hour: \$49.26

(Local #40 and #361)

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

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

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

Effective Period: 7/1/2017 - 6/30/2018

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

Supplemental Rate Per Hour: \$40.63

(Local #731)

MARBLE MECHANICS

(Ratio of Apprentice to Journeyman: 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 Journeyman'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 Journeyman's rate

Cutters & Setters - Third 750 Hours

Effective Period: 7/1/2017 - 6/30/2018

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

Cutters & Setters - Fourth 750 Hours

Effective Period: 7/1/2017 - 6/30/2018

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

Cutters & Setters - Fifth 750 Hours

Effective Period: 7/1/2017 - 6/30/2018

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

Cutters & Setters - Sixth 750 Hours

Effective Period: 7/1/2017 - 6/30/2018

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

Polishers & Finishers - First 750 Hours

Effective Period: 7/1/2017 - 6/30/2018

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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

Polishers & Finishers - Third 750 Hours

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)

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)

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: **\$26.63**

Supplemental Benefit Rate per Hour: **\$10.71**

Metallic Lather (Second Year)

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$30.63**

Supplemental Benefit Rate per Hour: **\$12.71**

Metallic Lather (Third Year)

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$33.63**

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

Metallic Lather (Fourth Year)

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: **\$35.63**

Supplemental Benefit Rate per Hour: **\$17.67**

(Local #46)

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**

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

Millwright (Second Year)

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)

**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)

PAINTER

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

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)

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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

Wage Rate per Hour: \$13.00
Supplemental Benefit Rate per Hour: \$5.13

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)

PAINTER - STRUCTURAL STEEL
(Ratio of Apprentice to Journeyman: 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 Journeyman's rate

Painters - Structural Steel (Second Year)

Effective Period: 7/1/2017 - 6/30/2018
Wage and Supplemental Rate Per Hour: 60% of Journeyman's rate

Painters - Structural Steel (Third Year)

Effective Period: 7/1/2017 - 6/30/2018
Wage and Supplemental Rate Per Hour: 80% of Journeyman's rate

(Local #806)

PLASTERER
(Ratio of Apprentice to Journeyman: 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 Journeyman's rate

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

Supplemental Rate Per Hour: \$13.59

Plasterer - First Year: 2nd Six Months

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)

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

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: **\$22.54**

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)

PLUMBER

(Ratio of Apprentice to Journeyman: 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: **\$16.47**

Plumber - Third Year

Effective Period: 7/1/2017 - 6/30/2018

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

Wage Rate per Hour: **\$28.45**
Supplemental Benefit Rate per Hour: **\$16.47**

Plumber - Fourth Year

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: **\$31.30**
Supplemental Benefit Rate per Hour: **\$16.47**

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: **\$16.47**

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: **\$16.47**

(Plumbers Local #1)

**POINTER, WATERPROOFER, CAULKER, SANDBLASTER,
STEAMBLASTER**

(Exterior Building Renovation)
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 4)

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

Effective Period: 7/1/2017 - 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

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: **\$34.12**
Supplemental Benefit Rate per Hour: **\$20.90**

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)

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

Roofers - First Year

Effective Period: 7/1/2017 - 6/30/2018
Wage and Supplemental Rate Per Hour: 35% of Journeyman's Rate

Roofers - Second Year

Effective Period: 7/1/2017 - 6/30/2018
Wage and Supplemental Rate Per Hour: 50% of Journeyman's Rate

Roofers - Third Year

Effective Period: 7/1/2017 - 6/30/2018
Wage and Supplemental Rate Per Hour: 60% of Journeyman's Rate

Roofers - Fourth Year

Effective Period: 7/1/2017 - 6/30/2018
Wage and Supplemental Rate Per Hour: 75% of Journeyman's Rate

(Local #8)

SHEET METAL WORKER
(Ratio of Apprentice to Journeyman: 1 to 1, 1 to 3)

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§220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

Sheet Metal Worker (0-6 Months)

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

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§220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

(Local #28)

SIGN ERECTOR

(Ratio of Apprentice to Journeyman: 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 Journeyman's rate
Supplemental Rate Per Hour: \$13.95
Effective 1/09/2017 - 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 Journeyman's rate
Supplemental Rate Per Hour: \$15.83
Effective 1/09/2017 - 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 Journeyman's rate
Supplemental Rate Per Hour: \$17.72
Effective 1/09/2017 - 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 Journeyman's rate
Supplemental Rate Per Hour: \$19.60
Effective 1/09/2017 - 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 Journeyman's rate
Supplemental Rate Per Hour: \$26.23
Effective 1/09/2017 - 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 Journeyman's rate
Supplemental Rate Per Hour: \$28.24
Effective 1/09/2017 - Supplemental Rate Per Hour: \$30.57

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§220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

Sign Erector - Fourth Year: 1st Six Months

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 65% of Journeyman's rate
Supplemental Rate Per Hour: \$30.98
Effective 1/09/2017 - Supplemental Rate Per Hour: \$33.31

Sign Erector - Fourth Year: 2nd Six Months

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 70% of Journeyman's rate
Supplemental Rate Per Hour: \$33.06
Effective 1/09/2017 - 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: \$35.15
Effective 1/09/2017 - 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: \$37.22
Effective 1/09/2017 - Supplemental Rate Per Hour: \$40.81

(Local #137)

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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

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.

(Local #638)

STONE MASON - SETTER

(Ratio Apprentice of Journeyman: 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 Journeyman's rate

Stone Mason - Setters - Second 750 Hours

Effective Period: 7/1/2017 - 6/30/2018

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

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

Stone Mason - Setters - Third 750 Hours

Effective Period: 7/1/2017 - 6/30/2018

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

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

Stone Mason - Setters - Fourth 750 Hours

Effective Period: 7/1/2017 - 6/30/2018

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

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

Stone Mason - Setters - Fifth 750 Hours

Effective Period: 7/1/2017 - 6/30/2018

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

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)

TAPER

(Ratio of Apprentice to Journeyperson: 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 Journeyperson's rate

Drywall Taper - Second Year

Effective Period: 7/1/2017 - 6/30/2018
Wage and Supplemental Rate Per Hour: 60% of Journeyperson's rate

Drywall Taper - Third Year

Effective Period: 7/1/2017 - 6/30/2018
Wage and Supplemental Rate Per Hour: 80% of Journeyperson's rate

(Local #1974)

TILE LAYER - SETTER

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

Tile Layer - Setter - First 750 Hours

Effective Period: 7/1/2017 - 6/30/2018
Wage and Supplemental Rate Per Hour: 50% of Journeyperson's rate

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

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

Effective Period: 7/1/2017 - 6/30/2018

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

Tile Layer - Setter - Fifth 750 Hours

Effective Period: 7/1/2017 - 6/30/2018

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

Tile Layer - Setter - Sixth 750 Hours

Effective Period: 7/1/2017 - 6/30/2018

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

(Local #7)

TIMBERPERSON

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

Timberperson - First Year

Effective Period: 7/1/2017 - 6/30/2018

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

Supplemental Rate Per Hour: \$32.33

Timberperson - Second Year

Effective Period: 7/1/2017 - 6/30/2018

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

Supplemental Rate Per Hour: \$32.33

Timberperson - Third Year

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: 65% of Journeyman's rate
Supplemental Rate Per Hour: \$32.33

Timberperson - Fourth Year

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 80% of Journeyman's rate
Supplemental Rate Per Hour: \$32.33

(Local #1536)

PRELIMINARY



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) 669-8495

ALAN G. HEVESI
COMPTROLLER

MEMORANDUM

November 6, 2000

To Agency Chief Contracting Officers

From: Leonard A. Mancusi

Re: Security at Construction Sites

.....

Prior to the enactment of Administrative Code §6-109, security guards on construction sites were not subject to prevailing wages. Security guards under the New York State labor law are covered under §230 which provides that prevailing wages are to be paid for security guards in existing buildings. §6-109 of the Administrative Code which was enacted in 1996 closed this loophole by including all security guards working pursuant to a city contract as a prevailing wage trade.

Although some construction contract boilerplate language has been amended to include §6-109, sub-contractors performing security services have advised us that they were not aware of this provision and, since traditionally, security guards were not a covered trade on construction sites, and they were not advised by a prime contractor that they would have to pay prevailing wages, they have not been doing so.

To avoid the possibility of issuing stop payments against prime contractors for the failure of their security service sub-contractors to pay

prevailing wages, we suggest that you write to all your existing security guard sub-contractors and their primes and in the future, upon approval of a security guard sub-contractor, advise the contractors of their obligation to pay prevailing wages under §6-109 of the Administrative Code.

As always, your cooperation is appreciated.

LAM:er
ACCO.SECURITY AT SITES



**Department of
Design and
Construction**

**INFRASTRUCTURE DIVISION
BUREAU OF DESIGN**

VOLUME 2 OF 3

Contractor

Dated _____, 20__

**APPROVED AS TO FORM
CERTIFIED AS TO LEGAL AUTHORITY**

Acting Corporation Counsel

Dated _____, 20__



**Department of
Design and
Construction**

**INFRASTRUCTURE DIVISION
BUREAU OF DESIGN**

VOLUME 2 OF 3

PROJECT ID: SER200226

NEW STORM AND SANITARY SEWERS IN:

- GLEN STREET: BETWEEN VICTORY BOULEVARD AND PARISH AVENUE
- CANNON AVENUE: BETWEEN PARISH AVENUE AND VICTORY BOULEVARD
- VICTORY BOULEVARD: BETWEEN ROSWELL AVENUE AND RICHMOND COURT
- MELVIN AVENUE: BETWEEN GLEN STREET AND WILD AVENUE
- PARISH AVENUE: BETWEEN CANNON AVENUE AND VICTORY BOULEVARD
- WILD AVENUE BETWEEN: GLEN STREET AND PEARSON STREET
- SHELLEY AVENUE: BETWEEN VICTORY BOULEVARD AND MILDRED AVENUE
- BURKE AVENUE BETWEEN DEAD END OF PRICES LANE AND VICTORY BOULEVARD
- PRICES LANE BETWEEN CANNON AVENUE AND DEAD END OF BURKE AVENUE
- LEROY STREET BETWEEN CANNON AVENUE AND VICTORY BOULEVARD
- MEREDITH AVENUE BETWEEN WEST SHORE EXPRESSWAY AND CANNON AVENUE
- SIMMONS LANE BETWEEN VICTORY BOULEVARD AND MILDRED AVENUE

**CAPITAL PROJECT WM-1
WATER MAIN WORK IN:**

- CANNON AVENUE: BETWEEN PARISH AVENUE AND VICTORY BOULEVARD
- MEREDITH AVENUE BETWEEN BATES AVENUE AND CANNON AVENUE
- VICTORY BOULEVARD: BETWEEN ROSWELL AVENUE AND RICHMOND COURT
- WILD AVENUE BETWEEN: GLEN STREET AND ALBERTA AVENUE
- MELVIN AVENUE: BETWEEN GLEN STREET AND DEAD END OF MELVIN AVENUE
- PARISH AVENUE: BETWEEN VICTORY BLVD. AND CANNON AVENUE
- BURKE AVENUE BETWEEN VICTORY BLVD. AND DEAD END OF PRICES LANE
- LEROY STREET BETWEEN CANNON AVENUE AND CANNON AVENUE
- GLEN STREET: BETWEEN MELVIN AVENUE AND PARISH AVENUE
- PRICES LANE: BETWEEN CANNON AVENUE AND DEAD END OF BURKE AVENUE

Together With All Work Incidental Thereto

BOROUGH OF STATEN ISLAND
CITY OF NEW YORK

JR Cruz Corp.

Contractor

Dated December 15, 2017

**APPROVED AS TO FORM
CERTIFIED AS TO LEGAL AUTHORITY**

[Signature]

Acting Corporation Counsel

[Signature] 5/10/17

Dated May 10, 2017



**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 www.nyc.gov/buildnyc

VOLUME 3 OF 3

**SCHEDULE A
SPECIFICATIONS AND
REVISIONS TO STANDARD SPECIFICATIONS
FOR FURNISHING ALL LABOR AND MATERIALS NECESSARY AND REQUIRED FOR:**

PROJECT ID: SER200226

NEW STORM AND SANITARY SEWERS IN:

**GLEN STREET: BETWEEN VICTORY BOULEVARD AND PARISH AVENUE
CANNON AVENUE: BETWEEN PARISH AVENUE AND VICTORY BOULEVARD
VICTORY BOULEVARD: BETWEEN ROSWELL AVENUE AND RICHMOND COURT
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SIMMONS LANE BETWEEN VICTORY BOULEVARD AND MILDRED AVENUE**

**CAPITAL PROJECT WM-1
WATER MAIN WORK IN:**

**CANNON AVENUE: BETWEEN PARISH AVENUE AND VICTORY BOULEVARD
MEREDITH AVENUE BETWEEN BATES AVENUE AND CANNON AVENUE
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PRICES LANE: BETWEEN CANNON AVENUE AND DEAD END OF BURKE AVENUE**

Together With All Work Incidental Thereto

**BOROUGH OF STATEN ISLAND
CITY OF NEW YORK**

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

April 17, 2017



7-099

VOLUME 3 OF 3

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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

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"><u>INFORMATION FOR BIDDERS SECTION 26 BID SECURITY</u></p> <p>The Contractor shall obtain a bid security in the amount indicated to the right.</p> | <p>Required provided the TOTAL BID PRICE set forth on the Bid Form is \$1,000,000. or more.</p> <p>Certified Check: 2% of Bid Amount or Bond: 10% of Bid Amount</p> |
| <p align="center"><u>INFORMATION FOR BIDDERS SECTION 26 PERFORMANCE AND PAYMENT BONDS</u></p> <p>The Contractor shall obtain performance and payment bonds in the amount indicated to the right.</p> | <p>Required for contracts in the amount of \$1,000,000 or more.</p> <p>Performance Security and Payment Security shall each be in an amount equal to 100% of the Contract Price.</p> |
| <p align="center"><u>INFORMATION FOR BIDDERS DEPARTMENT OF DESIGN AND CONSTRUCTION SAFETY REQUIREMENTS</u></p> <p>The Contractor shall provide the safety personnel as indicated to the right.</p> | <ul style="list-style-type: none"> ■ Project Safety Representative ■ Dedicated, full-time Project Safety Manager |
| <p align="center"><u>CONTRACT ARTICLE 14 DATE FOR SUBSTANTIAL COMPLETION</u></p> <p>The Contractor shall substantially complete the Work in the number of calendar days indicated to the right.</p> | <p>See Page SA-4</p> |
| <p align="center"><u>CONTRACT ARTICLE 15 LIQUIDATED DAMAGES</u></p> <p>If the Contractor fails to substantially complete the Work within the time fixed for substantial completion plus authorized time extensions or if the Contractor, in the sole determination of the Commissioner, has abandoned the Work, the Contractor shall pay to the City the amount indicated to the right.</p> | <p>\$7,000.00 for each consecutive calendar day over substantial completion time</p> |
| <p align="center"><u>CONTRACT ARTICLE 17. SUB-CONTRACTOR</u></p> <p>The Contractor shall not make subcontracts totaling an amount more than the percentage of the total Contract price indicated to the right.</p> | <p>Not to exceed <u>35</u> % of the Contract price</p> |

| | |
|---|--|
| <p align="center"><u>CONTRACT ARTICLE 21.</u> <u>RETAINAGE</u></p> <p>The Commissioner shall deduct and retain until the substantial completion of the Work the percent value of the Work indicated to the right.</p> | <p><u>5 %</u> of the value of the Work</p> |
| <p align="center"><u>CONTRACT ARTICLE 22.</u> <u>(Per Directions Below)</u></p> | <p>See pages SA-5 through SA-12</p> |
| <p align="center"><u>CONTRACT ARTICLE 24.</u> <u>DEPOSIT GUARANTEE</u></p> <p>As security for the faithful performance of its obligations, the Contractor, upon filing its requisition for payment on Substantial Completion, shall deposit with the Commissioner a sum equal to the percentage of the Contract price indicated to the right.</p> | <p>1% of Contract price</p> |
| <p align="center"><u>CONTRACT ARTICLE 24.</u> <u>PERIOD OF GUARANTEE</u></p> <p>Periods of maintenance and guarantee other than the period set forth in Article 24.1 are indicated to the right.</p> | <p>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"><u>CONTRACT ARTICLE 74.</u> <u>STATEMENT OF WORK</u></p> <p>The Contractor shall furnish all labor and materials and perform all Work in strict accordance with the Contract Drawings, Specifications, and all Addenda thereto, as shown in the column to the right.</p> | <p>Addenda, numbered:</p> <p align="center"><u>1</u></p> |
| <p align="center"><u>CONTRACT ARTICLE 75.</u> <u>COMPENSATION TO BE PAID TO CONTRACTOR</u></p> <p>The City shall pay and the Contractor shall accept in full consideration for the performance of the Contract, subject to additions and deductions as provided herein, the total sum shown in the column to the right, being the amount at which the Contract was awarded to the Contractor at a public letting thereof, based upon the Contractor's bid for the Contract.</p> | <p>Amount for which the Contract was Awarded:</p> <p><u>Twenty-seven million, eight hundred ninety-three thousand, four hundred twenty-eight</u> Dollars <u>and forty-two cents</u></p> <p>(\$ <u>27,893,428.42</u>)</p> |
| <p align="center"><u>CONTRACT ARTICLE 79.</u> <u>PARTICIPATION BY MINORITY-OWNED AND WOMEN-OWNED BUSINESS ENTERPRISES IN CITY PROCUREMENT</u></p> | <p>See M/WBE Utilization Plan in the Bid Booklet</p> |

| | |
|--|---|
| <p style="text-align: center;"><u>STANDARD HIGHWAY SPECIFICATIONS</u> <u>SECTION 6.40</u> <u>LIQUIDATED DAMAGES FOR ENGINEER'S FIELD OFFICE</u></p> <p>If the Contractor fails to satisfactorily provide the field office and all equipment specified in Section 6.40 - Engineer's Field Office, and/or if a cited deficiency exceed seventy two (72) hours after notice from the Engineer in writing, or is permitted to recur, liquidated damages will be assessed in the amount specified herein for each subsequent calendar day or part thereof that a cited deficiency resulting in nonpayment, as described in Section 6.40.5, is not corrected.</p> | <p>\$ <u>250.00</u> for each calendar day of deficiency</p> |
| <p style="text-align: center;"><u>STANDARD HIGHWAY SPECIFICATIONS</u> <u>SECTION 6.70</u> <u>LIQUIDATED DAMAGES FOR MAINTENANCE AND PROTECTION OF TRAFFIC</u></p> | <p>\$ <u>250.00</u> for each instance of failure to comply with the Maintenance and Protection of Traffic requirements within three (3) hours after written notice from the Engineer.</p> <p>\$ <u>500.00</u> for each and every hour of failing to open the entire width of roadway to traffic the morning following a night/weekend work operation.</p> |
| <p style="text-align: center;"><u>STANDARD HIGHWAY SPECIFICATIONS</u> <u>SECTION 7.13</u> <u>LIQUIDATED DAMAGES FOR MAINTENANCE OF SITE</u></p> <p>If the Contractor fails to comply, within three (3) consecutive hours after written notice from the Engineer, with the requirements of Section 7.13 - Maintenance of Site, the Contractor shall pay to the City of New York, until such notice has been complied with or rescinded, the sum specified above per calendar day, for each instance of such failure, as liquidated damages and not as a penalty, for such default.</p> | <p>\$ <u>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 915 consecutive calendar days (“ccds”).

The Final Contract Duration shall be the Base Contract Duration when a check mark is indicated before the word “NO”, below, and shall be the Base Contract Duration adjusted by the table set forth below when a check mark is indicated before the word “YES”, below.

YES NO

When the Final Contract Duration is indicated above to be adjusted by the table below, the table may increase the Base Contract Duration depending on the date of scheduled substantial completion to avoid a scheduled substantial completion of the Work during the winter months. The date of scheduled substantial completion shall be determined by adding the Base Contract Duration to the date specified to commence work in the written Notice to Proceed. The Final Contract Duration shall then be determined as follows:

- (a) Find the row that corresponds to the month of substantial completion based on the Base Contract Duration added to the date specified to commence work in the written Notice to Proceed.
- (b) Find the number of days to be added to the Base Contract Duration in the table below. Add that number of days to the Base Contract Duration to obtain the Final Contract Duration in consecutive calendar days.

| Month of Substantial Completion based on the Base Contract Duration | Number of Days of adjustment |
|--|-------------------------------------|
| January | 150 |
| February | 120 |
| March | 90 |
| April | 60 |
| May | 30 |
| June | 0 |
| July | 0 |
| August | 0 |
| September | 0 |
| October | 0 |
| November –December 15 | 0 |
| December 16 – December 31 | 180 |

In addition, should Item No. 9.30, “Storm Water Pollution Prevention,” exist in the Contract and the required Storm Water Pollution Prevention Plan (SWPPP) does not conform to NYSDEC’s recommended Standards, an additional 60 ccd shall be added to the above Final Contract Duration.

(GENERAL CONDITIONS RELATING TO ARTICLE 22 – INSURANCE)

PART II. TYPES OF INSURANCE, MINIMUM LIMITS AND SPECIAL CONDITIONS

Note: All certificate(s) of insurance submitted pursuant to Contract Article 22.3. 3 must be accompanied by a Certification by Broker consistent with Part III below and include the following information:

- For each insurance policy, the name and NAIC number of issuing company, number of policy, and effective dates;
- Policy limits consistent with the requirements listed below;
- Additional insureds or loss payees consistent with the requirements listed below; and
- The number assigned to the Contract by the City (in the “Description of Operations” field).

Insurance indicated by a blackened box (■) or by X in a □ to left will be required under this contract

| Types of Insurance (per Article 22 in its entirety, including listed paragraph) | Minimum Limits and Special Conditions |
|--|---|
| <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 Contract.</p> <p>Additional Insureds:</p> <ol style="list-style-type: none"> 1. City of New York, including its officials and employees, with coverage at least as broad as ISO Form CG 20 10 and CG 20 37, 2. All person(s) or organization(s), if any, that Article 22.1.1(b) of the Contract requires to be named as Additional Insured(s), with coverage at least as broad as ISO Form CG 20 26. The Additional Insured endorsement shall either specify the entity’s name, if known, or the entity’s title (e.g., Project Manager), 3. National Grid |

| | |
|--|--|
| <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>Note: The following forms are acceptable: (1) New York State Workers' Compensation Board Form No. C-105.2, (2) State Insurance Fund Form No. U-26.3, (3) New York State Workers' Compensation Board Form No. DB-120.1 and (4) Request for WC/DB Exemption Form No. CE-200. The City will not accept an ACORD form as proof of Workers' Compensation or Disability Insurance.</p> <p>Jones Act and U.S. Longshoremen's and Harbor Workers' Compensation Act: Statutory per U.S. Law.</p> <p><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>Contractor the Named Insured; the City both an Additional Insured and one of the loss payees as its interests may appear.</p> <p>If the Work does not involve construction of a new building or gut renovation work, the Contractor may provide an installation floater in lieu of Builders Risk insurance.</p> <p>Note: Builders Risk Insurance may terminate upon Substantial Completion of the Work in its entirety.</p> |

| | |
|---|---|
| <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 Contractor shall provide pollution liability broadened coverage for covered vehicles (endorsement CA 99 48) as well as proof of MCS 90</p> <p>Additional Insureds:</p> |
| <input type="checkbox"/> Contractors Pollution Liability Art. 22.1.6 | <p>\$ <u>5,000,000</u> per occurrence \$ <u>5,000,000</u> aggregate</p> <p>Additional Insureds: 1. City of New York, including its officials and employees, and 2. _____ 3. _____</p> |
| <input type="checkbox"/> Marine Protection and Indemnity Art. 22.1.7(a) | <p>\$ _____ each occurrence \$ _____ aggregate</p> <p>Additional Insureds: 1. City of New York, including its officials and employees, and 2. _____ 3. _____</p> |
| <input type="checkbox"/> Hull and Machinery Insurance Art. 22.1.7(b) | <p>\$ _____ per occurrence \$ _____ aggregate</p> <p>Additional Insureds: 1. City of New York, including its officials and employees, and 2. _____ 3. _____</p> |

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| <p><input type="checkbox"/> Marine Pollution Liability Art. 22.1.7(c)</p> | <p>\$ <u>1,000,000</u> per occurrence</p> <p>\$ <u>1,000,000</u> aggregate</p> <p>Additional Insureds:</p> <p>1. City of New York, including its officials and employees, and</p> <p>2. _____</p> <p>3. _____</p> |
| <p>[OTHER] Art. 22.1.8</p> <p><input type="checkbox"/> Railroad Protection Liability Policy</p> <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"> • Policy Endorsement CG 28 31 - Pollution Exclusion Amendment is required to be endorsed onto the policy when environmental-related work and/or exposures exist. • Indicate the Name and address of the Contractor to perform the work, the Contract # and the name of the railroad property where the work is being performed and the Agency Permit. • Evidence of Railroad Protective Liability Insurance, must be provided in the form of the <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> | <p>\$ <u>2,000,000</u> per occurrence</p> <p>\$ <u>6,000,000</u> annual aggregate</p> <p>Named Insureds:</p> <p>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.</p> |

| | |
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| <p>[OTHER] Art. 22.1.8</p> <p>■ Professional Liability</p> <p>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.</p> <p>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.</p> | |
| <p>[OTHER] Art. 22.1.8</p> <p>■ Engineer's Field Office</p> <p>Section 6.40, Standard Highway Specifications</p> | <p>Fire insurance, extended coverage and vandalism, malicious mischief and burglary, and theft insurance coverage in the amount of <u>\$40,000</u></p> |
| <p>[OTHER] Art. 22.1.8</p> <p><input type="checkbox"/> The Following Additional Insurance Must Be Provided:</p> <p>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.</p> | |

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

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 |
| | | | |
| Prepared:  | 6/29/2016 | Approved:  | 6/29/2016 |
| Richard Jones, P.E. CWI Director, Specifications – Infrastructure Design | Date | Mohsen Zargarelahi, P.E. Assistant Commissioner – Infrastructure Design | Date |

APPLICABILITY:

- This Specification Bulletin (SB) is effective for projects advertised on or after 7/11/16.

SUPERSEDEANCE:

- 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.



Title: REVISIONS TO NYC DOT STANDARD HIGHWAY SPECIFICATIONS

- 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), 4th paragraph;
Delete the words "to a maximum of 70%"
- h) Refer to Page 120, Subsection 3.05.5.(A), 2nd 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, 4th paragraph;
Add the following words to the end of the 4th 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), 2nd paragraph;
Add the following words: "6 in x 12 in" after "At least four (4)"



Title: REVISIONS TO NYC DOT STANDARD HIGHWAY SPECIFICATIONS

- I) Refer to Page 282, Subsection 5.02.2.(C), 2nd 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
Date
Director, Specifications – Infrastructure Design

Approved:

10/11/2016

Mohsen Zargarelahi, P.E.
Date
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:



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 Sheeting 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 Sheeting 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 Sheeting And Bracing In Trench For Water Main Pipe:

70.91

(2) The sixth and seventh characters shall define Furnishing And Placing Sheeting And Bracing In Trench For Water Main Pipe:

SW - Furnishing And Placing Sheeting And Bracing In Trench For Water Main Pipe



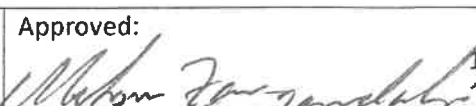
(3) The eighth and ninth characters shall define the Size of Water Main Pipe That Trench Sheeting will be provided for:

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 |
| | | | |
| Prepared:  | 1/12/2017 | Approved:  | 1/12/2017 |
| Richard Jones, P.E. CWI Director, Specifications – Infrastructure Design | Date | Mohsen Zargarelahi, P.E. Assistant Commissioner – Infrastructure Design | 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:

- **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:

- 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:

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(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. |

| | | |
|-------------|---|------|
| 50.71148D00 | 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. |
| 50.71136R48 | 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 |
| | | | |
| Prepared:  | 1/12/2017 | Approved:  | 1/12/2017 |
| Richard Jones, P.E. CWI Director, Specifications – Infrastructure Design | Date | Mohsen Zargarelahi, P.E. Assistant Commissioner – Infrastructure Design | 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:

- **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:

- 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/1137/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 >.

(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 |
| | | | |
| Prepared:  | 1/12/2017 | Approved:  | 1/12/2017 |
| Richard Jones, P.E. CWI Director, Specifications – Infrastructure Design | Date | Mohsen Zargarelahi, P.E. Assistant Commissioner – Infrastructure Design | Date |

APPLICABILITY:

- This Specification Bulletin (SB) is effective for projects advertised on or after 2/20/17.

SUPERSEDEANCE:

- 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:

- 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.

| | |
|--|--------|
| CITY OF NEW YORK | 2-1/2" |
| DEPARTMENT OF DESIGN AND CONSTRUCTION | 3-1/2" |
| INFRASTRUCTURE | 2-1/2" |
| RESIDENT ENGINEER'S FIELD OFFICE | 2-1/2" |

(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 (<i>Minimum</i>) |
|--------------------|----------------------------------|
| 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

Approved:

1/12/2017

Richard Jones, P.E. CWI

Date

Director, Specifications – Infrastructure Design

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:

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:



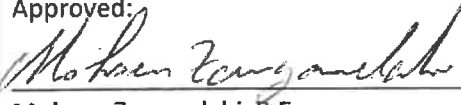
- a) **Refer** to Page 332, Section 6.23 – Fire Department Facilities, Subsection 6.23.4.(A), 3rd paragraph;
Delete the words “Bureau of Fire Communications”;
Substitute the words “Bureau of Facilities Management”.
- b) **Refer** to Page 332, Section 6.23 – Fire Department Facilities, Subsection 6.23.4.(A), 9th paragraph;
Delete the words “Bureau of Fire Communications”;
Substitute the words “Bureau of Facilities Management”.



Title: **FIRE DEPARTMENT FACILITIES**

- c) **Refer** to Page 332, Section 6.23 – Fire Department Facilities, Subsection 6.23.4.(A), 9th 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), 1st 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, 1st 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 |
| | | | |
| Prepared:  | 1/12/2017 | Approved:  | 1/12/2017 |
| Richard Jones, P.E. CWI Director, Specifications – Infrastructure Design | Date | Mohsen Zargarelahi, P.E. Assistant Commissioner – Infrastructure Design | Date |

APPLICABILITY:

- This Specification Bulletin (SB) is effective for projects advertised on or after 2/20/17.

SUPERSEDEANCE:

- 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).

| | | | |
|---|--|-----------------------------------|----------------------|
|  | Department of Design and Construction | SPECIFICATION BULLETIN | SB 17-005 |
| Title: DIGITAL PHOTOGRAPHS | | | |

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.

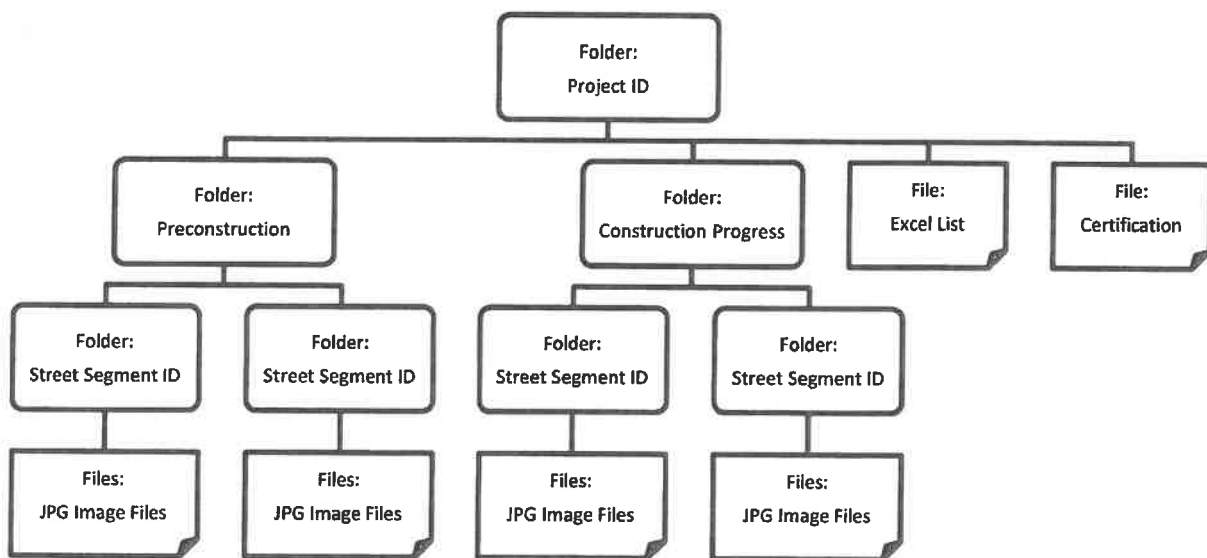
Digital files shall be submitted on Digital Versatile Disk ("DVD"). DVDs shall be inserted in standard weight Archival Quality clear poly sheet protectors, and submitted in a hard cover three (3) ring binder. The information imprinted on each print shall be provided on an Excel file included on the DVD. 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 |
| | | | |
| Prepared:  | 1/12/2017 | Approved:  | 1/12/2017 |
| Richard Jones, P.E. CWI Director, Specifications – Infrastructure Design | Date | Mohsen Zargarelahi, P.E. Assistant Commissioner – Infrastructure Design | 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)

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|---|--|--|--------------------------------|
|  | Department of Design and Construction | SPECIFICATION BULLETIN | SB 17-007 |
| | | | |
| Prepared:  | 3/24/2017 | Approved:  | 3/24/2017 |
| Richard Jones, P.E. CWI Director, Specifications – Infrastructure Design | Date | Mohsen Zargarelahi, P.E. Assistant Commissioner – Infrastructure Design | Date |

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:

- a) **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:



**Department of
Design and
Construction**

**SPECIFICATION
BULLETIN**

**SB
17-007**

Title: **MOBILIZATION**

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. |

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|---|--|--|--------------------------------|
|  | Department of Design and Construction | SPECIFICATION BULLETIN | SB 17-008 |
| | | | |
| Prepared:  | 3/24/2017 | Approved:  | 3/24/2017 |
| Richard Jones, P.E. CWI Director, Specifications – Infrastructure Design | Date | Mohsen Zargarelahi, P.E. Assistant Commissioner – Infrastructure Design | Date |

APPLICABILITY:

- This Specification Bulletin (SB) is effective for projects advertised on or after 4/17/2017.

SUPERSEDEANCE:

- 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:

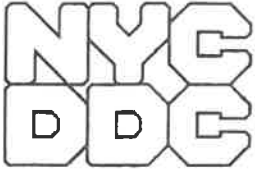
| | |
|--|-------------------------------|
| Field Technician | Plant Technician |
| NICET Asphalt Level II | NICET Asphalt Level II |
| Alfred State HMA Density Testing Inspector | Alfred State QC/QA Technician |
| NETTCP HMA Paving Inspector | NETTCP HMA Plant Technician |

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|---|--|-----------------------------------|----------------------|
|  | Department of Design and Construction | SPECIFICATION BULLETIN | SB 17-008 |
| Title: QUALIFICATION CARDS | | | |

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.

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|  | 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)



**Department of
Design and
Construction**

**SPECIFICATION
BULLETIN**

SB

17-008

Title: QUALIFICATION CARDS

**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 |
| | | | |
| Prepared:  | 3/24/2017 | Approved:  | 3/24/2017 |
| Richard Jones, P.E. CWI Director, Specifications – Infrastructure Design | Date | Mohsen Zargarelahi, P.E. Assistant Commissioner – Infrastructure Design | Date |

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

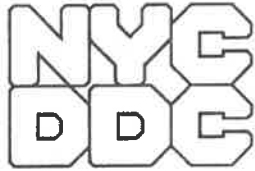
REVISIONS TO THE NEW YORK CITY DEPARTMENT OF ENVIRONMENTAL PROTECTION STANDARD SEWER AND WATER MAIN SPECIFICATIONS, DATED 7/1/14:

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 3rd 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 Contactor 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

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 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) of The City of New York, 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 1st, April 1st, July 1st and September 1st) will be used in the reimbursement formula for all **Extra Work** invoiced that was performed during that calendar quarter. Should the USEIA stop publishing this fuel price index, the fuel cost per gallon will be determined by reference to a substitute index to be agreed upon by the Contractor and the City.
- (9) The Contractor is responsible for any damage to the existing street and traffic signal equipment, including underground conduits and the safety of both pedestrian and vehicular traffic for the duration of the contract.

Should any conduits, cables or foundations need repair due to the Contractor's negligent operations during construction, all work shall be performed according to NYCDOT Bureau of Traffic's Standard Drawings and Specifications at the sole expense of the Contractor.

It is the Contractor's responsibility to secure an approved electrical contractor to perform all traffic signal work (if any). For list of approved electrical contractors, contact Mr. Michael R. LeFosse of New York City Department of Transportation at (212) 839-3799.

- (10) The Contractor is advised that where the existing roadway pavement is designated to be replaced from curb to curb, then no full depth saw cutting of pavement for sewer and water main trenches will be required, except at the limits of full width pavement restoration. No separate or additional payment will be made for any saw cutting.
- (11) The Contractor is advised that at some locations, the storm sewers are to be installed to cross over existing sanitary sewers that shall remain undisturbed in place. The Contractor shall exercise extreme caution and take all necessary precautions in placing sheeting during excavation to prevent any damages to the said existing sanitary sewers while working over it. The Contractor shall not make any claims to the City for additional work in relation to the above or in rectifying any damages caused by him/her, and/or extra compensations on account thereof. Should any portion of the existing sewers be damaged, the Contractor shall be held responsible and shall make all repairs at his/her own expense to the satisfaction of the Engineer
- (12) The Contractor shall install new curb and concrete sidewalk within the project limit at the locations where required due to missing or defective curb and/or sidewalk as directed by the Resident Engineer. New curbs and sidewalks shall be constructed in compliance with NYCDOT's latest requirements and specifications. Payment for this work shall be made under the appropriate curb and sidewalk items. (This does not include damage to curbs and sidewalks caused by the Contractor's construction operation; such damage shall be repaired at the sole expense of the Contractor. Nor does it include curb and sidewalk work required for house connection drain and catch basin installation, such work shall be deemed included in the prices bid for house connection drains and catch basins.)
- (13) The Contractor shall install new curb and concrete sidewalk within the project limit at the locations where required due to missing or defective curb and/or sidewalk as directed by the Resident Engineer. New curbs and sidewalks shall be constructed in compliance with NYCDOT's latest requirements and specifications. Payment for this work shall be made under the appropriate curb and sidewalk items. (This does not include damage to curbs and sidewalks caused by the Contractor's construction operation; such damage shall be repaired at the sole expense of the Contractor. Nor does it include curb and sidewalk work required for house connection drain and catch basin installation, such work shall be deemed included in the prices bid for house connection drains and catch basins.)

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.

- (14) The Contractor is notified that a Construction Report and Post-Construction Report are required under this contract in order to ascertain the effects of installation of CFA piles. The cost of this work shall be deemed included in the price bid for Item No. 76.11 CR-CONSTRUCTION REPORT and Item No. 76.21 MR – MONITORING AND POST – CONSTRUCTION REPORT.
- (15) The contractor is notified that the 8" Cast Iron Sanitary Sewer Force Main outgoing from the Cannon Avenue Pumping Station shall be relocated from the street to the sidewalk at the same elevation. The force main shall be constructed as per "Section 50.91 Ductile Iron Pipe Force Mains" included in the Bid Document. All items necessary to complete this work and do all work incidental thereto, and as directed by the engineer shall be deemed included in the bid item 50.91S6S08: 8" D.I.P Class 56 Sanitary Force Main on Crushed Stone Bedding. The ingoing 8" Sanitary Sewer will be replaced with 10" Ductile Iron Pipe Sanitary Sewer shall be deemed included in the bid item 50.41S6C10: 10" D.I.P Class 56 Sanitary Sewer on Concrete Cradle.

The contractor has to maintain the service of the pumping station at all times. The contractor shall notify Mr. Chris Laudando, Superintendent, Collection Facilities South Bureau of Waste Water Treatment, Department of Environmental Protection at 718-564-2700, at least 30 days prior to the start of construction. A construction sequence and bypass plan for the force main must be submitted and approved prior to construction. The contractor must obtain the necessary permits/approvals for the construction work associated with the D.I.P. Force Main installation. Unless otherwise specified, this cost of this work shall be deemed included in all bid items, with no additional cost to the city.

The contractor is also advised to take the utmost care in supporting and protecting the new/exist. 8" force main for the installation of the new 12"/18"/24" storm sewers at the intersections of Glen Street and Melvin Avenue, Glen Street and Wild Avenue and Glen street and Parish Avenue.

(NO FURTHER TEXT ON THIS PAGE)

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 Ed)

There are CONSOLIDATED EDISON facilities in the areas of construction. The Contractor shall notify CONSOLIDATED EDISON at least seventy-two (72) hours prior to the start of construction by contacting Ms. Rosa Patino-Prenz at (718) 802- 3020.

2) VERIZON/DEWBERRY

There are VERIZON facilities in the areas of construction. The Contractor shall notify VERIZON at least seventy-two (72) hours prior to the start of construction by contacting Ms. Cherie Albea at (646) 434 - 2302, Mr. Emilio Barcelona II @ (646) 434 - 2792, and Joe Maresca at (718) 977 – 8138.

3) TIME WARNER CABLE OF NEW YORK CITY

There are TIME WARNER CABLE facilities in the areas of construction. The Contractor shall notify TIME WARNER CABLE at least seventy-two (72) hours prior to the start of construction by contacting Mr. Marcello Demaio at (917) 417-9552.

4) NATIONAL GRID (KEYSPAN ENERGY DELIVERY)

There are NATIONAL GRID facilities in the areas 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 or at NEVILLE.JACOBS@us.ngrid.com

- (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) 281-3933 or (718) 281-3894.

(3) N.Y.C. DEPARTMENT OF TRANSPORTATION

The Contractor shall notify Mr. Michael Lofesse/Ghanshyam Patel - Signal/Street Lighting Operations, 34-02 Queens Blvd., Long Island City, N.Y. 11101 at (212) 839-3799/ (212) 839-3359, at least seventy-two (72) hours prior to the start of construction.

(4) N.Y.C. DEPARTMENT OF PARKS AND RECREATION

The Contractor shall notify the Parks Department at least seventy-two (72) hours prior to the start of construction by contacting Mr. Jason Conheaney at (718) 965-7740.

(5) N.Y.C. TRANSIT AUTHORITY

- (a) The Contractor is advised that bus routes as well as bus stops, within the scope of this project may be affected during construction operations. The Contractor shall notify at least Two (2) weeks prior to 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, 17th Floor
 New York, N.Y. 10004
 Telephone No. (646) 252-5517
sarah.wyss@nyct.com

- (3) Refer to Subsection 10.30- Contractor To Provide For Traffic, Page I-15**
Add the following:

- (1) Traffic Stipulations:

The Contractor shall refer to the Traffic Stipulations (five (5) pages) that are attached to the end of this addendum, and as directed by the Engineer.

- (4) 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 addendum.

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, well-points 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.

- (5) **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.

(6) Refer to Page IV-34:

Add the following new Section 40.15:

SECTION 40.15 OUTFALL AND TIDAL WETLANDS PERMITS

40.15.1 DESCRIPTION

Under this contract, at location(s) where outfall(s) are being constructed, and where work is being performed within area(s) of tidal wetlands, the Contractor shall be required to comply with the following permits while performing outfall work within navigable waters and/or work within tidal wetland areas.

(A) A Protection Of Waters Permit from the New York State Department of Environmental Conservation (NYSDEC), under the Environmental Conservation Law (ECL), Title 5 of Article 15, implemented by 6NYCRR Part 608 - Protection Of Waters: (i) For The Excavation And Fill In Navigable Waters; (ii) For The Disturbance Of A Stream Bed Or Bank; and, (iii) Part 401 - Water Quality Certification; and,

(B) A Tidal Wetlands Permit from the New York State Department of Environmental Conservation (NYSDEC), under the Environmental Conservation Law (ECL), Article 25, implemented by 6NYCRR Part 661 - Tidal Wetlands; and,

(C) A Department Of The Army Permit from the U.S. Army Corps of Engineers, under Code of Federal Regulations, Title 3 - Maintenance, implemented by: (i) Section 10 Of The Rivers And Harbors Act; (ii) Section 404 Of The Clean Water Act; and,

(D) A Coastal Consistency Concurrence Certification from the New York State Department of State (NYSDOS).

To expedite the Permit process, the Department of Design and Construction has filed a joint application for (A), (B), (C) and (D) above. As the application is being processed it shall be the Contractor's responsibility to comply with the requirements of the said permits. The Application ID number will be provided to the Contractor at the Preconstruction meeting.

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 work shall commence until the above-mentioned Permits have been obtained for this project, and a copy of each permit transmitted to the Engineer.

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 Wetland Specialist and, if required, an Environmental Scientist as herein described below in Subsection 40.15.2 to perform this work and act as liaison with NYSDEC and NYCDEP.

40.15.2 QUALIFICATIONS

The Wetland Specialist and/or Environmental Scientist utilized to perform the work required under this section must have adequate experience in work of this nature (obtaining Protection Of Waters, Tidal Wetlands and Department Of The Army Permits) and must have previous experience in working with the NYSDEC and the NYCDEP 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 Wetland Specialist and/or Environmental Scientist for approval.

40.15.3 NYSDEC PERMITS

The Wetland Specialist and/or Environmental Scientist shall prepare and submit all appropriate data and perform tasks as specified and required by the NYSDEC and/or Army Corps of Engineers.

The data to be prepared and submitted and the tasks to be performed shall include, but not be limited to the following:

- (1) The Wetland Specialist shall flag/stake the limits of the wetlands. These boundary locations are to be surveyed and plotted on a site plan whereon the adjacent areas shall then be drawn using the regulated wetland limit as a baseline. This site plan shall depict all existing conditions including descriptions of all vegetation.
- (2) An overlay of the site plan described above depicting the Contractor's proposed construction operations, including areas of equipment and material storage, and access roads.
- (3) Development of a sedimentation and erosion control plan including the location and specification for installing hay bales and siltation fencing between the construction right-of-way, staging areas, stockpiled materials and wetland adjacent areas.
- (4) Plans and specifications for the restoration/revegetation of all disturbed wetlands and regulated adjacent areas impacted by the Contractor's operations.
- (5) Upon completion of sewer, outfall and other related work on this project, the Contractor shall commence with the restoration/revegetation plan. All planting and revegetation shall be done under the supervision of the Wetland Specialist.
- (6) Should dewatering be required within the project area information regarding all dewatering activities must be submitted to and approved by NYSDEC in accordance with Subsection 40.02.15.
- (7) Wherever dewatering is extensive or of long duration and the cone of depression will extend to wetland areas the Wetlands Specialist shall develop and implement a program to monitor groundwater levels in the wetlands (e.g. install hand driven well points) and surface water levels in water bodies. Prior to construction, the Wetlands Specialist shall gather information on any rare, endangered or threatened species and base-line data on existing vegetation and wildlife. Monitoring of these parameters shall continue throughout the construction to assure no adverse impacts to habitat within wetlands and water bodies from dewatering.

(8) The Wetland Specialist shall also submit a plan for mitigation should the monitoring of wetlands reveal any adverse effects to vegetation, etc.

40.15.4 SUBMISSION OF REPORT

The Wetland Specialist and/or Environmental Scientist will be required to submit two (2) copies of a Report (together with all appropriate data, maps, site plans and surveys, mitigation plan, reports, materials, designs and drawings) to the Infrastructure Engineering Support Unit for review and approval. Once approved the Wetland Specialist and/or Environmental Scientist shall submit in triplicate this report to both the NYSDEC and the NYCDEP. The Report 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'.

40.15.5 DAMAGES

The Contractor shall be responsible for and shall repair at no cost to the City any damage caused to the outfall location(s) and tidal wetland areas by inadequate or improper designs and construction operations by the Contractor.

40.15.6 AREAS TO BE LEFT CLEAN

The Contractor shall remove all material and equipment from the outfall location(s) and area(s) of tidal wetlands after completion of work at the site(s). The locations and areas shall be left in a clean and neat condition in accordance with the requirements and directions of the Engineer, the NYSDEC and the Army Corps of Engineers.

40.15.7 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 Page V-73:

Add the following new **Section 50.91**:

SECTION 50.91 DUCTILE IRON PIPE FORCE MAINS

50.91.1 DESCRIPTION

Force mains shall be ductile iron with mechanical joint pipe and fittings and shall be constructed of the sizes and classes shown.

50.91.2 MATERIALS

(A) Ductile iron pipe shall comply with the requirements of **Section 21.06** and shall be Class 56 unless otherwise specified.

(B) Mechanical joints shall comply with the requirements of **Subsection 21.06.5**.

(C) All fittings required shall be ductile iron or gray iron rated for two hundred fifty (250) pounds per square inch in accordance with the latest revisions of ANSI/AWWA C110/A21.10 and ANSI/AWWA C111/A21.11.

(D) Concrete for encasement shall comply with the requirements of **General Specification 11 - Concrete, as modified in Section 23.01**.

(E) Filter fabric shall be Tyvar Style 3401 manufactured by the Dupont Company; Mirafi 140N manufactured by Fibers Industries, Inc., subsidiary of Celanese Corporation; Bidim C-22 manufactured by the Monsanto Textiles Company; or an approved equal.

(F) Screened broken stone shall comply with the requirements of **Section 26.02**.

(G) Discharge manholes for force mains shall be precast reinforced concrete manhole and shall comply with the requirements of **Subsection 51.21.4**.

(H) Granite blocks shall be sound, durable, fine grained and free from rifts and laminations. Granite blocks shall be saw cut to the required dimensions.

50.91.3 CONSTRUCTION METHODS

(A) GENERAL - Ductile iron pipe force mains shall be constructed of the sizes and classes and to the lines and grades shown on the plans or as ordered.

(B) GENERAL CONSTRUCTION PROVISIONS - The requirements of **DIVISION IV - GENERAL CONSTRUCTION PROVISIONS** shall apply to the work to be done hereunder.

(C) FILTER FABRIC - The Contractor shall furnish and install filter fabric in the trenches for the force mains (except where force mains are to be encased in concrete).

The filter fabric shall be placed in the bedding of the trench so as to conform loosely to the shape of the trench. Screened broken stone shall then be placed and compacted and the filter fabric shall then be folded over the top of the bedding material to produce a minimum overlap of twelve (12) inches.

Application for approval of a filter fabric other than those mentioned above shall be made by submitting a one (1) square yard sample of the fabric and the manufacturer's affidavit as to the physical properties of the fabric, to the Engineer.

Filter fabrics which are subject to deterioration by ultra-violet rays shall be protected from sunlight during transport and storage.

No filter fabric (whether subject to damage from sunlight or not) shall be left exposed more than two (2) weeks before being covered by backfill.

(D) SCREENED BROKEN STONE - Following the placement of the filter fabric the Contractor shall furnish, place and compact the screened broken stone to a depth as shown on the contract drawings.

(E) DUCTILE IRON PIPE FORCE MAIN

- (1) WORK INCLUDED: The Contractor shall furnish all labor, materials and equipment required, to place and test underground ductile iron pipe force mains as specified herein and as shown on the contract drawings including all necessary and appurtenant work required for their complete installation.
- (2) INSTALLATION: The minimum cover for the force mains shall be 4'-0" to the crown of the pipe unless otherwise shown or ordered by the Engineer. The ductile iron pipe force mains shall be placed on a bed of screened broken stone as shown on the contract drawings (or encased in concrete where shown on the contract drawings).
- (3) DUCTILE IRON PIPE, JOINTS AND FITTINGS: Ductile iron pipe force mains shall be ceramic epoxy lined and outside asphaltic coated ductile iron pipe complete with all mechanical joints, ductile iron fittings, retainer glands, wall castings, jointing materials, supports, anchors, encasement, and other necessary accessories and appurtenances as shown on the contract drawings, as specified and as required for a complete installation.

Ductile iron pipe and fittings shall conform to **Section 50.41**, unless otherwise specified herein.

- (a) Pipe and Fittings - Pipe for the force main shall be mechanical joint, flanged and plain end of Class 56 wall thickness in conformity with ANSI A21.51. Mechanical joints for pipe and fittings shall be in conformity with ANSI A21.11 with ductile iron mechanical joint glands and rubber gaskets suitable for sewage service, high strength cast iron tee head bolts and hexagon head nuts. Mechanical joint fittings shall be ductile iron fittings rated at 250-psi with laying dimensions equal to ANSI A21.10 standards.

Where flanged pipe and fittings are shown, pipe shall have shop threaded-on flanges and flanged fittings having flange dimensions and drilling conforming to ANSI B16.1, Class 125 standards. Flanged fittings shall be ductile iron conforming to ANSI A21.10 and rated for 250-psi pressure. Flanged pipe and shop threaded flanges shall meet the requirements of ANSI A21.15 requirements.

Flanged joints shall be made with bolts and nuts of silicon bronze, ASTM Des.B98, Alloy A, and 1/16 inch thick cloth insertion rubber ring gaskets. Each flanged joint shall be painted with two (2) coats of black asphaltum.

- (b) Mechanical Joints - Mechanical joints shall meet the requirements specified under ANSI A21.11 and shall be complete with glands, bolts, nuts, and gaskets. Gaskets shall be of natural or synthetic rubber inert to the chemical action of sewage.

Mechanical joints shall be installed (cleaned, tightened and torqued) in accordance with the requirements of **Subsection 21.06.5(B)**.

Mechanical joints showing visible leakage at the maximum permitted torque shall be disassembled, thoroughly cleaned and reassembled.

Every length of pipe and each fitting shall have, distinctly cast upon it, the identification initials of the manufacturer.

SUBSTITUTION OF PUSH-ON JOINT PIPE AND FITTINGS WILL NOT BE PERMITTED.

- (c) Ductile Iron Fittings - Fittings outside of the manhole shall be restrained type mechanical joints as shown on the contract drawings. Fittings within the manhole shall be standard Class 125 flanged type. All nuts and bolts shall be Type 316 stainless steel.
- (d) Restrained Mechanical Joints - Restrained joints for pipe and fittings shall be designed for a working pressure of 350-psi. Joint shall be capable of being deflected, after assembly, four (4) degree. Joints shall be Griffin Pipe Products Co., Oak Brook, IL. Bolt-Lok or approved equal.
- (e) Lining and Coating - The interior of all pipe and fittings shall be ceramic epoxy lined in accordance with **Subsection 21.06.4**.
- The exterior of the pipe and fitting shall be asphaltic coated in accordance with ANSI/AWWA C151/A21.51.
- (f) Polyethylene Encasement - All ductile iron pipe shall be placed in a polyethylene encasement for protection against corrosion and stray currents in conformity with ANSI/AWWA C105/A21.5.
- (g) Assembly of Pipe - All mechanical joint pipes shall be assembled with the spigot end of the pipe placed into the bell of the next connected length of pipe in the direction flow. All pipes shall be carefully placed in the trench to proper grade with no intermediate high.

point in the pipe run. Any damage to the ceramic epoxy lining due to handling shall be repaired to the Engineer's satisfaction.

Transition pieces shall have wall thickness equal to Class 61 (0.67-inch) in conformity with ANSI A21.51 and shall be 2'-6" in length. The mechanical joint end of the transition piece shall be provided with retainer glands as specified hereinbefore.

- (4) FORCE MAIN LEAKAGE TEST: Pressure test of the force main shall be performed by the Contractor and witnessed by the Engineer and representatives of the City. The Contractor shall provide all air compressors, pressure pumps, gauges, hoses, valves, and accessories and appurtenances required for the test at the Contractor's own expense.

The Contractor shall notify the Engineer at least five (5) days prior to start of test procedures.

The hydrostatic test shall be conducted using City water, City water shall be provided to the Contractor at no additional cost but all water hoses, appurtenances and accessories shall be furnished by the Contractor at the Contractor's own expense.

The initial test of the force main shall be made in sections in lengths as approved by the Engineer. Initial tests shall be made with the pipe backfilled except for the area at pipe joints. After successful initial test, the pipe shall be completely backfilled and given the final test.

All testing equipment shall be submitted to the Engineer for approval.

Pipe caps when assembled, shall be capable of operating satisfactorily and safely at the test pressure specified.

All hoses, clamps, couplings, accessories and appurtenances shall be of approved type.

Test pressure gauge shall be calibrated to Class AA accuracy (1/2 of one percent error over the full pressure range of the test gauge) and certifications of the gauge shall be submitted to the Engineer.

An outline of test procedures follows hereinafter; the Contractor shall submit detailed test procedures to the Engineer for approval.

- (a) Test Criteria - Test criteria for the initial sectional tests and final test of the overall length are as follows, unless otherwise approved by the Engineer.

| | <u>INITIAL</u> | <u>FINAL</u> |
|---------------------|----------------|--------------|
| Test Media | City Water | City Water |
| Test Pressure | 50-psi | 100-psi |
| Permissible Leakage | Zero | Zero |
| Duration | 20-minutes | 2-hours |

Readings of gauges shall be made after the pipe has been filled with City water and the temperature has stabilized. Test procedures shall start when directed by the Engineer.

- (b) Initial Test of Force Main

- (1) Insure that all support and restraint protection are securely in place. Furnish and install all necessary supports and braces to permit leakage testing without damage to installed piping and appurtenances.
- (2) Fill section to be tested slowly with water and expel all air. Install cocks, if necessary, to ensure removal of air. Test only one section of pipe at a time. Furnish and install any necessary pipe caps, flanges, or closures to permit testing in sections.

- (3) Apply test pressure of 50-psi for twenty (20) minutes and observe pressure gauges. Check carefully for leaks while test pressure is being maintained.
- (4) Repair all leaks and retest to the satisfaction of the Engineer.
- (5) Assemble additional lengths of pipe and repeat test procedures until the complete force main has been tested.

(c) Final Test of Force Main

- (1) Assemble properly and completely backfill.
- (2) Fill section to be tested slowly with water and expel all air. Install corporation cocks to ensure removal of air. Test the overall length of pipe. Furnish and install any necessary pipe caps, flanges, or closures to permit testing.
- (3) Apply test pressure to 100-psi for two (2) hours and observe the pressure gauge for drop in pressure. Check carefully for leaks while test pressure is maintained.
- (4) Repair all leaks, excavating and backfilling as required, and retest to the satisfaction of the Engineer.

The Contractor may submit alternative test procedures to the Engineer for approval. Such alternative procedures must be submitted at least two (2) weeks prior to start of testing and must be approved in writing by the Department.

(F) THRUST BLOCKS - Thrust blocks shall be constructed at bends in the force mains to the dimensions shown, specified or ordered.

(G) DISCHARGE MANHOLE FOR THE FORCE MAIN - Discharge manholes shall be constructed at the locations and to the sizes and depths shown, specified or ordered. Granite block shall be embedded into the discharge manholes concrete dishes as shown specified or ordered.

50.91.4 MEASUREMENT

The quantity to be measured for payment shall be the actual length, in linear feet as measured along the centerline of the force main, constructed in accordance with the contract documents. Lengths inside the manholes shall be included in the measurement for payment.

50.91.5 PRICE TO COVER

The contract price for "DUCTILE IRON PIPE FORCE MAINS" shall be the unit price bid per linear foot for each size and class of ductile iron pipe force main and shall cover the cost of all of labor, materials, plant equipment, samples, tests and insurance required and necessary to construct the ductile iron pipe force mains of the sizes and classes and at the locations and to the lines and grades shown, including the earth excavation of all materials of whatever nature encountered (See **Section 40.03 - Earth Excavation**); all sheeting and bracing; pumping; fluming; bridging; decking; breaking down and filling in of abandoned sewer appurtenances; fittings; connections to existing force mains and existing or new discharge manholes; concrete encasements; screened broken stone beddings; concrete trust blocks; filter fabrics; polyethylene encasements; maintaining flow; backfilling; cleaning; temporary restoration of the street surface; 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.

In addition, included in the price hereunder shall be the cost of all labor and materials necessary to remove all specified or ordered existing sewers, force mains, manholes, structures and appurtenances that may be in the line of the work and do all work incidental thereto, all in accordance with **Subsections 10.13 and 10.28** of the specifications and as directed by the Engineer.

50.91.6 SEPARATE PAYMENT

Payment for discharge manholes shall be made in accordance with **Subsection 51.21.6**.

Payment for Ductile Iron Pipe Force Mains will be made under the Item Number as calculated below:

The Item Numbers for Ductile Iron Pipe Force Mains have ten characters. (The decimal point is considered a character, the third character.)

- (1) The first five characters shall define Ductile Iron Pipe Force Mains:
50.91

- (2) The sixth character shall define the Type of Force Main Effluent:
S - Sanitary Sewer
M - Storm Sewer
C - Combined Sewer

- (3) The seventh character shall define the Class of Ductile Iron Pipe Force Main. (Note: All Ductile Iron Pipe for Force Mains is Class 56. Class 54 is provided on a special case basis only.):

6 - Class 56
4 - Class 54

- (4) The eighth character shall define the Kind of Bedding for Ductile Iron Pipe Force Main:
C - On Concrete Cradle
E - Encased In Concrete
S - On Crushed Stone Bedding
T - Encased in Crushed Stone

- (5) The ninth and tenth characters shall define the Diameter of the Ductile Iron Pipe Force Main. (The ninth and tenth characters representing the unit of inches for the Diameter of the Ductile Iron Pipe Force Main.) See examples below:

08 - 8"
12 - 12"

- (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 |
|------------|--|----------|
| 50.91S6C06 | 6" D.I.P. CLASS 56 SANITARY FORCE MAIN, ON CONCRETE CRADLE | L.F. |
| 50.91S6C12 | 12" D.I.P. CLASS 56 SANITARY FORCE MAIN, ON CONCRETE CRADLE | L.F. |
| 50.91S6E08 | 8" D.I.P. CLASS 56 SANITARY FORCE MAIN, ENCASED IN CONCRETE | L.F. |
| 50.91S6E10 | 10" D.I.P. CLASS 56 SANITARY FORCE MAIN, ENCASED IN CONCRETE | L.F. |
| 50.91S6S06 | 6" D.I.P. CLASS 56 SANITARY FORCE MAIN, ON CRUSHED STONE BEDDING | L.F. |
| 50.91S6S12 | 12" D.I.P. CLASS 56 SANITARY FORCE MAIN, ON CRUSHED STONE BEDDING | L.F. |
| 50.91S6T08 | 8" D.I.P. CLASS 56 SANITARY FORCE MAIN, ENCASED IN CRUSHED STONE | L.F. |
| 50.91M6C12 | 12" D.I.P. CLASS 56 STORM FORCE MAIN, ON CONCRETE CRADLE | L.F. |
| 50.91M6E10 | 10" D.I.P. CLASS 56 STORM FORCE MAIN, ENCASED IN CONCRETE | L.F. |
| 50.91M6S08 | 8" D.I.P. CLASS 56 STORM FORCE MAIN, ON CRUSHED STONE BEDDING | L.F. |
| 50.91M6T10 | 10" D.I.P. CLASS 56 STORM FORCE MAIN, ENCASED IN CRUSHED STONE | L.F. |
| 50.91C6C12 | 12" D.I.P. CLASS 56 COMBINED FORCE MAIN, ON CONCRETE CRADLE | L.F. |
| 50.91C6S08 | 8" D.I.P. CLASS 56 COMBINED FORCE MAIN, ON CRUSHED STONE BEDDING | L.F. |

- (8) **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 street areas requiring sewer and water main work, the restoration shall be as follows:

(a) In the following Streets:

**Cannon Avenue from Parish Avenue to North building line of Victory Boulevard, including the intersection of Parish Avenue and Glen Street;
 Melvin Avenue from Station 3+50 to North curb line of Victory Boulevard;
 Parish Avenue from Cannon Avenue to North curb of Victory Boulevard;
 Leroy Street from South curb line of Cannon Avenue to the North curb line of Victory Boulevard; Shelley Avenue from South curb line of Victory Boulevard to Station 3+25.**

The entire width of the roadway shall be removed from **curb to curb** or **edge to edge** and the permanent restoration over the entire width of the roadway shall consist of Asphaltic Macadam Pavement, six (6) inches thick on a sub-base course of six (6) inches of Select Granular Material, (Material D only) with Plastic Filter, all in accordance with the requirements of Bureau of Highways operations specifications.

(b) **In Victory Boulevard from Simmons Lane to the East Building Line of Cannon Avenue, Victory Boulevard from West curb line of Church Avenue to East curb line of Towers Lane**

The entire width of the roadway shall be removed from **curb to curb** or **edge to edge** and the permanent restoration over the entire width of the roadway shall consist of a top course of a minimum of three (3) inches of binder mixture on a base course of a minimum of six (6) inches of high-early strength concrete, to match the existing pavement as directed by the Engineer.

(c) The following streets require 2" Overlay:

**Wild Avenue from East Curb line of Glen Street to North Curb line of Victory Boulevard; Prices Lane from South curb line of Cannon Avenue to Dead End of Prices Lane; Burke Avenue from Dead End of Burke Avenue to Station 2+50
 Meredith Avenue from Station 3+00 to Station 9+50**

(i) The permanent restoration over the **trench width and cutbacks** only shall consist of top course of one and one-half (1-1/2) inches of binder mixture on a base course of a minimum of four and one-half (4-1/2) inches of binder mixture, to match the existing pavement as directed by the Engineer.

**Glen Street from Station 7+50 to East curb line of Parish Avenue
 Victory Boulevard from Station 7+00 to Station 17+75
 Meredith Avenue from Station 0+00 to Station 3+00**

(ii) The permanent restoration over the **trench width and cutbacks** only shall consist of a top course of a minimum of three (3) inches of binder mixture on a base course of a minimum of six (6) inches of high-early strength concrete, to match the existing pavement as directed by the Engineer.

(iii) 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

(2) In all other street areas requiring water main work only, 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 (1-1/2) inches of asphaltic concrete wearing course on a base course of a minimum of four and one-half (4-1/2) inches of binder mixture, or a top course of one and one-half (1-1/2) inches of asphaltic concrete wearing course on a one and one-half (1-1/2) inches of binder mixture on a base course of a minimum of six (6) inches of high-early strength concrete, to match the existing pavement as directed by the Engineer.

(3) The following requirements apply:

- (a) Before the top course is installed, an additional width of asphalt beyond the edge of new base course shall be saw-cut and removed from all edges of trenches to a depth to accommodate the specified top course and the entire area restored. This additional removal shall be in accordance with paragraph (b) below.
- (b) Pavement excavation along with saw cutting of pavements for sewer and water main trenches shall be in accordance with **Section 71.21 - Pavement Excavation** of the Standard Sewer And Water Main Specifications.
- (c) At locations requiring the installation of a concrete base course, a reflective cracking membrane 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 Bureau of Highways Operations Specifications and Standard Details of Construction.
- (e) Unless otherwise specified, the cost for Proctor analyses, in-place soil density tests, tack coating, eradication of temporary roadway markings, stripping or milling of pavement keys and adjustment of city-owned castings for all roadway work shall be deemed included in the prices bid for all pavement restoration items.
- (f) Payment for placement of temporary pavement marking shall be made under Item No. 6.49 - TEMPORARY PAVEMENT MARKINGS (4" WIDE).
- (g) Payment for removal of existing pavement markings shall be made under Item No. 6.53 - REMOVE EXISTING LANE MARKINGS (4"WIDE).
- (h) Payment for placement of permanent pavement marking with thermoplastic reflectorized pavement markings (crosswalk and lane dividers) shall be made under Item No. 6.44 - THERMOPLASTIC REFLECTORIZED PAVEMENT MARKINGS (4" WIDE).
- (i) Payment for pavement restoration shall be made under the following items:

| <u>Item No.</u> | <u>Item</u> | <u>Payment Description</u> |
|-----------------|---|---|
| 4.02 AB-R | Asphaltic Concrete Wearing Course, 1-1/2" Thick | (For asphaltic concrete wearing course top course when <u>no</u> overlay is required.) |
| 4.02 AG | Asphaltic Concrete Wearing Course, 3" Thick | (For curb to curb or edge to edge) |

| | | |
|-----------|---|--|
| 4.02 AF-R | Asphaltic Concrete Wearing Course, 2" Thick. | (For 2" asphaltic concrete wearing course overlay from curb to curb or edge to edge.) |
| 4.01 RAG | Asphalt Macadam pavement 6" Thick | (For curb to curb or edge to edge) |
| 4.02 CA | Binder Mixture | (For binder mixture base course over trenches and cutbacks; binder mixture top course when overlay is required; binder mixture in Type A and B Keys; and binder mixture to fill in roadway depressions and to provide a leveling course prior to overlay where ordered.) |
| 4.04 H | Concrete Base For Pavement, Variable Thickness For Restoration, (High-Early Strength) | (For concrete base course over trenches and cutbacks.) |
| 6.67 | Subbase Course Select Granular Material | (For 6" Sub-base course from curb to curb or edge to edge.) |
| 6.68 | Plastic Filter Fabric | (For placement under Sub-base Course) |

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.

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 twenty (20) pages plus four (4) pages of attachments.



OCMC TRAFFIC STIPULATIONS

01.21.14

OCMC FILE NO: REC-13-404
CONTRACT NO: SER200226
PROJECT: CONSTRUCTION OF STORM, SANITARY SEWERS, WATER MAINS AND APPURTENANCES
LOCATION(S): SEVERAL LOCATIONS STATEN ISLAND

PERMISSION IS HEREBY GRANTED TO THE **NEW YORK CITY DEPARTMENT OF DESIGN AND CONSTRUCTION** AND ITS DULY AUTHORIZED AGENT, TO ENTER UPON AND RESTRICT THE FLOW OF TRAFFIC AT THE ABOVE LOCATION AND ITS LOCAL ADJACENT STREETS FOR THE PURPOSE OF CARRYING OUT THE ABOVE NOTED PROJECT, SUBJECT TO THE STIPULATIONS, AS NOTED BELOW:

A. SPECIAL STIPULATIONS

- **EMBARGOES** – A CONSTRUCTION EMBARGO WILL APPLY:
TO **VICTORY BOULEVARD** LOCATIONS WHICH FALL WITHIN THE **HOLIDAY EMBARGO** AS PUBLISHED BY THE BUREAU OF PERMIT MANAGEMENT AND CONSTRUCTION CONTROL.
TO **VICTORY BOULEVARD, GLEN AVENUE, PARISH AVENUE** LOCATIONS WHICH FALL WITHIN THE **4 JULY PARADE EMBARGO** AS IDENTIFIED NYPD/NYCDOT MAYOR OFFICE OF SPECIAL EVENTS.
- **BIKE LANES** – IF WORK IS IN OR AFFECTING A BIKE LANE, THE CONTRACTOR MUST POST ADVANCE WARNING SIGNS 350 FEET AND 200 FEET PRIOR TO THE WORK ZONE STATING "**CONSTRUCTION IN BIKE LANE AHEAD PROCEEDS 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).
- **BUS STOPS** – THE CONTRACTOR 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.
- **METERS** – THE CONTRACTOR MAY NOT REMOVE OR RELOCATE PARKING METERS WITHOUT FIRST OBTAINING APPROVAL FROM NYCDOT PARKING METER DIVISION AT 718 – 894 – 8651.
- **ACCESS TO ABUTTING PROPERTIES** – THE CONTRACTOR SHALL COORDINATE ALL ACTIVITIES WITH ABUTTING PROPERTY OWNERS TO ENSURE ACCESS IS PROVIDED TO/FROM ENTRANCES/DRIVEWAYS AT ALL TIMES.
- **NOTIFICATION** – THE CONTRACTOR MUST AT LEAST TWO (2) WORKING DAYS BEFORE THE START OF CONSTRUCTION NOTIFY THE NYC FIRE DEPARTMENT, NYC POLICE DEPARTMENT, NYCEMS, LOCAL COMMUNITY BOARD, BOROUGH PRESIDENT'S OFFICE-CHIEF ENGINEER, NYCDOT OCMC OFFICE, AND ALL ABUTTING PROPERTY OWNERS.
- **ENHANCED MITIGATIONS**
 - **(4) VARIABLE MESSAGE SIGNS (VMS)** SHALL BE PROVIDED FOR THIS PROJECT. THE LOCATIONS AND MESSAGES SHALL BE RECOMMENDED BY NYCDOT AND THEIR CONTRACTOR A MINIMUM OF TWO (2) WEEKS PRIOR TO WORK COMMENCING, FOR OCMC REVIEW AND APPROVAL.
 - "**NO STANDING ANYTIME-TEMPORARY CONSTRUCTION**" SIGNS AND TEMPORARY PAVEMENT MARKINGS SHALL BE INSTALLED AND MAINTAINED AS WARRANTED BY THE MAINTENANCE AND PROTECTION OF TRAFFIC (MPT) REQUIRED TO FACILITATE TRAFFIC MOVEMENTS THROUGH THE WORK ZONE. ALL TEMPORARY SIGNS AND PAVEMENT MARKINGS SHALL BE REMOVED UPON COMPLETION OF THE PROJECT. THE CONTRACTOR OR AGENCY PROVIDING 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 INFORMATION.
 - **COMMUNITY OUTREACH** SHALL BE PROVIDED FOR THE DURATION OF THE PROJECT.

B. MAINTENANCE AND PROTECTION OF TRAFFIC

STORM, SANITARY SEWERS WORKS

1. **MELVIN AVENUE BETWEEN GLEN STREET AND WILD AVENUE**
2. **PARISH AVENUE BETWEEN CANNON AVENUE AND VICTORY BLVD.**
3. **WILD AVENUE BETWEEN GLEN STREET AND PEARSON STREET**
4. **SHELLEY AVENUE BETWEEN VICTORY BLVD. AND MILDRED AVENUE**
5. **BURKE AVENUE BETWEEN DEAD END OF PRICES LANE AND VICTORY BLV.**
6. **PRICES LANE BETWEEN CANNON AVENUE AND DEAD END OF BURKE AVENUE**

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7. LEROY STREET BETWEEN CANNON AVENUE AND VICTORY BLV
8. MEREDITH AVENUE BETWEEN WEST SHORE EXPRESSWAY AND CANNON AVENUE
9. SIMMONS LANE BETWEEN VICTORY BOULEVARD. AND MILDRED AVENUE

- Work hours shall be as follows: 7:00 AM to 6:00 PM, Monday through Friday,
- The contractor shall maintain 1- 12' lane for local and emergency traffic all times.
- In areas where the roadway does not allow for an emergency lane, the contractor's work shall not exceed 100 linear feet so that the N.Y. Fire Department/EMS and the N.Y. Police Department can have access to the local residents barricaded by the work area. The work area shall include the excavated trench, equipment and stored materials necessary for the work.
- It will be the contractor's responsibility to inform N.Y. Fire Department/EMS, the N.Y. Police Department and the local Community Board daily in writing 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 N.Y. Fire Battalion, the N.Y. Police Department and the local Community Board shall sign such notice daily.
- The contractor shall provide and maintain either a 5 foot clear sidewalk or a 5 foot protected walkway in the roadway for pedestrian access at all times.
- Intersection shall be open after working hours.

10. CANNON AVENUE BETWEEN GLEN STREET AND MEREDITH AVENUE/LEROY STREET (PHASE I)
CANNON AVENUE BETWEEN MEREDITH AVENUE/LEROY STREET AND VICTORY BLVD (PHASE II)

- Work hours shall be as follows: 7:00 AM to 6:00 PM, Monday through Friday,
- The contractor shall maintain 1- 12' lane for local and emergency traffic all times.
- In areas where the roadway does not allow for an emergency lane, the contractor's work shall not exceed 100 linear feet so that the N.Y. Fire Department/EMS and the N.Y. Police Department can have access to the local residents barricaded by the work area. The work area shall include the excavated trench, equipment and stored materials necessary for the work.
- It will be the contractor's responsibility to inform N.Y. Fire Department/EMS, the N.Y. Police Department and the local Community Board daily in writing 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 N.Y. Fire Battalion, the N.Y. Police Department and the local Community Board shall sign such notice daily.
- The contractor shall provide and maintain either a 5 foot clear sidewalk or a 5 foot protected walkway in the roadway for pedestrian access at all times.
- Intersection shall be open after working hours.
- The contractor cannot work simultaneously on **Phase I** and **Phase II**.
- The contractor cannot work simultaneously on **Phase I** and **Parish Avenue**.

11. GLEN STREET BETWEEN VICTORY BOULEVARD AND PARISH AVENUE

- Work hours shall be as follows: 7:00 AM to 6:00 PM, Monday through Friday.
- The contractor shall maintain one 11 foot lane for traffic all time.
- The contractor shall provide and maintain either a 5 foot clear sidewalk or a 5 foot protected walkway in the roadway for pedestrian access at all times.
- The contractor has to provide access to 440 West Shore EXPWY all time.
- The contractor must contact with NYCDOT Highway yard to make access all time.

12. VICTORY BOULEVARD BETWEEN ROSWELL AVENUE AND PARISH AVENUE

- Work hours shall be as follows: 9:00 AM to 4:00 PM, Monday through Friday.
- During working hours the contractor shall maintain one 11 foot lane for 2 ways thru traffic with flaggers at each end of work zone and maintain 2 lanes for traffic, 1 lane in each direction after working hours.
- The contractor shall provide and maintain either a 5 foot clear sidewalk or a 5 foot protected walkway in the roadway for pedestrian access at all times.
- A **Holiday Embargo** is in effect for this location AS PUBLISHED BY THE BUREAU OF PERMIT MANAGEMENT AND CONSTRUCTION CONTROL.
- A **SCHOOL CONSTRUCTION EMBARGO** AND **JULY 4 PARADE EMBARGO** APPLIES TO THE LOCATION MENTIONED ABOVE. WORK MAY OCCUR ONLY WHEN SCHOOL IS NOT IN A SESSION FROM JULY 5 TO SEPTEMBER 1 OF EACH YEAR OF THE CONTRACT.

13. VICTORY BOULEVARD BETWEEN PARISH AVENUE AND RIDGEWAY AVENUE

- Work hours shall be as follows: 9:00 AM to 4:00 PM, Monday through Friday.
- During working hours the contractor shall maintain one 11 foot lane for 2 ways thru traffic with flaggers at each end of work zone and maintain 2 lanes for traffic, 1 lane in each direction after working hours.
- The contractor shall provide and maintain either a 5 foot clear sidewalk or a 5 foot protected walkway in the roadway for pedestrian access at all times.

OCMC FILE NO: REC-13-404
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- A **Holiday Embargo** and **July 4 Parade Embargo** for the area its Parade impacts, is in effect for this location AS PUBLISHED BY THE BUREAU OF PERMIT MANAGEMENT AND CONSTRUCTION CONTROL AND NYPD/NYCDOT MAYOR OFFICE OF SPECIAL EVENTS.
- THE CONTRACTOR HAS TO COORDINATE WITH NEARBY FIRE DEPARTMENT PRIOR TO WORK.

Note for work on Victory Boulevard:

- West bound traffic alternate route construction signage should be added to divert traffic north bound on **Travis Avenue**, west bound on **South Avenue**, enter **WSEXPWY** south bound to Victory Boulevard exit.

WATER MAIN WORK

1. **GLEN STREET BETWEEN MELVIN AVENUE AND PARISH AVENUE**
2. **CANNON AVENUE BETWEEN PARISH AVENUE AND VICTORY BLVD.**
3. **MELVIN AVENUE BETWEEN GLEN STREET AND WILD AVENUE**
4. **PARISH AVENUE BETWEEN CANNON AVENUE AND VICTORY BLVD.**
5. **WILD AVENUE BETWEEN GLEN STREET AND MELVIN AVENUE**
6. **BURKE AVENUE BETWEEN DEAD END OF PRICES LANE AND VICTORY BLV.**
7. **LERROY STREET BETWEEN CANNON AVENUE AND VICTORY BLV**
8. **MEREDITH AVENUE BETWEEN BATES AND CANNON AVENUE**

- Work hours shall be as follows: 7:00 AM to 6:00 PM, Monday through Friday.
- The contractor shall maintain one 11 foot lane on one-way streets and two 11 foot lanes on two-way streets during working hours and full width of roadway shall be opened to traffic when site is unattended.
- The contractor shall provide and maintain either a 5 foot clear sidewalk or a 5 foot protected walkway in the roadway for pedestrian access at all times.

9. **VICTORY BOULEVARD BETWEEN ROSWELL AVENUE AND PARISH AVENUE**

- Work hours shall be as follows: 9:00 AM to 4:00 PM, Monday through Friday.
- The contractor shall maintain 2 lanes for traffic, 1 lane in each direction during working hours and full width of roadway shall be opened to traffic when site is unattended.
- The contractor shall provide and maintain either a 5 foot clear sidewalk or a 5 foot protected walkway in the roadway for pedestrian access at all times.
- A **Holiday Embargo** is in effect for this location AS PUBLISHED BY THE BUREAU OF PERMIT MANAGEMENT AND CONSTRUCTION CONTROL.
- A **SCHOOL CONSTRUCTION EMBARGO** AND **JULY 4 PARADE EMBARGO** APPLIES TO THE LOCATION MENTIONED ABOVE. WORK MAY OCCUR ONLY WHEN SCHOOL IS NOT IN A SESSION FROM JULY 5 TO SEPTEMBER 1 OF EACH YEAR OF THE CONTRACT.

10. **VICTORY BOULEVARD BETWEEN PARISH AVENUE AND RIDGEWAY AVENUE**

- Work hours shall be as follows: 9:00 AM to 4:00 PM, Monday through Friday.
- The contractor shall maintain 2 lanes for traffic, 1 lane in each direction during working hours and full width of roadway shall be opened to traffic when site is unattended.
- The contractor shall provide and maintain either a 5 foot clear sidewalk or a 5 foot protected walkway in the roadway for pedestrian access at all times.
- A **Holiday Embargo** and **July 4 Parade Embargo** for the area its Parade impacts, is in effect for this location AS PUBLISHED BY THE BUREAU OF PERMIT MANAGEMENT AND CONSTRUCTION CONTROL AND NYPD/NYCDOT MAYOR OFFICE OF SPECIAL EVENTS.
- THE CONTRACTOR HAS TO COORDINATE WITH NEARBY FIRE DEPARTMENT PRIOR TO WORK.

C. GENERAL NOTES

1. **THIS IS NOT A PERMIT.** THIS STIPULATION SHEET MUST BE SUBMITTED WITH ALL REQUESTS FOR PERMITS PERTAINING TO THE ABOVE CONTRACT AND PRESENT AT THE WORK SITE ALONG WITH ALL ACTIVE CONSTRUCTION PERMITS WHEN THE APPROVED WORK IS BEING PERFORMED.
2. ALL RELOCATION WORK BY THE UTILITIES SUCH AS; CON EDISON, TELEPHONE, GAS AND CABLE COMPANIES SHALL PRECEDE THE CONTRACTORS' START OF WORK ON ALL AFFECTED ROADWAYS IN THE IMPACTED CONTRACT AREA.
3. THE CONTRACTOR IS ADVISED THAT OTHER CONTRACTORS MAY BE WORKING IN THE GENERAL AREA DURING THE TERM OF THIS STIPULATION. IN WHICH EVENT, THE CONTRACTOR MAY REQUIRE MODIFICATIONS BY THE OCMC-STREETS.
4. THE PERMITEE IS NOT AUTHORIZED TO ENTER, OCCUPY OR USE ANY PUBLICLY-OWNED OR PRIVATELY OWNED, NON-PAVED, LANDSCAPE OR NON-LANDSCAPED LOCATION WITHOUT SPECIFIC WRITTEN PERMISSION. WHEN THE LOCATION IS WITHIN THE RIGHT-OF-WAY OF A LIMITED-ACCESS ARTERIAL HIGHWAY, WRITTEN APPROVAL FROM THE NYCDOT OCMC-HIGHWAYS IS REQUIRED. WHEN THE LOCATION IS WITHIN THE RIGHT-OF-WAY OF A PUBLIC STREET OR PUBLIC PARK, WRITTEN APPROVAL FROM THE NEW YORK CITY DEPARTMENT OF TRANSPORTATION OR NEW YORK CITY DEPARTMENT OF PARKS AND RECREATION IS REQUIRED. WHEN THE LOCATION IS WITHIN THE RIGHT-OF-WAY OF ANY OTHER JURISDICTION SUCH AS PRIVATE PROPERTY, STATE, FEDERAL ETC., IT IS THE PERMITEE'S RESPONSIBILITY TO DETERMINE THE PROPERTY OWNER AND OBTAIN THE WRITTEN APPROVAL.

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5. THE PERMITTEE SHALL ADHERE TO THE NYCDOT BUREAU OF BRIDGES' SPECIAL PROVISIONS FOR LANDSCAPE PROTECTION, MAINTENANCE AND RESTORATION, ITEMS 1.18.15 THROUGH 1.18.19, WHENEVER AND WHEREVER ANY OF THE PERMITTEE'S ACTIVITIES OCCUR WITHIN A LIMITED ACCESS ARTERIAL HIGHWAY RIGHT - OF - WAY.
6. NO DEVIATION OR DEPARTURE FROM THESE STIPULATIONS WILL BE PERMITTED WITHOUT THE PRIOR WRITTEN APPROVAL FROM THE OCMC-STREETS. REQUEST FOR SUCH MODIFICATIONS SHALL BE SUBMITTED TO THE OFFICE OF THE OCMC-STREETS, NEW YORK CITY DEPARTMENT OF TRANSPORTATION, A MINIMUM OF TWENTY (20) DAYS IN ADVANCE FOR CONSIDERATION.
7. FOR THIS PROJECT THE CONTRACTOR SHALL FURNISH, INSTALL AND MAINTAIN ALL NECESSARY ADVANCE WARNING AND DETOUR SIGNS, TEMPORARY CONTROL DEVICES, BARRICADES, LIGHTS AND FLASHING ARROW BOARDS IN ACCORDANCE WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES," THE TYPICAL SCHEMES INCLUDED IN THIS SPECIFICATION; AND AS ORDERED BY THE ENGINEER-IN-CHARGE AND THE OCMC-STREETS.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING HIS CONSTRUCTION SIGNAGE. THE IDENTIFICATION SHALL INCLUDE THE CONTRACTOR'S NAME, SPONSORING AGENCY NAME AND THE CONTRACT NUMBER. THE IDENTIFICATION SHALL BE PLACED ON THE BACK OF THE SIGN. THE LETTERING SHALL BE THREE (3) INCHES HIGH.
9. THE OCMC-STREETS RESERVES THE RIGHT TO VOID OR MODIFY THESE STIPULATIONS SHOULD CONSTRUCTION FAIL TO COMMENCE WITHIN TWO (2) YEARS OF THE SIGNED DATE OF THESE STIPULATIONS.
10. THE CONTRACTOR MUST COMPLY WITH ALL CONSTRUCTION EMBARGOS ISSUED BY THE NYCDOT INCLUDING THE HOLIDAY EMBARGO.



JOSEPH F. NOTO
EXECUTIVE DIRECTOR
OCMC-STREETS



IRMA TIAGUNSKY
PROJECT MANAGER
OCMC-STREETS

EP7 - PAGES

**GAS COST SHARING (EP-7)
STANDARD SPECIFICATIONS**

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)

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I - NOTICE TO ALL BIDDERS; GAS COST SHARING WORK

All prospective bidders are hereby advised that, pursuant to the "Gas Facility Cost Allocation Act", ("the Act"), the City of New York has entered into an agreement ("the Agreement") with the gas companies (Con Edison or National Grid (formerly KeySpan Energy Delivery)) operating in their respective areas of the City to "share" the cost of facility relocation and/or support and protection of facilities disturbed by proposed water and/or sewer and related City work specified in this contract. Therefore, bid items, specifications and estimated quantities for the incremental costs of support and protection of certain gas facilities have been included in this contract. The low bid for this contract shall be determined by examining each bid for all work to be performed under this contract including any work of support and protection of gas facilities to be performed. The Contractor shall not seek additional compensation from gas companies except as specifically set forth in its contract.

II - GENERAL PROVISIONS; GAS COST SHARING WORK

1. General:

The Contractor shall perform City work with interferences from existing live and abandoned gas facilities. This shall be defined as utility work. Therefore, this contract includes bid items, specifications and estimated quantities designed to fully compensate him/her for the incremental costs of supporting, protecting, providing accommodations and, avoiding disturbing gas facilities located in the streets shown on the contract drawings. In the event that any other provisions of this contract related to gas facilities (or private utilities) conflict with these provisions, these provisions shall supersede and govern all work related to gas facilities owned by the companies operating in the project area. All utility work, as defined in these specifications, including changes and additions thereto shall be paid solely by the City except when specified otherwise in this contract. Contractor hereby agrees that the facility operator shall not be liable to pay him/her for any work performed including extra utility work. Contractor agrees that its bid prices include all compensation for loss of productivity and efficiency, idle time, delays (including any delays occasioned by negotiation of a contract change), change in operations, mobilization, demobilization, remobilization, added cost or expense, lost of profit, other damages or impact costs that may be suffered by or because of utility work, or the presence of gas facilities in the proximity of City work and that it will not seek additional compensation for these items. All disputes shall be resolved as specified in the contract.

Pursuant to the Act, Agreement, and the New York City Administrative Code, the gas company(ies) has been directed by the Commissioner and is required to perform all maintenance, repairs, replacement, shifting, alteration, relocation, and/or removal work that are not part of this contract. By having bid on this contract, the Contractor understands and agrees that the Commissioner has preasserted any right the City has to require, including the issuance of any directives or so called "order outs" under the New York City Administrative Code, any or all gas companies to maintain, repair, replace, protect, support, shift, alter, relocate, and/or remove all gas facilities that are about to be disturbed by the City contract work. The issuance of additional such directives during the performance of the contract work, where necessary in the sole judgment of the Commissioner, shall be initiated by such Commissioner as set forth in the relevant sections of the Act and Agreement. Contractor further agrees to insert such requirements as set forth herein above into any contracts with its approved subcontractors so that its subcontractors also understand and agree to such contract requirements.

2. Gas Interferences And Accommodations:

During the performance of sewer and water main work funded by the New York City Department of Environmental Protection (NYCDEP), as instructed by the Engineer, the use of any applicable contract bid item is allowed in order to resolve and accommodate all gas facilities interferences with such City work, including the removal of contaminated soil in associated trench excavation. This is in addition to the specified EP-7 bid items in the contract. Payment for such accommodation shall be funded by EP-7 bid item "UTL-GCS-2WS - GAS INTERFERENCES AND ACCOMMODATIONS" (F.S. Fixed Sum). The value of such accommodation shall be computed by multiplying the appropriate unit prices bid to the quantity of work performed, as determined by the Engineer, and applying the total amount thus to be paid

to EP-7 bid item "UTL-GCS-2WS - GAS INTERFERENCES AND ACCOMMODATIONS". When EP-7 bid item "UTL-GCS-2WS - GAS INTERFERENCES AND ACCOMMODATIONS" does not exist, such additional accommodation work shall be at no cost to the City but shall be a matter of adjustment between gas facility operator and Contractor. Private facilities, other than gas, that become in interference due to gas interferences accommodations shall also be accommodated, if so directed by the Resident Engineer, at no additional cost to the City and, provided that its owner agrees to be responsible for all additional costs to Contractor, otherwise, such facility shall be ordered by the City to be maintained, shifted, relocated or replaced by its owner at his/her expenses.

2a. Water Main Accommodations:

When water main construction is to be performed in this contract, Contractor shall be required, if warranted by field conditions, and at locations designated by the Resident or Borough Engineer, to change the vertical or horizontal alignment of water mains including but not limited to all additional labor, material, work method accommodations, furnishing, delivering and laying offset fittings and pipes, etc., necessary in order to complete water main installation and, avoid gas interferences in the project area, including street intersections. Typical work method accommodations shall include, but not be limited to, pier and plate, installation of filter fabric and select fill, etc. Such work shall be performed as directed by the Engineer and in accordance with contract specifications and latest edition of water mains standards and specifications.

2b.Sewer Accommodations:

When sewer construction is to be performed in this contract, Contractor shall be required, if warranted by field conditions, and at locations designated by the Resident or Borough Engineer, to change the horizontal alignment of sewer facilities (if possible) including but not limited to all additional labor, material, work method accommodations, furnishing, delivering and construction of additional manholes or modification of manholes/catch basins, extending chute connections, house connections, using alternate materials and methods, poured-in-place structures, etc., necessary in order to complete sewer installation and, avoid gas interferences in the project area, including street intersections. The term sewer facility shall include, but not be limited to, all sewer pipe and appurtenances, manholes, catch basins, catch basin chutes, etc. Such work shall be performed as directed by the Engineer and in accordance with contract specifications and latest edition of sewer standards and specifications.

3. Quantity Overruns, EP-7 Funded Bid Items:

No quantity overrun, in excess of one hundred twenty five (125) percent, shall be permitted for EP-7 funded bid items (gas) included in this contract, except when Resident Engineer determines that such overruns are caused by field modifications to planned City work, or approved construction methods, or contract scope changes. Overruns not paid by City shall be negotiated and paid to Contractor by gas facility operator who then shall be entitled to reimbursement by NYCDEP under established cost sharing procedures.

4. Changes And Extra Work:

This section is not applicable to work defined under "Emergency Reconstruction Contracts" or so-called "Where and When Contracts" since these projects, by definition, inherently encounter unanticipated gas facilities and cannot be pre-engineered. In all other cases, any contract changes proposed for City work shall also cover and include all associated changes to support and protection of gas facilities affected by such changes to City work. In all other cases where the Contractor finds that City work cannot be performed as planned and specified and/or, as approved because of a need to support, protect and/or alleviate interferences from gas facilities that were not listed and/or shown, or incorrectly shown in contract plans and specifications, he shall immediately notify the Resident Engineer and the facility operators' representative of his findings. Resident Engineer shall promptly examine such claims and determine whether or not such work is covered by contract bid items and /or specifications (contract bid items and specifications shall include city contract items as well as EP-7 items). The Resident Engineer shall also

examine the claim to determine if the application of EP-7 bid item "UTL-GCS-2WS - GAS INTERFERENCES AND ACCOMMODATIONS" is appropriate to resolve the claim. If upon examination, the Engineer determines that such field conditions were unanticipated (not shown and/or listed, or incorrectly shown in contract documents) and are not covered by bid items and contract specifications, he shall then direct the Contractor and the affected facility operator to negotiate the cost of supporting and protecting, and/or alleviating the impact on City work caused by such unanticipated gas facilities with each other with the understanding that the performance of City work shall continue during negotiations. If a cost agreement is reached, the Contractor and facility operator shall adjust such costs between themselves at no additional costs to the City contract. If the Contractor and affected facility operator do not reach an agreement concerning the price to be paid for the extra work within five (5) business days of the Engineer's directive to engage into such negotiations and, after considering: public safety and inconvenience, requirements of laws and regulations applicable to private utilities, integrity of all utility systems, including but not limited to sewer and water, gas, electric, telephone and, cable TV facilities, sound engineering practices, cost (long and short term) to all affected parties, and potential City work delays, then the Resident Engineer, depending on nature and severity of interferences with City work, shall either, direct the facility operator to relocate or replace its facilities at its own discretion and cost, reimbursable by NYCDEP under established gas cost sharing procedures or, direct the Contractor to perform the utility work on actual time, material and equipment costs basis pursuant to relevant contract requirements and amendments. Contract bid prices for any applicable items of work involved shall be applied, or converted to an allowance for time and material charges. Changes shall be for affected portions of utility work and, shall be processed with EP-7 funds.

5. Excavation:

All excavators shall notify the NYC/LI One Call Center at 1-800-272-4480 at least two (2) working days, not including the day of the call, but not more than ten (10) working days in advance of the start of any excavation work. The gas company(ies) will mark out its facilities within the project limits and provide Construction Inspector(s) during all excavation work in close proximity (within twelve (12) inches) to gas facilities. The Contractor shall exercise extreme caution when excavating in the vicinity of any gas facilities. Hand excavation shall be performed within twelve (12) inches of gas facilities. The Contractor prior to excavating underneath these facilities shall adequately support all gas facilities. Standard support details for gas facilities have been included in the specifications. Any damage to gas facilities shall be reported immediately to the gas company(ies). The Contractor shall be responsible for all cost associated with repairs made necessary by damages caused by his operations.

6. Backfilling And Street Restoration:

Backfilling operations and street restorations shall be in accordance with contract requirements.

7. Non-Responsive Bids:

Every gas (EP-7) bid item has a suggested "Not less than" value per unit indicated on contract bid sheet. Bids resulting in cost of less than suggested for EP-7 items are hereby prohibited and if submitted shall be considered NON-RESPONSIVE.

8. Minimum Clearances:

Clearance requirements for City work shall govern and supersede any clearance requirement of gas facility operator. Therefore, a minimum of twelve (12) inches clearance between private utilities and City water mains, sewers or related structures to be installed in this contract shall be maintained. When this clearance is not attainable, the Resident Engineer may allow a minimum of four (4) inches clearance. With less than twelve (12) inches clearance a neoprene/polyethylene shield (to be provided by facility operator) shall be installed as part of all work item specifications. However, if Resident Engineer determines that City work cannot be performed within allowable clearance and no reasonable City accommodation (no-cost change to City work) is possible, the City shall direct the facility operator to remove, relocate, shift, or alter their facility(ies) pursuant to the New York City Administrative Code.

9. Work By Facility Operator:

The facility operator may find it necessary to perform the following types of work during performance of City work: accommodating a contractor's request for gas facilities modifications (in order to facilitate City contractor's proposed construction method) or, remedial and emergency work on gas facilities proper with their own resources and materials if an approved method of construction for City work causes unanticipated disturbances to gas facilities or, replacing defective gas facilities when they are exposed by the Contractor and their actual conditions are observable by the facility operator. Also included in the above category of defective gas facilities are: the presence of environmental contaminants attributable to the gas facility in or around gas facilities. If such work is deemed required by the facility operator or if facility operator is directed by the City to address such deficiencies at any time during the course of construction, the Contractor shall modify the construction schedule at no cost to the City and allow the facility operator five (5) business days to perform such work without interferences. Additional costs to the facility operator (in cases of accommodations) or, Contractor (in cases of defective gas facilities) due to such gas work, if any, shall be the responsibility of the parties involved and not of the City. Such costs shall be a matter of adjustment between the Contractor and the facility operator.

10. Materials Furnished By Facility Operator:

It shall be the Contractor's responsibility to inspect material to be installed by him immediately upon delivery and advise the facility operator through its authorized representative, of all damaged materials. The Contractor at no additional costs to the City or the facility operator shall replace any material that is damaged or lost after the Contractor's inspection.

11. Liability And Insurance:

Notwithstanding the provisions of this contract, the existing division of liabilities to third parties shall remain the same as between the City and the company. Therefore, it is specifically agreed by the City, company and Contractor (by bidding on this contract) that for the purpose of any liabilities to third parties, that the City contractor performing work directly and physically relating to gas company facilities in this project, shall be deemed an agent of the company and not an agent of the City, the New York City Municipal Water Finance Authority, or the New York City Water Board. Contractor shall include the company as an additional insured on all insurance policies maintained to comply with the City's insurance requirements.

12. Width And Depth Of Excavation:

Contractor shall not be authorized to deliberately change trench or excavation widths and/or depth specified without Engineer's approval. Enlargement of any side of excavation up to eighteen (18) inches beyond pay limits (or inside face of sheeting) requested by the Contractor for the installation of certain types of sheeting may be granted. However, such enlargements or those greater than allowable shall not be approved when, in the sole judgment of the City, field conditions allow the water mains and sewer work to be performed within the limits specified and, the sole purpose of such enlargement request is to impact adjacent utilities (public or private) whose support and protection are part of this contract. Any approval shall be given at no additional cost to the City contract, including EP-7 funding, and all costs associated with unauthorized enlargements shall be the sole responsibility of the Contractor.

13. Depth And Crossing Angles Of Gas Facilities:

Where gas facilities are shown (or specified as) crossing proposed alignment of sewers, water mains, catch basins and chute connections or any other proposed excavations at specific angles (as measured off plans or sketches or specified in contract), it shall be understood that actual field measurements may deviate (plus or minus) forty-five (45) degrees from those shown or specified. The cover, or depth from street surface to top of facilities, shall be as shown or specified in contract documents, no deviation is to be assumed. Where gas facilities are not shown on contract documents, but their support and protection are otherwise included in this contract then, all references to facilities crossing at "various angles and depth" in the gas sections shall mean that such facilities are crossing sewer, water, catch basin and, catch basin chute, and other excavations at a ninety (90) degree angle to the proposed sheeting line or side of

excavation (for unsheeted trenches) with an allowable deviation of forty-five (45) degrees in any direction, except for catch basin chute excavation where the allowable deviation shall be sixty (60) degrees. Where the cover is not noted or specified, the bottom face of such facilities shall be assumed to be crossing catch basin chutes at a depth of three (3) foot eight (8) inches or less from the street surface. Paragraph No. 2 above shall apply in cases of distribution water main construction. Appropriate bid items and specifications are provided for cases where angle and depth are greater than stated above. This section also applies to work defined in "Emergency Reconstruction Contracts" or so-called "Where and When Contracts". These contracts are not pre-engineered and consequently have no drawings, sketches or determined locations and so, gas facilities encountered will be crossing existing and proposed sewer, water, catch basin/catch basin chutes and all appurtenances at various angles and depths.

14. Maintenance Of Traffic For Gas Work:

All work pertaining to gas bid items and specifications shall be performed within the contract maintenance of traffic plan as specified in the contract document. The bid price for the Maintenance and Protection of Traffic shall cover all work pertaining to gas items. The City shall make compensation for additional maintenance and protection of traffic items in connection with gas item of work only when such additional work is deemed reasonable and necessary by the Resident Engineer and is approved by him prior to its performance.

15. Relocated Gas And Temporary Systems Installation:

In cases where the Contractor is allowed to select the location for temporary construction such as, installation of dewatering headers, wells, well points, etc., he shall not disturb any gas facilities shown on sketches provided in this section. The only exception shall be, if the affected gas company agrees to such relocation and provided that the cost of such relocation is a matter of adjustment between the company and Contractor, and at no cost to the City.

16. Role Of Company Inspector:

In any case in which the City elects to perform some or all support and protection work with its own employees, personnel or contractors, the facility operator shall provide onsite inspectors to approve and certify such support and protection work (exclusive of City accommodations) performed by the City's own employees, personnel, and contractors. Facility operator's inspectors are not authorized to direct City contractor during the performance of contract work. They shall act through the City Resident Engineer and provide him/her required approvals and certifications, prior to preparing partial payments of EP-7 items, in a format and frequency to be prescribed by the appropriate City Head of Construction.

17. Coordination With Gas Company:

The Contractor shall be required to notify the gas company(ies), in writing, at least two (2) weeks prior to the start of final paving in order to allow companies to complete any unfinished gas work located within the area to be paved. Every effort shall be made to maintain gas service with minimum inconvenience to the public.

III - TECHNICAL SECTION

SECTION 6.01 - Trench Crossings; Support And Protection Of Gas Facilities And Services.

1. Description:

Under this section, the Contractor shall provide all labor, materials, equipment, and incidentals required to

support and/or protect the integrity of gas mains, services and appurtenances of any sizes, configurations, and operating pressures crossing trench excavations above subgrade for planned construction of sewers and water mains facilities. A gas service shall be defined as a gas pipe of three (3) inches in diameter or less branching from the main to a customer pick up point or property valve box. A gas main may be any size pipe that is part of a distribution or transmission network other than services described above. Crossings shall be defined as gas facilities spanning the width of excavation (one side to the other side). These crossings may be at various angles and depth as shown on "Gas Cost Sharing Work Standard Sketches Nos. 1 and 1A", and as specified in "General Provisions; Gas Cost Sharing Work Paragraph No. 13" and, at the locations shown or listed in contract documents. The gas company operating in the area, (facility operator), owns these facilities. The work shall be performed in accordance with contract specifications, plans, and at the directions of the Resident Engineer in consultation with the authorized representatives of the facility operator.

2. Method Of Construction:

- A. Protection: In general, the gas facilities shall be protected as required by New York State Industrial Code 753. In particular, the Contractor shall use hand excavation methods (pick and shovel or hand held power tools) directly below the pavement base to expose the gas facilities (marked out by facility operators) and to ascertain the clearances and cover of the facilities with respect to the proposed excavation. Upon exposing the affected facilities sufficiently, at the discretion of the Resident Engineer, to ascertain the foregoing, Contractor shall be permitted to proceed with a combination of hand and machine excavation, as appropriate, outside a zone of protection whose limit shall be defined as a perimeter located twelve (12) inches from the outside face of each gas facility crossings (See "Gas Cost Sharing Work Standard Sketch No. 2"). If the facilities are in direct interference with City work, meaning that "Minimum Clearances" described in "General Provisions; Gas Cost Sharing Work Paragraph No. 8" cannot be maintained, and excavation has to be temporarily or permanently abandoned then this particular location shall become a test pit and dealt with as specified in Section 6.07, and "General Provisions; Gas Cost Sharing Work Paragraphs Nos. 2 and 8".
- B. Support: Gas mains or services crossing excavations equal or less than four (4) feet wide are generally self supporting, unless field conditions as determined by the Resident Engineer require otherwise. The support requirements for gas mains and services crossing excavations greater than four (4) feet wide shall be as shown on the attached "Gas Cost Sharing Work Standard Sketch No. 1" and Contractor shall use sheeting methods that permit the maintenance of gas facilities in their existing locations and configurations. Alternate methods equivalent to those shown on the sketch or accommodations by the facility operator proposed by the Contractor in order to facilitate the execution of the specified work shall be allowable, provided that prior approval is obtained by the Contractor from the Engineer and the facility operator. The support and protection of gas facilities crossings shown on plans, drawings, listings or otherwise identified in this contract shall not be circumvented with the issuance of so called "order outs".

3. Method Of Measurement:

The Contractor shall be paid for supporting and/or protecting gas facilities crossing trench excavations under the appropriate bid items covered by this section. The Contractor shall be directly responsible to the facility operator for the total cost of using any alternate method requiring the use of resources owned by the facility operator. Regardless of the method used, the City shall pay the bid price for the appropriate support and/or protect item of work. The average rate charged by the facility operator for alternate support and protection work such as, disconnecting and reconnecting gas services is listed in attached "Schedule GCS-A".

4. Payment Restrictions:

These items shall not be paid for: gas services crossing unsheeted water main trench excavation; abandoned gas main/services identified by facility operator; gas mains/services crossing trench excavations for fire hydrant branch connections pipes, catch basins and/or chutes (sewer drain pipe), house sewer and/or water services; gas facilities encroaching any face of excavation for sewer and/or

water construction, all of which are covered under other contract sections. Also this item shall not be paid for new gas mains and services crossing water trenches when trenching for such new facilities has been performed by the Contractor in common with trench excavation for City work (overlapping trench limits). The cost of supporting and protecting such gas facilities crossings shall be deemed included in the cost of trench excavation for the new gas facilities. This payment restriction shall apply even if such common trench gas excavation is not part of the contract. The prices bid for items covered by this section represent full compensation to Contractor to completely perform the work described. No other bid items shall be combined with these items in order to pay for gas main and/or services crossing excavations specified herein.

5. Method Of Payment:

Each (Ea.) gas facility crossing trench excavation as described in these specifications shall be counted for payment.

6. Price To Cover:

The cost of timber/steel supports installed for gas facilities shall be included in the bid price. The bid price for each crossing shall also cover all additional supervision, labor, material (except those provided by the facility operator), equipment and insurance necessary to completely maintain the gas facilities without disruption of service to the customers and in accordance with contract plans, specifications and facility operator standards. The price shall also include: changes of method of operations; sheeting modifications where necessary to accommodate the gas facilities crossings; installation and removal of water pipe under gas facilities (so called "snaking"); extra care during excavation (including hand excavation under existing single and multiple gas facilities); extra backfilling and compaction around, over and under gas facilities; installation and removal of sheeting around gas facilities; associated maintenance and protection of traffic; barricades; and traffic plates that may be required to temporarily close and/or complete the work.

SECTION 6.02 - Extra Excavation For The Installation Of Catch Basin Sewer Drain Pipes With Gas Interferences.

1. Description:

Under this item, the Contractor shall provide all labor, materials, equipment, insurance, and incidentals for the extra excavation associated with the installation of catch basin sewer drain pipes (chute) under gas facilities of various sizes crossing the trench excavation at various angles and depth at the locations shown in the contract documents and also, for the support and protection of these facilities during associated excavation and backfill operations. The gas company operating in the area, (facility operator), owns these facilities.

2. Method Of Measurement:

The bid price shall be per location (Each) where extra excavation is required when catch basin sewer drain pipes are installed at an upstream invert depth lower than four (4) feet (up to a maximum of six (6) feet) from the proposed pavement grade because the bottom faces of interfering gas mains and appurtenances are located at a depth greater than three (3) foot eight (8) inches from proposed pavement surface (See "Gas Cost Sharing Work Standard Sketch No. 4").

3. Method Of Construction:

Incremental cost responsibility for chute excavation is determined by the first private facility encountered starting from catch basin structure proper and that prevents the installation of the chute connection at an upstream cover less than or equal to three (3) feet or any other minimum cover required to avoid City facilities (e.g. water, sewer, etc.) as directed by the Resident Engineer.

4. Payment Restrictions:

This item shall not apply and related bid item shall not be paid in cases where:

- A. Upstream invert chute is more than six (6) feet deep because of gas facilities.
- B. Chute cannot be installed above existing gas facilities because of interferences with other private facilities that are not otherwise covered under this contract, regardless of upstream invert depth.

The above cases shall be at no cost to the City, but shall be a matter of adjustment between the Contractor and the facility operator(s).

5. Price To Cover:

The bid price shall cover the additional cost of all additional supervision, labor, materials, equipment and insurance, to complete the installation of catch basins and associated sewer connections in accordance with the contract plans and specifications. The price shall include: excavation by hand around and under single and multiple gas facilities; locating, supporting and protecting gas facilities; backfilling and all other items necessary to perform all work incidental thereto including: installation and removal of drain pipe under gas facilities ("snaking"); widening of trenches to facilitate the above work; subsequent additional backfill and pavement restoration; modifying precast catch basin window to accommodate connection; changing sheeting method and configuration to accommodate gas facility crossings; maintenance and protection of traffic; barricades; and installation of traffic plates that may be required to temporarily close and/or complete the work. The price shall not include removal of ledge rock and/or excavation of boulders in open cut.

SECTION 6.02.1 - Extra Excavation For The Installation Of Catch Basin Sewer Drain Pipes With Upstream Inverts Greater Than Six (6) Feet.

1. Description:

Under this item, the Contractor shall provide all labor, materials, equipment, insurance and incidentals for the extra excavation of catch basin chutes where the upstream invert is greater than six (6) feet under gas facilities of various sizes crossing the trench excavation at various angles and depth at the locations shown in the contract documents or as determined by field conditions and also, for the support and protection of these facilities during the associated excavation, sheeting and backfilling operations.

2. Method Of Measurement:

The bid price shall be per location (Each) where extra excavation and sheeting is required when the catch basin chute installed at an upstream invert depth lower than six (6) feet from the proposed pavement grade because the bottom faces of the interfering gas mains and appurtenances are located at a greater depth than three foot eight inches from the proposed pavement surface only.

3. Method Of Construction:

Incremental cost responsibility for chute excavation is determined by the first private facility encountered during such excavation when initiated from catch basin structure and that prevents the installation of the chute at an upstream cover less than or equal to three (3) feet or any other cover required to avoid City facilities as directed by the Resident Engineer.

4. Payment Restriction:

This item shall not apply and related bid item shall not be paid in cases where:

Upstream invert chute is less than or equal to six (6) feet deep because of gas facilities. Section 6.02 shall be paid.

5. Price To Cover:

The bid price shall cover the additional cost of all supervision, labor, materials, equipment and insurance to complete the installation of catch basin and associated sewer connections in accordance with the contract plans and specifications. The price shall include: excavation by hand around and under single and multiple gas facilities; locating, supporting and protecting gas facilities incidental thereto; widening of trenches to facilitate the above work; subsequent additional backfilling and pavement restoration; modifying pre-cast basin window to accommodate connection; the installation of catch basin with deeper sumps as specified; additional sheeting and changes in sheeting method and configuration to accommodate gas facility crossings; maintenance and protection of traffic; barricades; and installation of traffic plates that may be required to temporarily close and/or complete the work.

SECTION 6.03 - Removal Of Abandoned Gas Facilities. All Sizes.

1. Description:

Under this section the Contractor shall provide all labor, materials, equipment, insurance and, incidentals required for the removal of abandoned gas mains, services, or appurtenances thereof, located within the street shown on the contract plans, owned by gas company operating in the project area (facility operator), used or to be used for or in connection with or to facilitate the conveying, transportation, distribution or furnishing of gas (natural or manufactured or mixture of both) for light, heat, or power, but does not include property used solely for or in connection with business of selling, distributing or furnishing of gas in enclosed containers. Such removal shall include only abandoned gas facilities that interfere with (i.e. cause additional work) City work.

2. Determination Of Operating Status Of Gas Facilities:

The Contractor shall notify facility operator, as required by New York State Industrial Code 753. Gas facilities shall not be removed without the approval of the facility operator whose authorized representative shall certify in writing (specific facility or area wide facilities certification) and in a timely manner acceptable to the Resident Engineer that abandoned facilities are free of combustible gas and any other environmental contaminants prior to removal. The Resident Engineer shall rely on facility operator's certification. The facility operator may request the excavation of test pits (See Section 6.07) for this determination ahead of City work and, Contractor shall provide safe access, facilitate and permit facility operator to enter test pit excavations for the purpose of testing gas facilities to be removed by the Contractor. However, facility operator may prefer to make this test during performance of City work, in order to issue the above certification. This shall be permitted provided that it is agreed that additional costs, if any resulting from this choice shall be a matter of adjustment between the Contractor and facility operator only, and at no cost to the City.

3. Restrictions:

The facility operator shall be solely responsible for its contaminated gas facilities, surrounding contaminated soil and their disposal and abatement procedures, unless contract bid items are applicable and provided for such work. In such cases, the quantity removed shall be charged to EP-7 bid item "UTL-GCS-2WS - GAS INTERFERENCES AND ACCOMMODATIONS" at the City bid prices.

4. Method Of Measurement:

Abandoned gas pipeline removal shall be measured for payment per linear foot of pipe and appurtenances removed.

5. Price To Cover:

The price shall cover all additional cost of supervision, labor, materials, equipment, and insurance necessary to complete this work in accordance with the contract plans and specifications, including excavation by hand around and under other City and facility operator owned properties and, where necessary, support and protection of such properties. The price shall also cover breaking, cutting, and/or burning of abandoned gas pipes and their disposal from the site; sealing open ends remaining in the excavation with concrete or caps (caps to be provided by the facility operator) and backfilling of the area where the pipeline has been removed with clean backfill. The price shall also include any required dump charges. This item does not include any type of extra excavation, backfilling, compaction, pavement removal and restoration associated with abandoned gas facilities removal, all of which are covered under Section 6.06.

SECTION 6.03.1 - Removal Of Abandoned Gas Facilities With Possible Coal Tar Wrap. All Sizes. (For National Grid Work Only)

1. Description:

Under this section the Contractor shall provide all labor, materials, equipment, insurance and, incidentals required for the removal of abandoned gas mains, services or appurtenances thereof, located within the street shown on the contract plans, owned by the gas company operating in the project area (facility operator), used or to be used for or in connection with or to facilitate the conveying, transportation, distribution or furnishing of gas (natural or manufactured or mixture of both) for light, heat, or power, but does not include property used solely for or in connection with business of selling, distributing or furnishing of gas in enclosed containers. Such removal shall include only abandoned gas facilities that interfere with (i.e. cause additional work) City work. These gas facilities may be coated with Coal Tar Wrap and so, may require special handling and disposal methods as specified in National Grid Standard Operating Procedure 12-2, Coal Tar Wrap Handling and 12NYCRR56.

2. Determination Of Operating Status Of Gas Facilities:

The Contractor shall notify facility operator, as required by New York State Industrial Code 753. Gas facilities shall not be removed without the approval of the facility operator whose authorized representative shall certify in writing (specific facility or area wide facilities certification) and in a timely manner acceptable to the Resident Engineer that abandoned facilities are free of combustible gas and any other environmental contaminants prior to removal. The Resident Engineer shall rely on the facility operator's certification. The facility operator may request the excavation of test pits (See Section 6.07) for this determination ahead of City work and, the Contractor shall provide safe access, facilitate and permit facility operator to enter test pit excavations for the purpose of testing gas facilities to be removed by the Contractor. However, the facility operator may prefer to make this test during performance of City work, in order to issue the above certification. This shall be permitted provided that it is agreed that additional costs, if any, resulting from this choice shall be a matter of adjustment between the Contractor and the facility operator only, and at no cost to the City contract. Should such investigation result in the determination that the abandoned gas facilities do not contain Coal Tar Wrap then the removal of said facilities shall be covered under separate item (See Section 6.03).

3. Requirements:

The City Contractor shall excavate abandoned gas facility sufficiently, either in its entirety, or at locations determined by Contractor to allow the removal of Coal Tar Wrap (if present on the abandoned gas facility) and to facilitate the safe extraction of manageable lengths of abandoned pipe without damage to adjacent facilities, utilities or City structures either parallel to or crossing above or below abandoned gas facility. The Contractor is to allow access to the designated cutting points within the Contractor's trench by authorized National Grid personnel who will remove the Coal Tar Wrap as per National Grid procedures. This work by National Grid personnel shall be performed in a timely fashion and shall not unduly impede the Contractor's progress and/or productivity. Upon completion of the coating removal, the Contractor shall be allowed to cut, burn or grind the gas facility and remove the section of abandoned pipe. The

Contractor at a site designated by the Contractor shall stockpile the removed pipe. The facility operator will be responsible to provide trucking and disposal services with its own personnel and shall remove the stockpiled pipes during off hours or during such time as agreed to by the Contractor. Since the pipe removed will remain the property of the facility operator and is to be disposed of by the facility operator, the facility operator shall be responsible for any required notifications, filings, dump charges and incidentals associated with the disposal of abandoned gas facilities found to contain Coal Tar Wrap.

4. Method Of Measurement:

Abandoned gas pipeline removal shall be measured for payment per linear foot of pipe and appurtenances removed.

5. Price To Cover:

The price shall cover all additional cost of supervision, labor, materials, equipment and insurance necessary to complete this work in accordance with the contract plans and specifications, including excavation by hand around and under other City and facility operator owned properties and, where necessary, the support and protection of such properties. The cost shall also include hand excavation in the area(s) of proposed abandoned pipe cut(s), cutting and/or burning of abandoned gas pipes and stockpile of removed sections of abandoned pipe and associated maintenance and protection of traffic, blocking and temporary fencing if required. The unit price shall also cover sealing open ends remaining in the excavation with concrete or end caps (end caps to be provided by the facility operator) and backfilling of the area where the abandoned pipeline has been removed with clean backfill material. This item does not include any type of extra excavation, backfilling, compaction, pavement removal and/or restoration (temporary and permanent) associated with abandoned pipe removal ("lost trench"), all of which are covered under separate Section 6.06. The price shall also include allowance for any loss of productivity by the Contractor due to required facility operator work to remove pipe coating and prepare pipe for cutting as well as any change in Contractor's excavation method, additional trucking and/or stockpiling costs.

SECTION 6.03.1a - Removal Of Abandoned Gas Facilities With Possible Coal Tar Wrap. All Sizes. (For Con Edison Work Only)

1. Description:

Under this section the Contractor shall provide all labor, material, equipment, insurance and, incidentals required to prepare abandoned gas mains, services and appurtenances thereof located within the street shown on contract plans, owned by the gas company operating in the project area (facility operator), for removal due to interference with proposed City work. These abandoned gas facilities were, at one time, used for or in connection with or to facilitate the conveying, transportation, distribution or furnishing of gas (natural, manufactured or a combination of both) for light, heat, or power, but does not include property used solely for or in connection with business of selling, distribution or furnishing of gas in enclosed containers. Such preparation for removal shall include only abandoned gas facilities that interfere with (i.e. cause additional work) City work. These gas facilities may be coated with Coal Tar Wrap which may contain asbestos or PCB's and so, may require special handling and disposal methods as specified in Con Edison - ASBESTOS MANAGEMENT MANUAL, CHAPTER 6 - ASBESTOS WORK PROCEDURES, SECTION 06.04 - COAL TAR WRAP REMOVAL. For under 25' (feet) in length and an approved NYC-DEP variance for over 25' (feet).

2. Determination Of Operating Status Of Gas Facilities:

The Contractor shall notify facility operator, as required by New York State Industrial Code 753. Gas Facilities shall not be removed without the approval of the facility operator whose authorized representative shall certify in writing (specific facility or area wide facilities certification) and in a timely manner acceptable to the Resident Engineer that abandoned facilities are free of combustible gas and any other environmental contaminants prior to removal. The Resident Engineer shall rely on the facility

operator's certification. The facility operator may request the excavation of test pits (See Section 6.07) for this determination ahead of City work and Contractor shall provide safe access, facilitate and permit facility operator to enter test pit excavations for the purpose of testing gas facilities. However, the facility operator may prefer to make this test during performance of City work in order to issue the above certification. This shall be permitted provided that it is agreed that additional costs, if any, resulting from this choice shall be a matter of adjustment between the Contractor and the facility operator only, and at no cost the City contract. Should such investigation result in the determination that the abandoned gas facilities do not contain Coal Tar Wrap then the removal of said facilities shall be covered under separate item (See Section 6.03).

3. Requirements:

The Contractor shall excavate abandoned gas facility sufficiently, either in its entirety, or at locations determined by Contractor to allow the removal of Coal Tar Wrap (if present on the abandoned gas facility) and to facilitate the safe extraction of manageable lengths of abandoned pipe without damage to adjacent facilities, utilities or city structures either parallel to or crossing above or below abandoned gas facility. The Contractor is to allow access to the designated cutting points within the Contractor's 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 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. 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

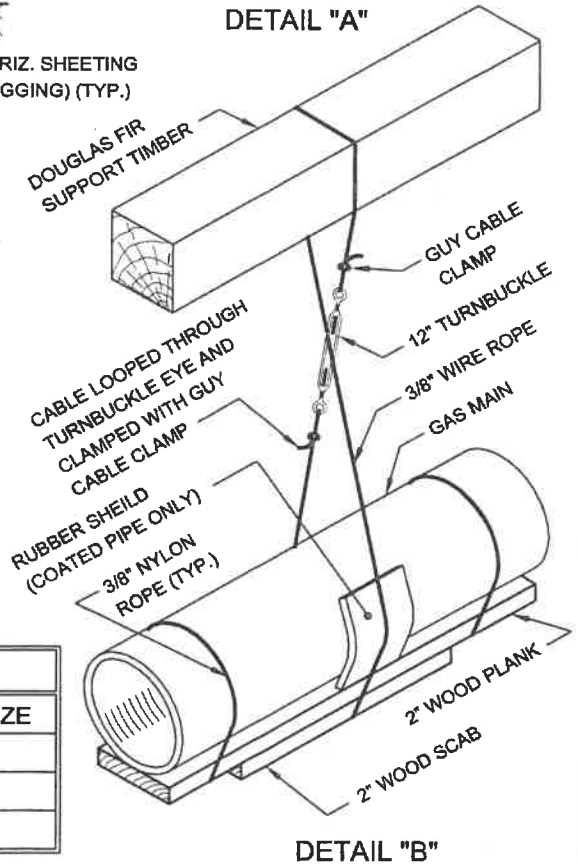
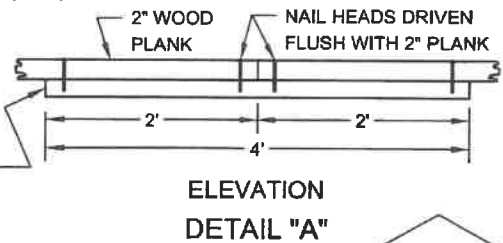
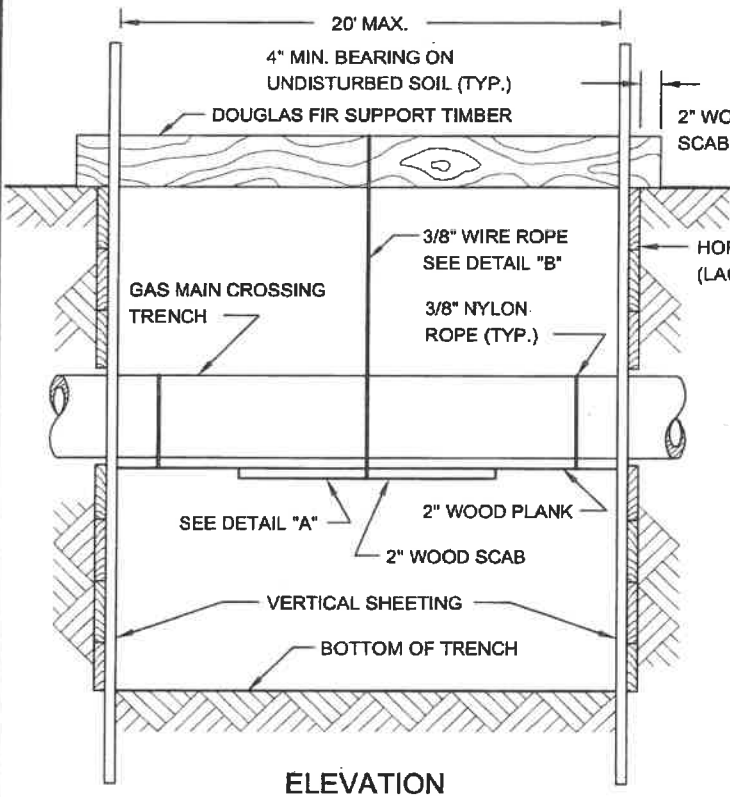
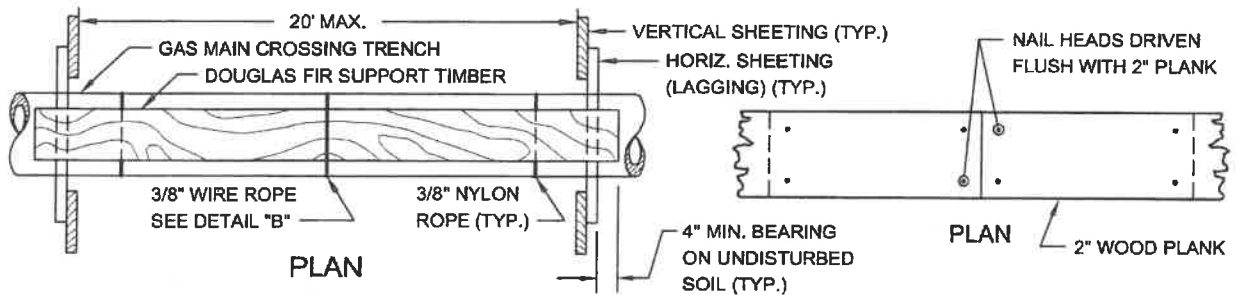
IV - STANDARD SKETCHES; GAS COST SHARING WORK

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

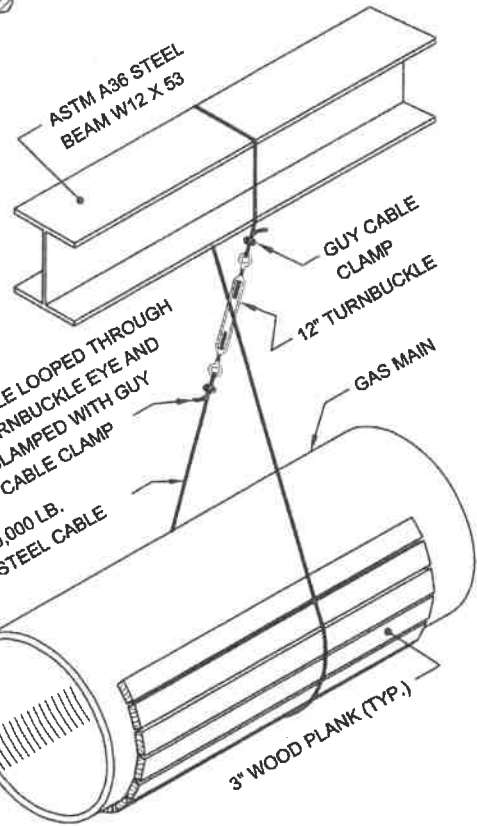
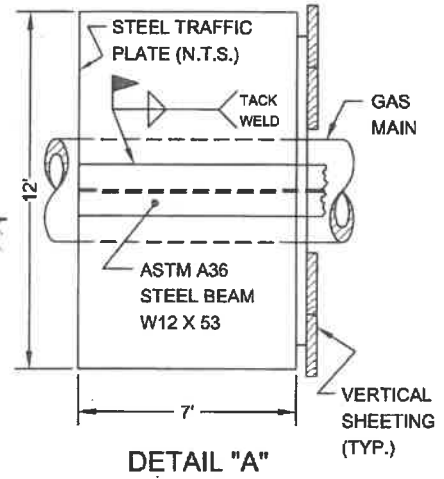
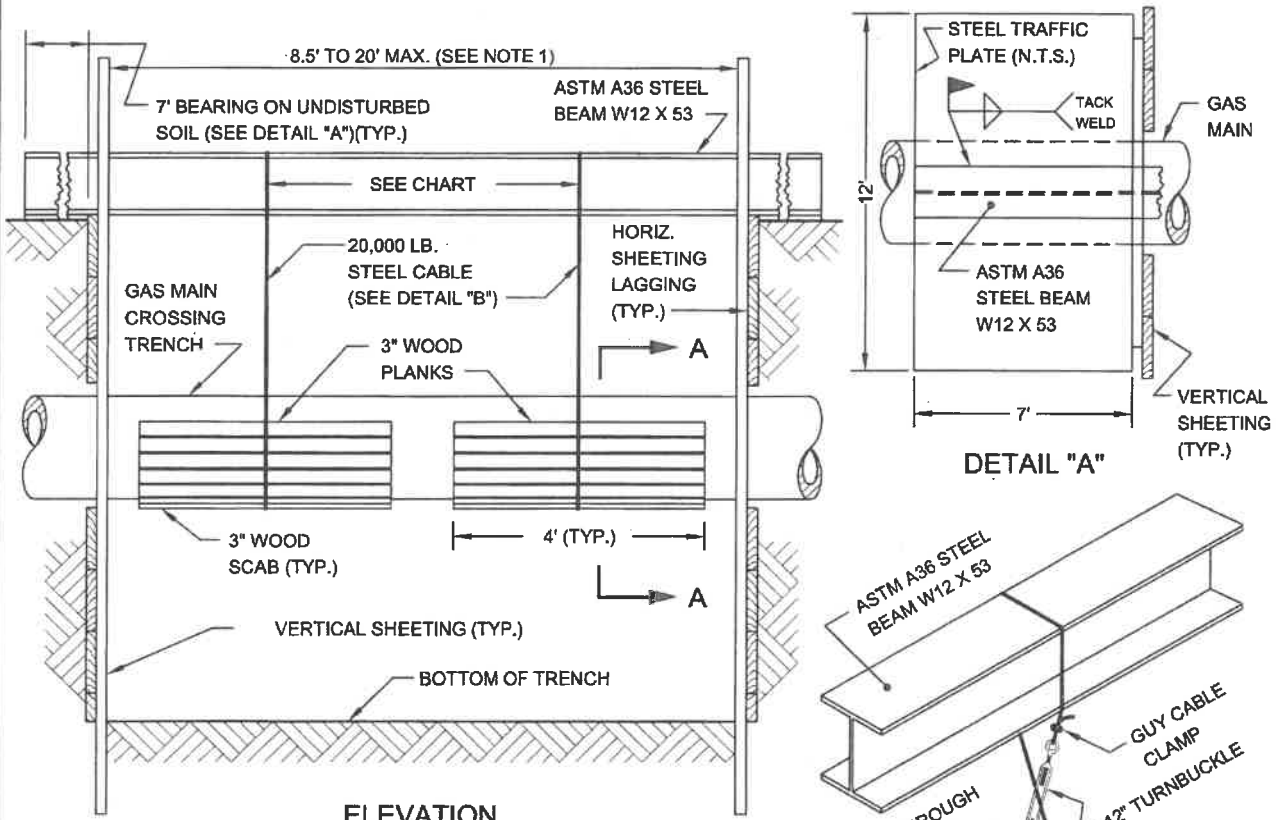


| CABLE SUPPORT | | TIMBER SUPPORT | |
|---------------|---------------|----------------|-------------|
| MAIN TYPE | SPACING | MAIN SIZE | TIMBER SIZE |
| CAST IRON | 4' O.C. MAX. | UP TO 6" | 6" X 6" |
| STEEL | 10' O.C. MAX. | 8" TO 10" | 8" X 8" |
| PLASTIC | 10' O.C. MAX. | 12" TO 16" | 10" X 10" |

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REVISED JUNE 1998-L. WONG/TW.PAT/ALANOP-MOY

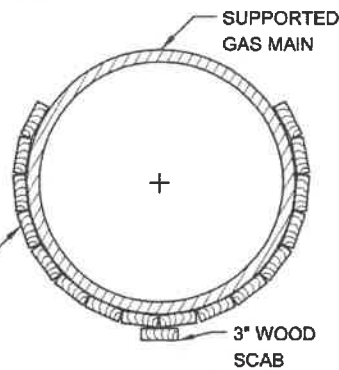
GAS COST SHARING WORK (SKETCH NO. 1A)

SUPPORT REQUIREMENTS FOR GAS MAINS OVER 16" DIAMETER UP TO AND INCLUDING 48" DIAMETER CROSSING EXCAVATION AT ANY ANGLE



ELEVATION

| CABLE SUPPORT | |
|---------------|---------------|
| MAIN TYPE | SPACING |
| CAST IRON | 4' O.C. MAX. |
| STEEL | 10' O.C. MAX. |



SECTION A-A

DETAIL "B"

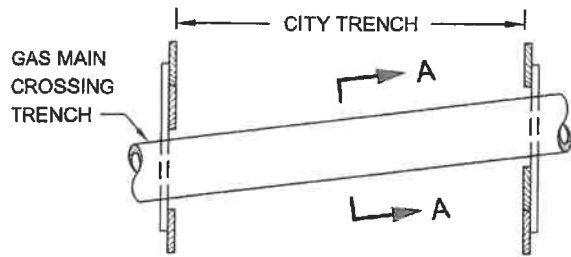
NOTES:

- (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.

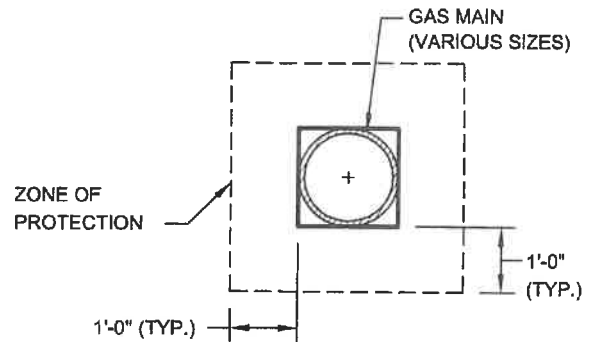
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GAS COST SHARING WORK (SKETCH NO. 2)

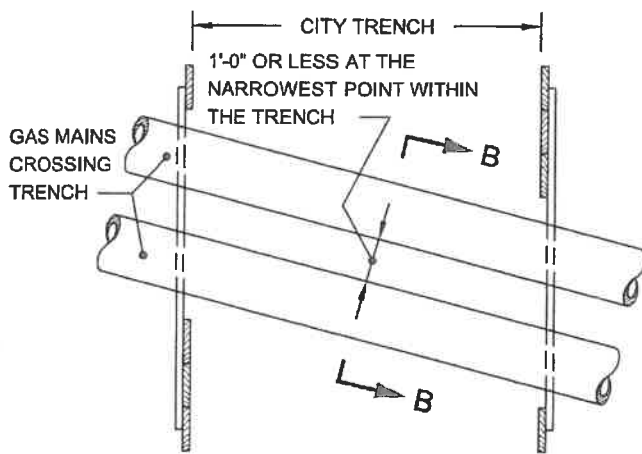
TYPICAL METHODS OF MEASUREMENT FOR GAS CROSSINGS



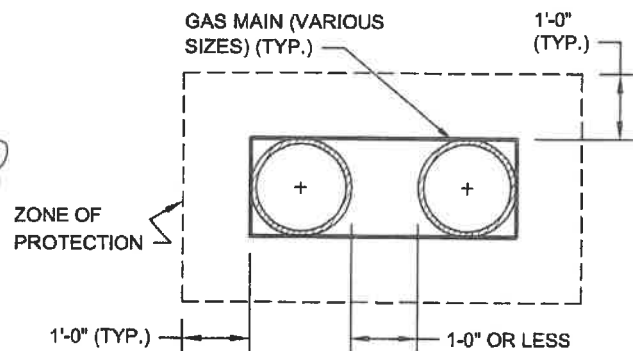
SINGLE FACILITY CROSSING



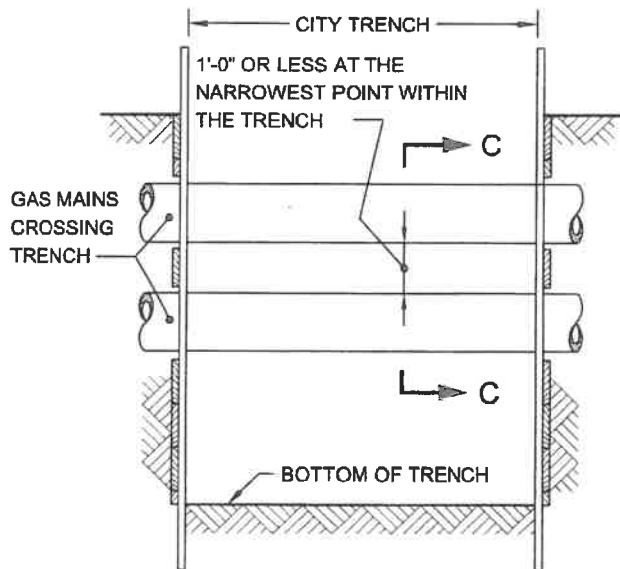
SECTION A-A



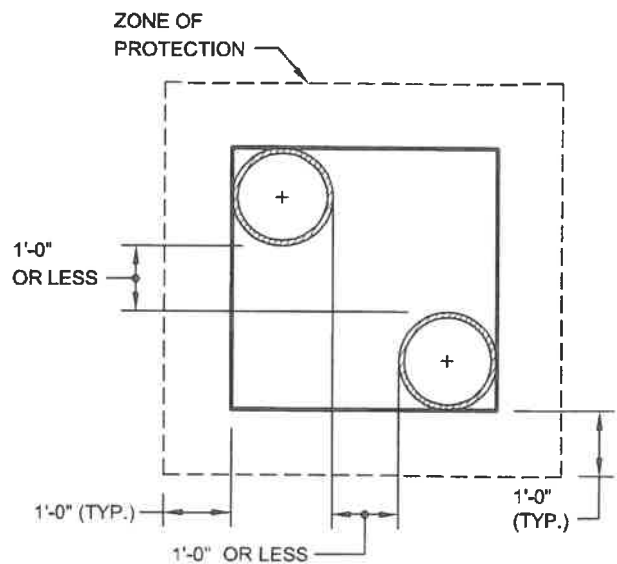
**MULTIPLE FACILITIES
(GAS MAINS AT SAME ELEVATION)**



SECTION B-B



**MULTIPLE FACILITIES
(ONE CROSSING AT DIFFERENT ELEVATIONS)**



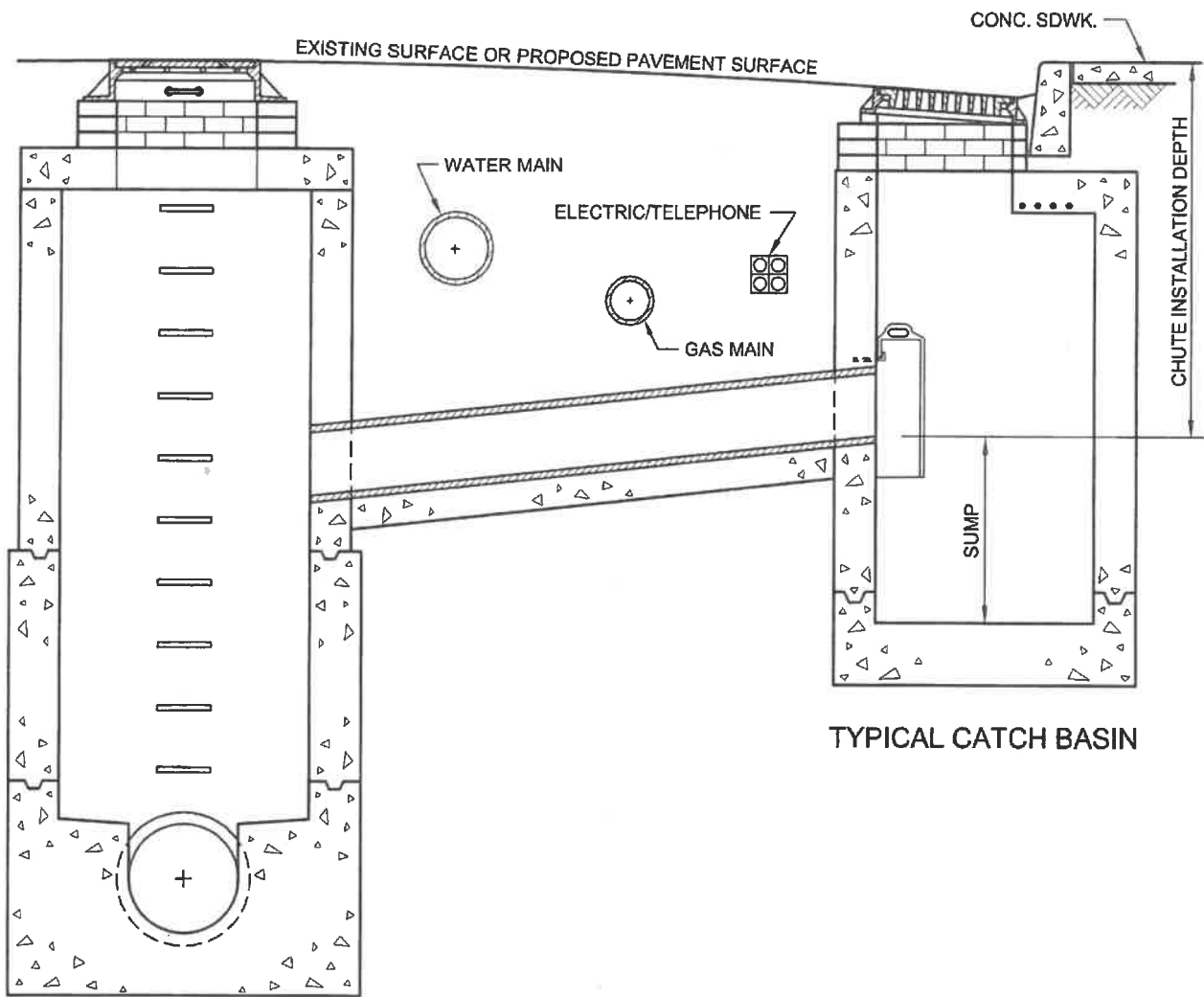
SECTION C-C

NOTE:

GAS MAINS MAY OR MAY NOT BE PARALLEL TO EACH OTHER.

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REVISED SEPT. 2004 - J. WONGW. PATALANO/P. MOY

GAS COST SHARING WORK (SKETCH NO. 3)
UTILITY CROSSINGS DURING CATCH BASIN CHUTE
CONNECTION PIPE INSTALLATION

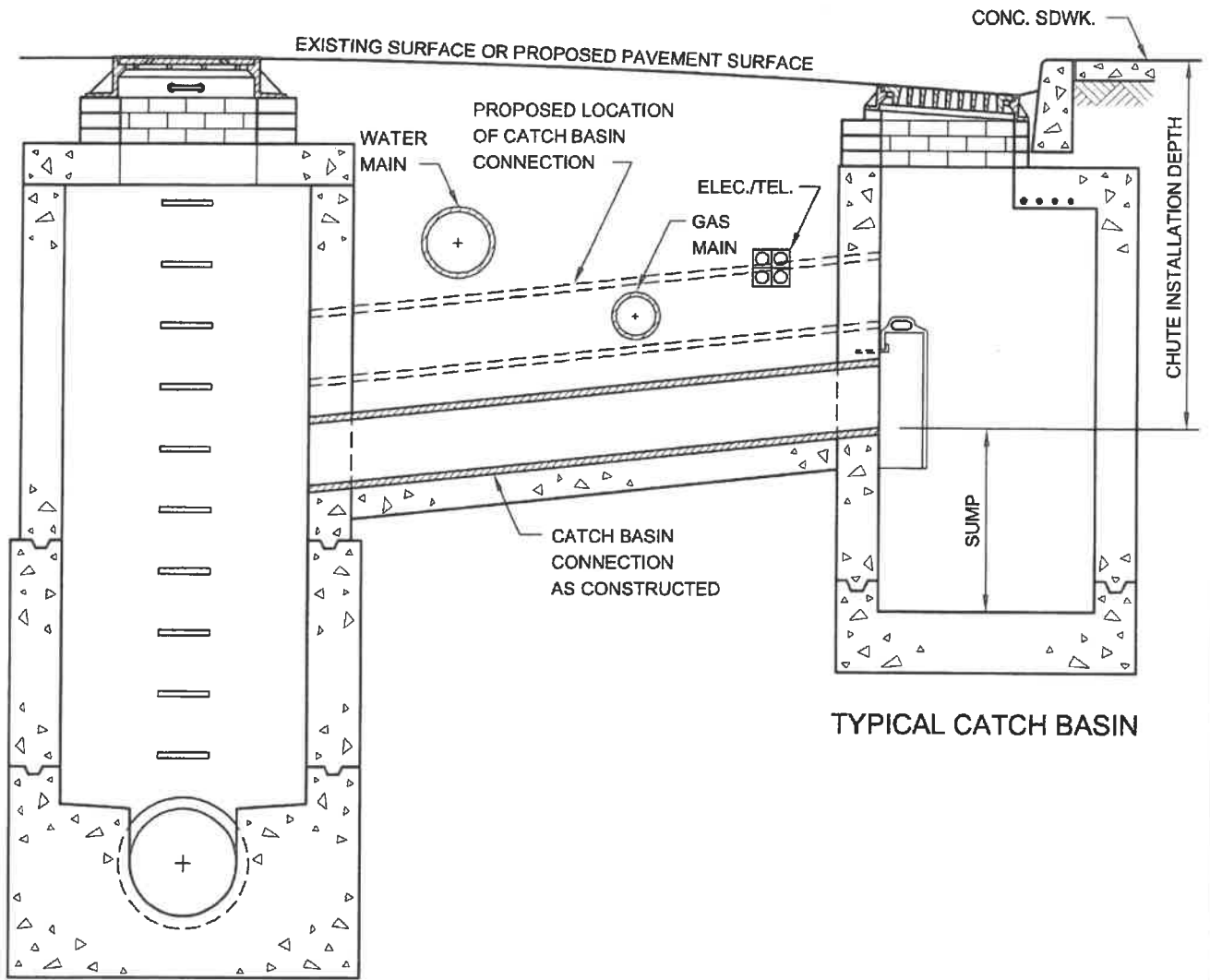


TYPICAL SEWER MANHOLE

TYPICAL CATCH BASIN

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 REVISED OCT. 1998 - J. WONG/W. PATALANO/P. MOY

GAS COST SHARING WORK (SKETCH NO. 4)
UTILITY CROSSINGS DURING CATCH BASIN CHUTE
CONNECTION PIPE INSTALLATION (EXTRA DEPTH)

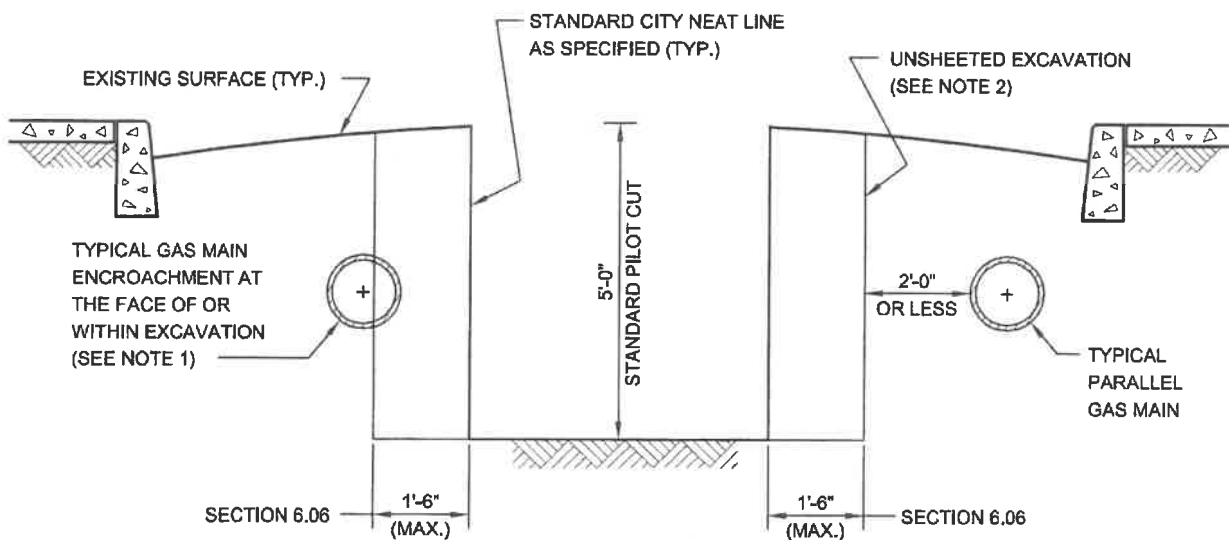


TYPICAL SEWER MANHOLE

TYPICAL CATCH BASIN

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 REVISED OCT. 1998 - J. WONGW. PATALANOP. MOY

GAS COST SHARING WORK (SKETCH NO. 5)
GAS MAIN ENCROACHMENT ON AND/OR PARALLEL
TO EXCAVATION OF UNSHEETED TRENCH



NOTES:

- (1) GAS MAIN LOCATED AS SHOWN MAY HAVE TO BE REMOVED BY THE FACILITY OPERATOR PRIOR TO THE START OF CITY EXCAVATION, OTHERWISE, THE CONTRACTOR WILL BE PAID UNDER SECTION 6.06 FOR THE SAID WORK. IF GAS MAIN IS ABANDONED THEN SECTION 6.03 SHALL APPLY.
- (2) EIGHTEEN (18) INCHES FROM STANDARD NEAT LINE IS THE MAXIMUM ALLOWABLE WIDTH OF AREA THAT MAY BE DISTURBED OR EXCAVATED DURING INSTALLATION OF CERTAIN TYPES OF SHEETING SYSTEMS THAT MEET THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS OF THE DEPARTMENT OF DESIGN AND CONSTRUCTION OF THE CITY OF NEW YORK.

**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

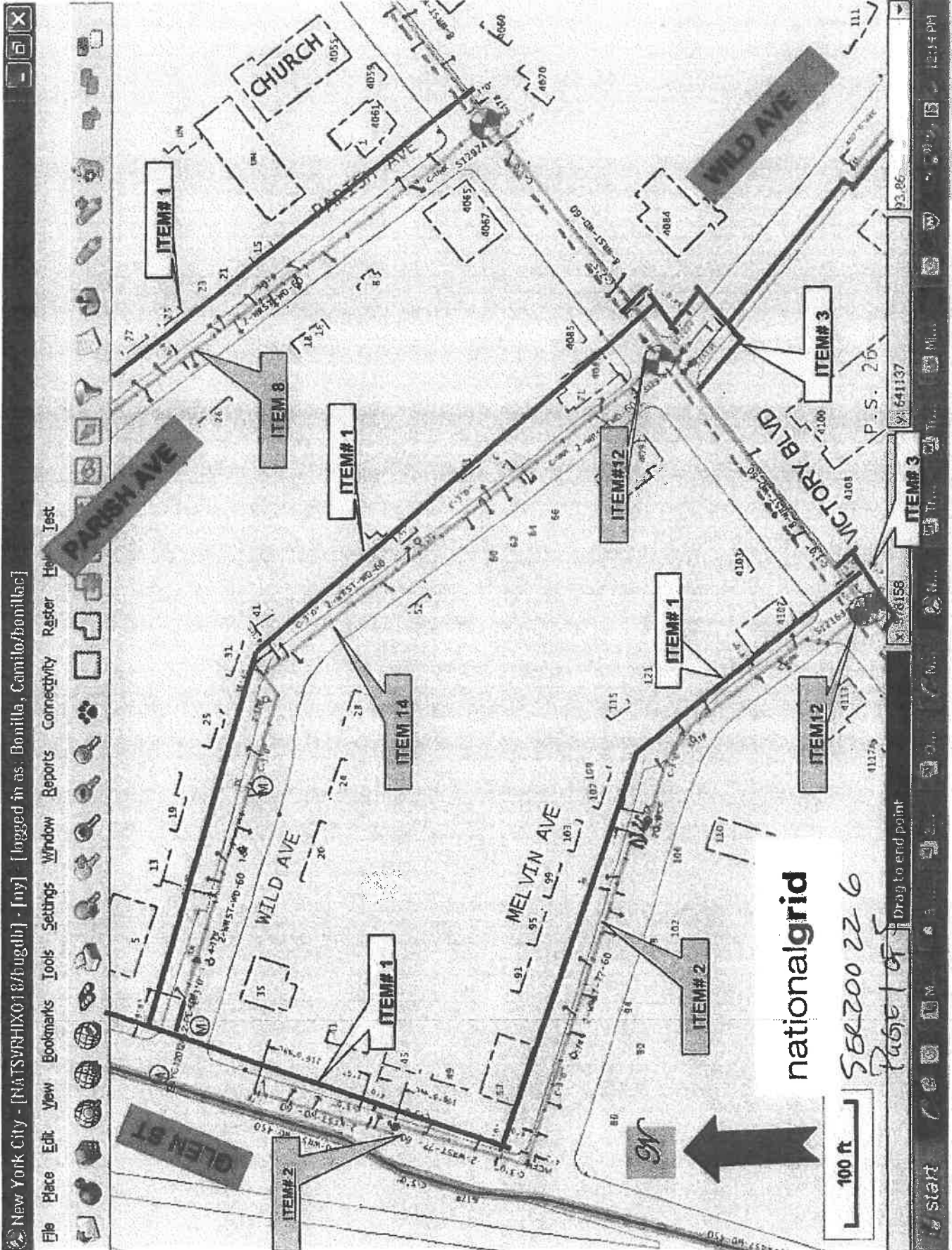
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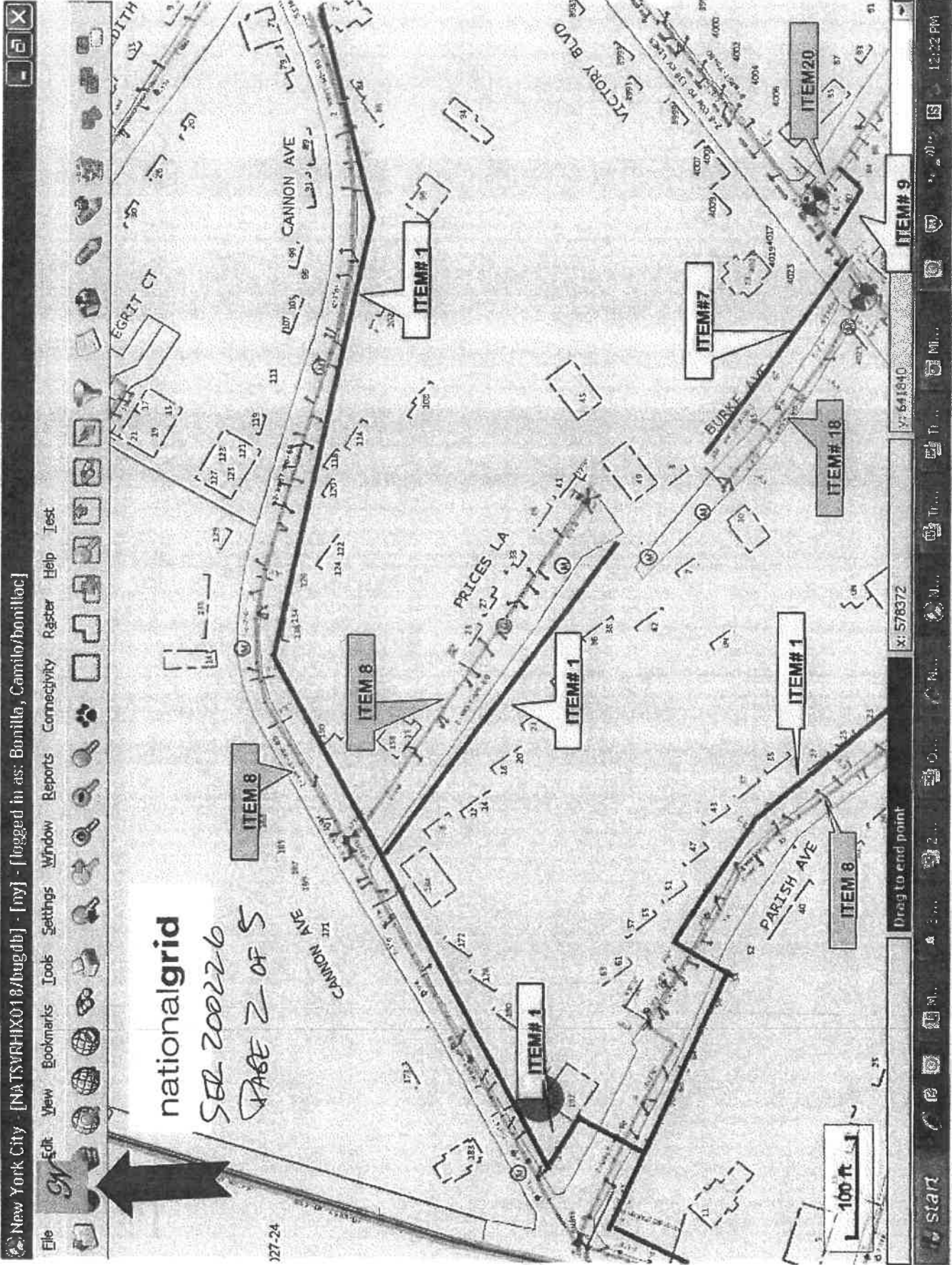
SER200226 GAS MAIN INSTALLATION

| ITEM# | ON STREET | 1ST X-STREET | 2ND X-STREET | SIZE/MAT'L | FOOTAGE | PRESSURE | REMB |
|-------|--------------|--------------|--------------|------------|---------|----------|------|
| 1 | CANNON AVE | VICTORY BLVD | GLEN ST | 2" PL | 5765' | HP-60# | Y |
| 3 | VICTORY BLVD | MELVIN AVE | RIDGEWAY AVE | 8" PL | 1805' | HP-60# | Y |
| 5 | SHELLEY AVE | VICTORY BLVD | MILDRED AVE | 2" PL | 320' | HP-60# | Y |
| 7 | BURKE AVE | VICTORY BLVD | DEADEND | 2" PL | 245' | HP-60# | Y |
| 9 | BURKE AVE | VICTORY BLVD | INTERSECTION | 2" PL | 80' | HP-60# | Y |
| 11 | TOWERS LA | VICTORY BLVD | INTERSECTION | 2" PL | 40' | HP-60# | Y |
| 13 | SIMMONS LA | VICTORY BLVD | INTERSECTION | 2" PL | 50' | HP-60# | Y |
| 17 | WILD AVE | VICTORY BLVD | MELVIN AVE | 6" PL | 830' | HP-60# | Y |

SER200226 GAS MAIN RETIREMENT

| ITEM# | ON STREET | 1ST X-STREET | 2ND X-STREET | SIZE/MAT'L | FOOTAGE | PRESSURE | REMB |
|-------|--------------|--------------|--------------|------------|---------|----------|------|
| 2 | MELVIN AVE | VICTORY BLVD | GLEN ST | 2" WS | 775' | HP-60# | Y |
| 4 | WILD AVE | GLEN ST | INTERSECTION | 2" PL | 25' | HP-60# | Y |
| 6 | GLEN ST | WILD AVE | PARISH AVE | 2" PL | 85' | HP-60# | Y |
| 8 | CANNON AVE | VICTORY BLVD | GLEN ST | 2" WS | 3560' | HP-60# | Y |
| 10 | MEREDITH AVE | CANNON AVE | DEADEND | 6" WS | 760' | HP-60# | Y |
| 12 | VICTORY BLVD | MELVIN AVE | RIDGEWAY AVE | 8" WS | 1555' | HP-60# | Y |
| 14 | WILD AVE | VICTORY BLVD | GLEN ST | 2" WS | 660' | HP-60# | Y |
| 16 | SHELLEY AVE | VICTORY BLVD | MILDRED AVE | 2" WS | 230' | HP-60# | Y |
| 18 | BURKE AVE | VICTORY BLVD | DEADEND | 2" WS | 245' | HP-60# | Y |
| 20 | BURKE AVE | VICTORY BLVD | INTERSECTION | 2" WS | 40' | HP-60# | Y |
| 22 | TOWERS LA | VICTORY BLVD | INTERSECTION | 2" WS | 40' | HP-60# | Y |
| 24 | SIMMONS LA | VICTORY BLVD | INTERSECTION | 2" WS | 40' | HP-60# | Y |
| 28 | WILD AVE | VICTORY BLVD | MELVIN AVE | 6" WS | 670' | HP-60# | Y |

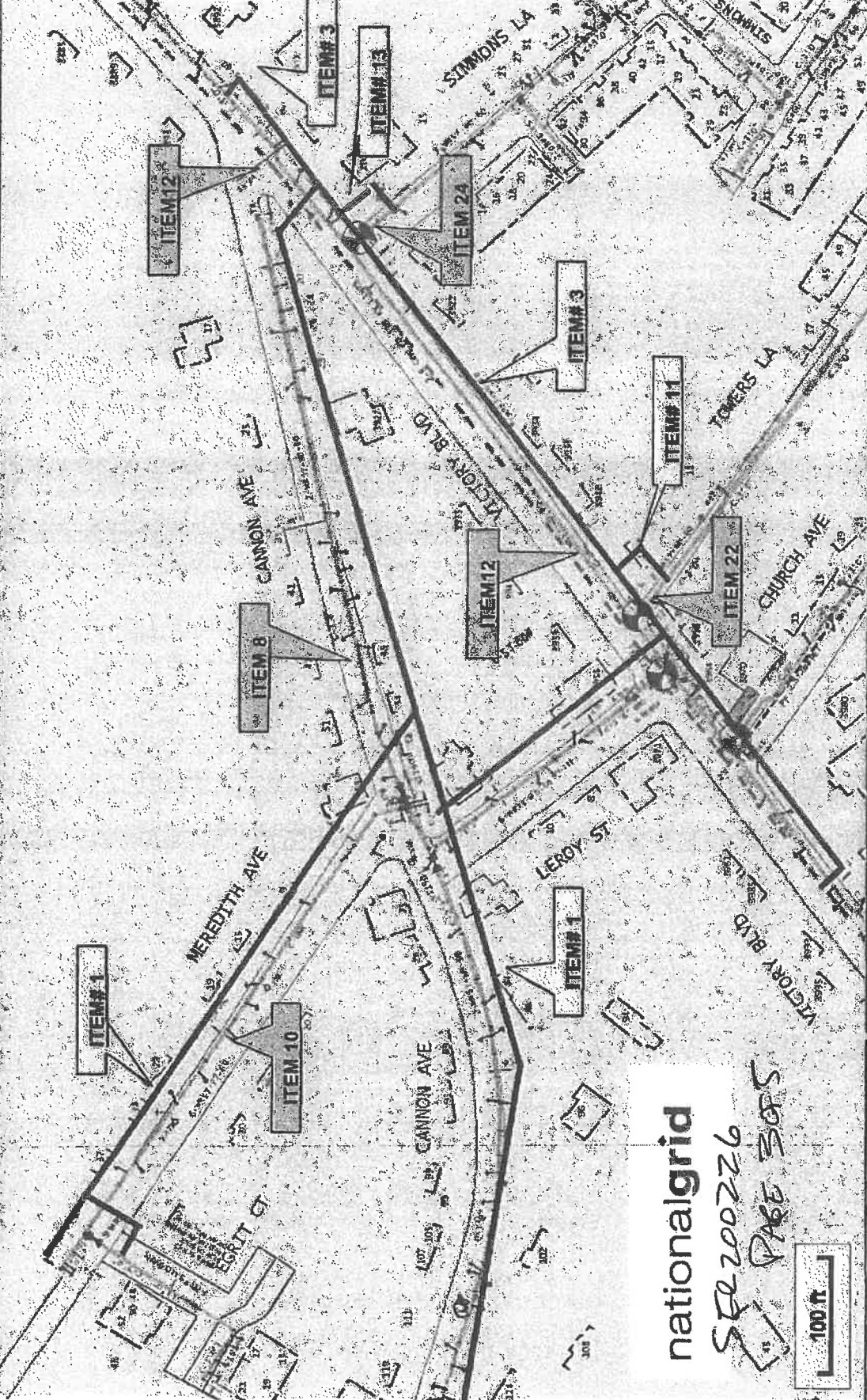




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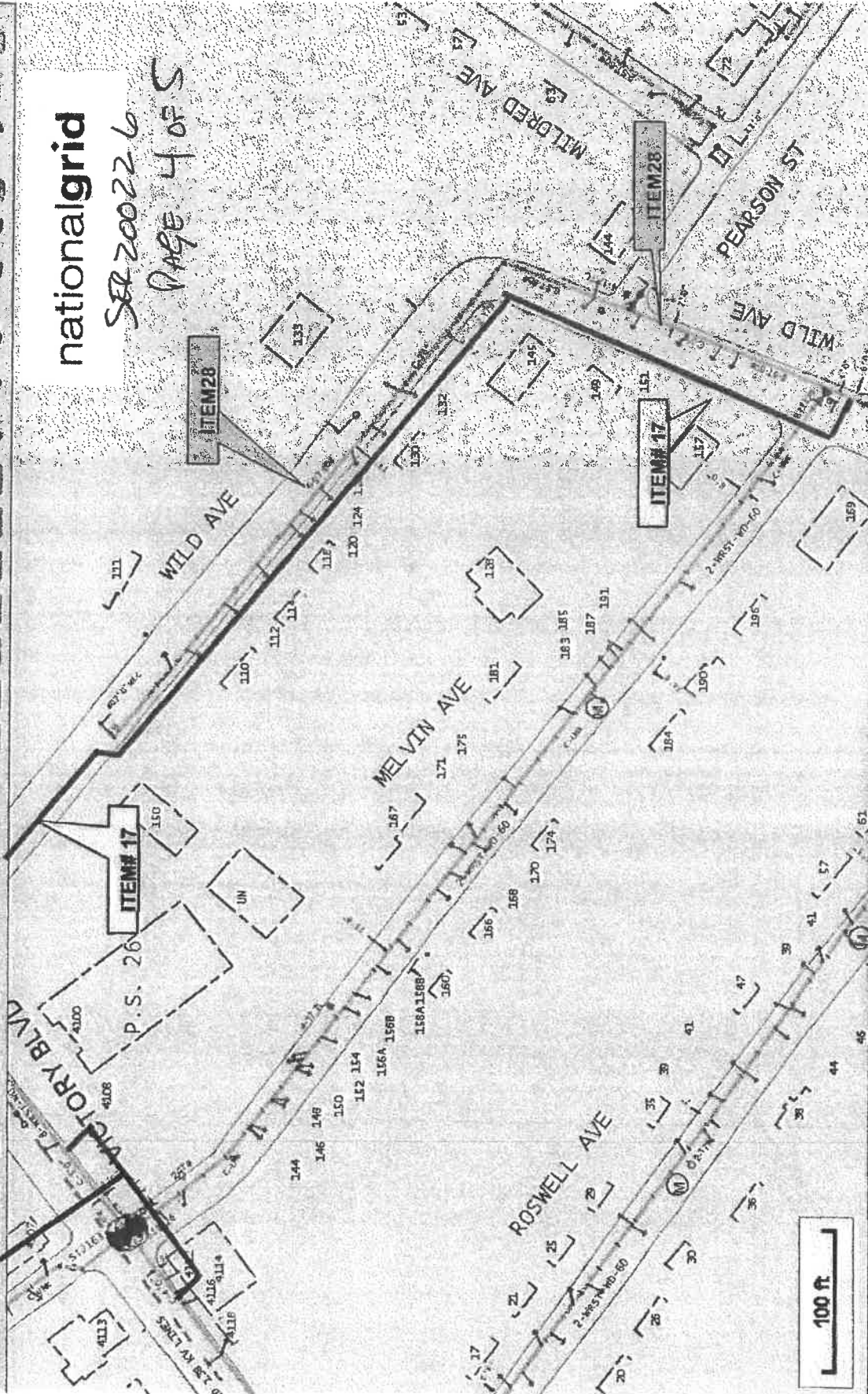


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PAGE 4 OF 5



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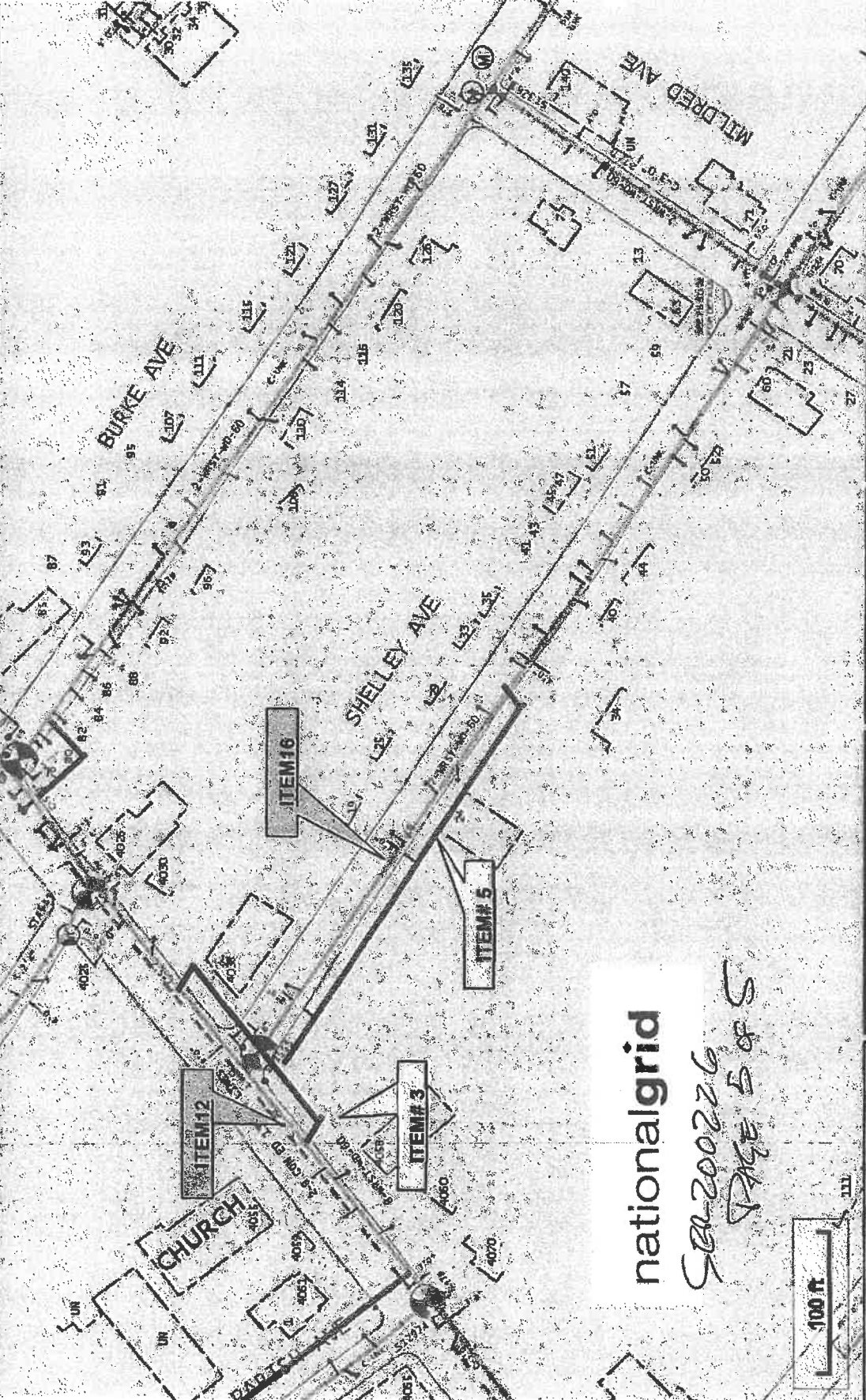
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PAGE 5 OF 5

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**VI - LISTING OF APPROXIMATE LOCATIONS OF EP-7 BID
ITEMS QUANTITIES.**

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**SCOPE OF WORK
SUPPORT AND PROTECTION
FOR CONTRACT NUMBER SER-200226**

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.)

- 2 in Victory Blvd @ Parish Ave
- 1 in Cannon Ave @ Prices La
- 1 in Victory Blvd @ Church Ave
- 1 in Cannon Ave @ Meredith Ave
- 1 in Victory Blvd @ Shelley Ave
- 2 in Cannon Ave @ Leroy St
- 1 in Victory Blvd @ Wild Ave
- 3 in Victory Blvd @ Burke Ave
- 1 in Glen St @ Wild Ave
- 1 in Victory Blvd @ Tower La
- 2 in Victory Blvd @ Simmons La
- 1 in Victory Blvd @ Cannon Ave
- 1 in Victory Blvd @ Ridgeway Ave
- 1 in Meredith Ave bet Cannon Ave & Glen St
- 2 in Victory Blvd @ Melvin Ave
- 1 in Parish Ave bet Victory Blvd & Cannon Ave
- 1 in Parish Ave @ Cannon Ave
- 1 in Victory Blvd @ Leroy St

6.01.2 - Support & Protect Gas Main Crossing Sewer 30" In Diameter (Ea.)

- 1 in Victory Blvd @ Cannon Ave

6.01.3 - Support & Protect Gas Main Crossing Sewer 36" Thru 42" In Diameter (Ea.)

- 1 in Meredith Ave @ Cannon Ave
- 1 in Parish Ave bet Victory Blvd & Cannon Ave
- 1 in Parish Ave @ Cannon Ave

6.01.8 - Support & Protect Gas Services Crossing Trenches and/or Excavations (Ea.)

- 155 in Various Locations As Required

6.01.9 - Support & Protect Gas Main Crossing Water Main Up To 20" In Diameter (Ea.)

- 1 in Glen St @ Wild Ave
- 1 in Parish Ave bet Cannon Ave & Victory Blvd
- 1 in Victory Blvd @ Parish Ave
- 1 in Victory Blvd @ Cannon Ave
- 1 in Victory Blvd @ Church Ave

**SCOPE OF WORK
SUPPORT AND PROTECTION
FOR CONTRACT NUMBER SER-200226**

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.

3 in Victory Blvd @ Leroy St
3 in Victory Blvd @ Simmons La
2 in Victory Blvd @ Ridgeway Ave
3 in Victory Blvd @ Melvin Ave
3 in Victory Blvd @ Wild Ave
1 in Meredith Ave bet Cannon Ave & Glen St
1 in Cannon Ave @ Leroy St
1 in Cannon Ave @ Meredith Ave
1 in Parish Ave @ Cannon Ave
1 in Cannon Ave @ Prices La
2 in Wild Ave @ Melvin Ave
1 in Victory Blvd @ Shelley Ave
3 in Victory Blvd @ Burke Ave

- 6.02 - Extra Excavation For the Installation of Catch Basin Sewer Drain Pipes with gas interferences (Ea.)**
11 in Various Locations As Required
- 6.03 - Removal Of Abandoned Gas Facilities. All Sizes (L.F.)**
6500 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)**
3200 in Various Locations As Required
- 6.04 - Adjust Hardware to Grade Using Spacer Rings/Adaptors (Street repaving) (Ea.)**
85 in Various Locations As Required
- 6.05 - Adjust Hardware to Grade by Resetting (Road Reconstruction) (Ea.)**
40 in Various Locations As Required
- 6.06 - Special Care Excavation & Backfilling (C.Y.)**
1900 in various locations, as required, including but not limited to all gas services crossing unsheeted water main trenches.

**SCOPE OF WORK
SUPPORT AND PROTECTION
FOR CONTRACT NUMBER SER-200226**

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.

6.06A - Special care excavation and backfilling for transmission mains (C.Y.)

400 in various locations, as required, including but not limited to all gas services crossing unsheeted water main trenches and the following location

Glen St between Melvin Ave & Cannon Ave.

6.07 - Test Pits For Gas Facilities (C.Y.)

200 in Various Locations As Required

**SECTION 6.06A - Special Care Excavation and Backfilling for Transmission Mains.
(Transmission Main is described as any gas main with a MAOP greater than 124 psig)**

1. Description:

Under this section, the contractor shall provide all labor, materials (except for sand to be utilized for backfill of a one-foot envelope around the facility to be furnished by the facility operator), equipment, and incidentals required to support and protect the integrity of Gas Transmission Main during excavations. This facility is owned by the gas company operating in the area, hereafter referred to as facility operator. The work shall be performed in accordance with the contract plans, specifications and at the directions of the Resident Engineer in consultation with authorized representatives of the facility operator.

2. Applicability of Section:

This section shall apply to Transmission Main of various sizes located within any excavation sheeted or unsheeted (excavation refers to any excavation performed for city work and includes excavations performed that are to be subsequently unsheeted/sheeted using approved shoring methods and paralleling, encroaching, and crossing any excavation. Parallel facilities are not exposed at any time during excavation (within 2' of edge of excavation)). Encroaching facilities are partially/fully exposed inside the limit of excavation. This section shall also apply to gas facility crossing catch basins excavation and catch basins sewer connections (chutes), water mains, fire hydrant branch connections, sanitary sewer, storm sewer, combination sewer, house sewer and/or water service connections excavations. The excavation around fully exposed live gas facilities along and within limits of excavation shall be covered by this section also, however the support requirement, if any is required, of such facilities is beyond the scope of these specifications and therefore shall be the responsibility of facility operator to determine and prescribe, at no cost to the City contract, but shall be a matter of adjustment between the contractor and facility operator.

3. Payment Restriction:

The bid item specified under this section shall not be used in combination with items covered under other sections for work done due to a particular gas facility. This item shall not be paid for new gas facilities when trenching for such new facilities has been performed by the contractor of record in common with trench excavation for City Work (overlapping trench limits). The cost of excavating with care as defined in this section shall be deemed included in the cost of trench excavation for the new gas facilities. This restriction shall apply even if such gas common trench excavation is not part of the contract. If facilities are in direct interference with City work, meaning that "minimum clearances" described in the General Provisions for Gas Cost Sharing (Para. No.8) cannot be maintained, the excavation shall be abandoned and the contractor shall be compensated as per the provisions specified in Paragraphs Nos. 5 and 6 of this item (6.06A).

4. Method of Construction:

All excavations in the vicinity of gas facilities shall be as required by NYS Industrial Code 753. No saw cutting of pavement or masonry for gas mains having less than 2 feet of cover to break asphalt/concrete as determined by the facility operator. The contractor shall use power excavation for the removal of pavement or masonry but only to the depth of such pavement or masonry (**breaking of pavement or masonry shall be done by means of hand held pneumatic breaking equipment**). Upon removal of pavement or masonry the contractor shall use hand excavation methods only (**pick and shovel; no power tools**) to ascertain the clearances of these facilities with respect to the proposed excavation. Once the location of these facilities with respect to the proposed excavation is verified to the satisfaction of the Resident Engineer and the facility operator the contractor shall then proceed with hand only within the zone of protection described as 2 feet from the face of the facility in all directions of the facility as required to preserve the integrity of the facility. Once outside of the zone of protection as described above the contractor may use a combination of hand and machine to complete the excavation.

5. Method of Payment:

The unit price for this work item shall be based on cubic yard (CY) of average excavation with special care and, is to be considered as an incremental cost for performing City work with gas facilities interferences.

6. Method of Measurement:

A. For Paralleling Facilities:

Volume calculated as: Depth as measured from existing street surface to the bottom of facility, multiplied by, the width measured as two (2) feet from the face of excavation toward the center of excavation, multiplied by the length of parallel facility, divided by twenty-seven (27) cubic feet per cubic yard Only hand excavation shall be utilized within the zone of protection identified as 2 feet from face of facility, beyond 2 feet from the face of facility the contractor can use a combination of hand and machine.

B. For Encroaching Facilities:

Volume calculated as: Depth as measured from existing street surface to the bottom of facility, multiplied by, the width measured as two (2) feet plus the exposed facility toward the center of excavation, multiplied by the length of the encroached facility, divided by twenty-seven (27) cubic feet per cubic yard. Only hand excavation shall be utilized within the zone of protection identified as 2 feet from face of facility, beyond 2 feet from the face of facility the contractor can use a combination of hand and machine.

C. Fully Exposed Gas Facilities:

Volume calculated as: Depth as measured from existing street surface to the bottom of facility, multiplied by, the width measured as two (2) feet from the face of the facility on

either side plus the facility, multiplied by the length of the facility, divided by 27 cubic feet per cubic yard. Only hand excavation shall be utilized within the zone of protection identified as 2 feet from face of facility in all directions, beyond 2 feet from the face of facility in all directions the contractor can use a combination of hand and machine.

D. For Additional Excavation And Restoration Due To So Called "Loss Trench", When The Integrity Of Pavement And Soil Above And Around Existing Live Gas Facilities Cannot Be maintained Due To Its Lack of Cohesiveness:

Volume shall be calculated as: Depth of unsheeted trench excavation multiplied by width measured as distance of facility from closest edge of unsheeted excavation plus, width of facility proper plus, one (1) foot or a maximum width of three (3) feet multiplied by length of facility fully exposed divided by, twenty-seven (27) cubic feet per cubic yard (not shown on "Gas Cost Sharing Work Standard Sketch No. 5").

E. For Facilities Crossing Excavation For Catch Basins, Or Chutes Installations (When NYCDEP Funded) Or Fire Hydrant Branch Connections, Or Unsheeted Water Main Trench, Or House Sewer And/Or Water Services:

Volume calculated as: Depth as defined above multiplied by, the width taken as the outside diameter of pipe or the width of structure plus one (1) foot on either side (two (2) feet), multiplied by, the length of exposed facility crossing the trench, divided by twenty-seven (27) cubic feet per cubic yard (not shown on "Gas Cost Sharing Work Standard Sketch No. 5").

7. Price to Cover:

The bid price shall also cover all additional supervision, labor, material, equipment and insurance necessary to excavate while protecting and maintaining (excluding supports for fully exposed live gas) gas facilities without disruption of service to the public and in accordance with contract specifications. The price shall also include, changes of sheeting method and excavation width configuration where necessary to accommodate gas facilities in their existing locations; difficulties during the installation of catch basins, chute connections, hydrant branch, and house sewer, sanitary sewer, storm sewer, combination sewer and water connections under or over gas facilities; loss of productivity due to slower rate of excavation (special care) during excavation, compaction, removal of sheeting from the facilities, extra roadway base restoration and temporary pavement, associated maintenance of traffic, barricades, and traffic plates that may be required to temporarily close and/or complete the work. Breaking shall be done by means of hand held pneumatic breaking equipment. Inspection of exposed mains shall be performed by facility operator in a timely fashion and shall not unduly impede contractor's progress or productivity.

HAZ - PAGES

**SPECIFICATIONS FOR HANDLING,
TRANSPORTATION AND DISPOSAL
OF NONHAZARDOUS AND POTENTIALLY
HAZARDOUS CONTAMINATED MATERIALS**

NOTICE

THE PAGES CONTAINED IN THIS SECTION ARE ISSUED FOR THE PURPOSE OF SPECIFYING THE REQUIREMENTS OF THE CONTRACT DOCUMENTS AND HEREBY MADE PART OF SAID CONTRACT DOCUMENTS.

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**SPECIFICATIONS FOR
HANDLING, TRANSPORTATION AND DISPOSAL
OF NON-HAZARDOUS AND POTENTIALLY HAZARDOUS
CONTAMINATED MATERIALS**

WATER MAIN WORK, NEW STORM AND SANITARY SEWERS IN TRAVIS AVENUE

TOGETHER WITH ALL WORK INCIDENTAL THERETO

**BOROUGH OF STATEN ISLAND
CITY OF NEW YORK**

Capital Project ID: SER200226

Prepared By:



30-30 Thomson Avenue, 3rd Floor
Long Island City, New York 11101

April 4, 2017

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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, OEGS.

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:

| ITEM NUMBER | ITEM | PAYMENT UNIT |
|-------------|---|--------------|
| 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:

| <u>ITEM NUMBER</u> | <u>ITEM</u> | <u>PAYMENT UNIT</u> |
|--------------------|---|---------------------|
| 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

loading, 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

| Parameter¹ | Daily Limit | Units | Sample Type | Monthly Limit |
|---------------------------------|--------------------|--------------|--------------------|----------------------|
| Non-polar material ² | 50 | mg/l | Instantaneous | --- |
| pH | 5-11 | SU's | Instantaneous | --- |
| Temperature | < 150 | Degree F | Instantaneous | --- |
| Flash Point | > 140 | Degree F | Instantaneous | --- |
| Cadmium | 2 | mg/l | Instantaneous | --- |
| | 0.69 | mg/l | Composite | -- |
| Chromium (VI) | 5 | mg/l | Instantaneous | --- |
| Copper | 5 | mg/l | Instantaneous | --- |
| Lead | 2 | mg/l | Instantaneous | --- |
| Mercury | 0.05 | mg/l | Instantaneous | --- |
| Nickel | 3 | mg/l | Instantaneous | --- |
| Zinc | 5 | mg/l | Instantaneous | --- |
| Benzene | 134 | ppb | Instantaneous | 57 |
| Carbontetrachloride | --- | --- | Composite | --- |
| Chloroform | --- | --- | Composite | --- |
| 1,4 Dichlorobenzene | --- | --- | Composite | --- |
| Ethylbenzene | 380 | ppb | Instantaneous | 142 |
| MTBE (Methyl-Tert-Butyl-Ether) | 50 | ppb | Instantaneous | --- |
| Naphthalene | 47 | ppb | Composite | 19 |
| Phenol | --- | --- | Composite | --- |
| Tetrachloroethylene (Perc) | 20 | ppb | Instantaneous | --- |
| Toluene | 74 | ppb | Instantaneous | 28 |
| 1,2,4 Trichlorobenzene | --- | --- | Composite | --- |
| 1,1,1 Trichloroethane | --- | --- | Composite | --- |
| Xylenes (Total) | 74 | ppb | Instantaneous | 28 |
| PCB's (Total) ³ | 1 | ppb | Composite | --- |
| Total Suspended Solids (TSS) | 350 ⁴ | mg/l | Instantaneous | --- |
| CBOD ⁵ | --- | --- | Composite | --- |
| Chloride ⁵ | --- | --- | Instantaneous | --- |
| Total Nitrogen ⁵ | --- | --- | Composite | --- |

| | | | | |
|---------------------------|-----|-----|---------------|-----|
| Total Solids ⁵ | --- | --- | Instantaneous | --- |
|---------------------------|-----|-----|---------------|-----|

- 1 All handling and preservation of collected samples and laboratory analyses of samples 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 < 10,000gpd, 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

- Final -

Phase II Subsurface Corridor Investigation Report

For

**NEW STORM SEWER AND WATER MAIN EXTENSION – TRAVIS AREA
VICTORY BOULEVARD, MELVIN AVENUE, WILD AVENUE, PARISH AVENUE, SHELLEY
AVENUE, ETC.**

STATEN ISLAND, NEW YORK

DDC PROJECT NO. SER200226

WORK ORDER NO. 8408-LIRO-2-7864

CONTRACT REGISTRATION NO. 20101417627

Prepared for:



Bureau of Environmental and Geotechnical Services
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Project No. 10-62-205

August 27, 2012



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EXECUTIVE SUMMARY

On behalf of the New York City Department of Design and Construction (NYCDDC), LiRo Engineers, Inc. (LiRo) conducted a Phase II Subsurface Corridor Investigation (Phase II SCI) of the Travis Area including portions of Victory Boulevard, Melvin Avenue, Wild Avenue, Parish Avenue, Shelley Avenue, Burke Avenue, Prices Lane, Leroy Street, Glen Street, Cannon Avenue, and Meredith Avenue (hereinafter referred to as the Corridor). The Corridor is located within the Chelsea neighborhood of Staten Island, New York.

LiRo prepared a Phase I Corridor Assessment Report (Phase I CAR) dated May 18, 2012, which presented the results of a survey conducted along the Corridor to assess the presence of potential sources of subsurface contamination within the immediate vicinity of the Corridor. The Phase I CAR identified two (2) sites that had a potential “High” risk and seven (7) sites that had a potential “Moderate” risk to impact the subsurface (soil and/or groundwater) of the Corridor and recommended the performance of a Phase II SCI. The objective of the Phase II SCI was to assess the presence of subsurface contamination that might impact proposed construction activities. The proposed construction activities for the Corridor include infrastructure improvements consisting of the installation and/or repair of storm and sanitary sewers. The Phase II SCI consisted of the following components:

- The advancement of seven (7) soil borings (SB-01 through SB-07) to a depth of approximately 25 feet below ground surface (fbg) or refusal, if encountered first and the field screening of soil samples, including photoionization detector (PID) readings and visual and olfactory indicators of contamination (staining, odors);
- The collection of five (5) soil samples, which were analyzed for United States Environmental Protection Agency (USEPA) Target Compound List (TCL) volatile organic compounds (VOCs);
- The collection of five (5) soil samples, which were analyzed for the following parameters: (1) TCL Base Neutral/Acid (BN/A) extractable semi-volatile organic compounds (SVOCs); (2) Target Analyte List (TAL) metals; (3) TCL pesticides; (4) TCL Herbicides; and, (5) TCL polychlorinated biphenyls (PCBs);
- The collection of three (3) waste characterization soil samples, which were analyzed for: (1) the USEPA Full Toxicity Characteristics Leaching Procedure (TCLP) parameters; (2) the Resource Conservation and Recovery Act (RCRA) Characteristics (ignitability, reactivity, and corrosivity); and, (3) Total Petroleum Hydrocarbons Diesel Range Organics/Gasoline Range Organics (TPHC DRO/GRO);
- The installation of two (2) temporary well points (TWPs), the collection of one (1) groundwater sample from each TWP, and the laboratory analyses of these samples for the parameters published by the New York City Department of Environmental Protection (NYCDEP) as Limitations for Effluent to Sanitary or Combined Sewers (NYCDEP Sewer Discharge Criteria); 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 the subsurface soil and groundwater quality, laboratory analytical results were compared with the regulatory standards identified in: (1) New York State Department of Environmental Conservation (NYSDEC) CP-51 – Supplemental Soil Cleanup Objectives (CP-51 SSCOs); (2) NYSDEC Subpart 375-6: Remedial Program Unrestricted and Restricted Use (Track 1 and Track 2) Soil Cleanup Objectives (SCOs); and, (3) the Toxicity Characteristic Regulatory Levels for Hazardous Waste published in RCRA and NYSDEC Part 371. In order to evaluate the groundwater quality, the laboratory analytical results for the groundwater samples were compared to the NYCDEP Sewer Discharge Criteria.

The subsurface soils encountered during this Phase II SCI from grade to 25 ftbg consisted predominantly of light brown, red-brown, and dark brown clayey sand, fine to medium sand, and trace silt, with some fine to medium gravel. Grey rock was encountered at 15.5 ftbg within SB-03 and at 17 ftbg at SB-07. Rock was also encountered between 2.5 and three (3) ftbg within four (4) attempted locations for SB-06 (R1, R2, R3, and R4).

Field screening, including visual observations, olfactory indicators, and PID readings, did not identify petroleum-impacted soils throughout the Corridor.

Acetone was detected in one (1) of the five (5) (SB-05-8.5-9) soil samples collected at a concentration exceeding Unrestricted Use (Track 1) SCOs. No Residential (Track 2) SCO or CP-51 SSCO exceedances were detected. Acetone is a common laboratory cross contaminant and is typically not representative of subsurface conditions.

Iron was detected above the CP-51 SSCOs in all five (5) composite samples (SB-01-COMP, SB-02-0-25-COMP, SB-03-0-15-COMP, SB-04-0-25-COMP, and SB-05-COMP). In addition, zinc was detected above the Unrestricted Use (Track 1) SCO in one (1) (SB-01-COMP) of the five (5) composite samples. Based on this consistency, most of the detected concentrations are attributed to background levels.

No SVOCs, pesticides, herbicides, or PCBs were detected in the five (5) soil samples at concentrations exceeding applicable standards, including Unrestricted Use (Track 1) SCOs, Restricted Use (Track 2) SCOs, and/or CP-51 SSCOs.

DRO was detected in all three (3) waste characterizations samples (WC-01, WC-02, and WC-03) while GRO was detected within only one (1) (WC-02) of the three (3) waste characterizations samples. There are no regulatory standards for DRO and GRO.

The three (3) waste characterization soil samples did not exhibit evidence of hazardous waste characteristics.

Total Suspended Solids (TSS) was detected at concentrations that exceed the NYCDEP Sewer Discharge Criteria in both groundwater samples (GW-01 and GW-03). In addition, cadmium exceeded the NYCDEP Sewer Discharge Criteria for composite discharge sampling within one (1) (GW-03) of the two (2) samples. The cadmium criterion is based upon a composite sample. The probable activities would be considered instantaneous discharges.



Conclusions

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:

- Field screening, including visual observations, olfactory indicators, and PID readings, did not identify petroleum-impacted soils throughout the Corridor;
- Field screening and laboratory analytical results did not identify petroleum-impacted soils throughout the Corridor. However, the presence of petroleum components and metals in subsurface soils within the Corridor may be attributed to: (a) contaminants in historic fill material placed on the Corridor; (b) laboratory cross contamination (acetone); and/or, (c) natural background levels (metals);
- The subsurface soils did not exhibit hazardous waste characteristics; and,
- The groundwater samples contained concentrations of TSS that exceeded the NYCDEP Sewer Discharge Criteria. The presence of elevated levels of TSS in the groundwater is attributed to the fact that unfiltered samples were collected from the TWPs. However, groundwater samples collected from TWPs are considered to be more representative of conditions to be encountered during construction activities. While cadmium exceeded the NYCDEP Sewer Discharge Criteria for composite discharge activities within one (1) (GW-03) of the two (2) samples, the anticipated discharge activities for the improvement work would likely be considered instantaneous discharge activity.

Based on the results of the field investigation and laboratory analytical results, LiRo recommends the following:

- The Contract documents should identify provisions and a contingency for managing, handling, transporting, and disposing of non-hazardous contaminated 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;
- Due to the presence of metals concentrations above the Unrestricted Use (Track 1) SCOs and CP-51 SSCOs in the investigated sites, 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 as a direct result of construction activities. A Community Air Monitoring Plan (CAMP) shall be developed in accordance with NYSDEC Division of Environmental Remediation (DER)-10 Requirements. The CAMP requires real-time monitoring for VOCs and 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 downwind community from potential airborne contaminant releases as a direct result of investigative and remedial work activities. Specific requirements shall be reviewed for each situation in consultation with New York State Department of Health (NYSDOH) to ensure proper applicability;



- Dewatering may be necessary during construction activities within the Corridor. Since TSS was detected in the groundwater samples at a concentration exceeding the NYCDEP Sewer Discharge Limitations, groundwater may require pre-treatment prior to discharge. Therefore, if dewatering to a sanitary or combined sewer will be performed, the contractor may be required to obtain a NYCDEP sewer discharge permit; and,
- Before beginning any excavation activity, the contractor shall 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).



1.0 INTRODUCTION

On behalf of the New York City Department of Design and Construction (NYCDDC), LiRo Engineers, Inc. (LiRo) conducted a Phase II Subsurface Corridor Investigation (Phase II SCI) of the Travis Area including portions of Victory Boulevard, Melvin Avenue, Wild Avenue, Parish Avenue, Shelley Avenue, Burke Avenue, Prices Lane, Leroy Street, Glen Street, Cannon Avenue, and Meredith Avenue (hereinafter referred to as the Corridor). The Corridor is located within the Chelsea neighborhood of Staten Island, New York. Infrastructure improvements consisting of new storm sewer and water main extension are proposed for the Corridor. The Phase II SCI was conducted to determine if the Corridor's environmental condition might impact proposed construction activities.

1.1 Summary of Previous Environmental Investigations

LiRo prepared a Phase I Corridor Assessment Report (Phase I CAR) dated May 18, 2012, which presented the results of a survey conducted along the Corridor to assess the presence of potential sources of subsurface contamination within the immediate vicinity of the Corridor. The survey also included a review of fire insurance maps to document historical use and a limited review of regulatory databases to identify sites that are known to be contaminated.

The Phase I CAR identified two (2) sites that had a potential "High" risk and seven (7) sites that had a potential "Moderate" risk to impact the subsurface of the Corridor and recommended advancing a total of nine (9) borings, installing temporary well points, and collecting soil and groundwater samples to assess potential impacts.

HIGH RISK SITES

- 1) Former filling station, 4118 Victory Blvd., Staten Island, NY
- 2) Residence and store with gasoline tanks, 4005-4009 Victory Blvd., Staten Island, NY

MODERATE RISK SITES

- 1) NYSDOT Contract D253724, NB W Shore Expressway & Edward, 10 Glen St., Staten Island, NY
- 2) Lepro Ice Cream Corp., 3865-3869 Victory Blvd., Staten Island, NY
- 3) NYCDEP (pumping station)/DSNY Pumping Station, 173-181 Cannon Ave., Staten Island, NY
- 4) FDNY facility, 4010 Victory Blvd., Staten Island, NY
- 5) 142 Wild Ave., New York (County), NY
- 6) Schmul Park, 150 Wild Ave., Staten Island, NY
- 7) Mohlenhoff & Sons, Inc. (greenhouse/nursery), 3808 Victory Blvd., Staten Island, NY

Based on a follow-up inspection of the Corridor with the NYCDDC Project Manager on June 27, 2012, LiRo proposed seven (7) soil borings (SB-01 through SB-07) to investigate the above two (2) "High" risk sites and seven (7) "Moderate" risk sites in the Corridor area and to characterize the urban fill/soil in the Corridor area.



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. (ADT) of Mineola, New York. Oversight of drilling activities was performed by LiRo. Laboratory analyses were provided by Chemtech of Mountainside, New Jersey, a NYS Department of Health (NYSDOH) approved laboratory (No. 11376). Field derived Quality Assurance/Quality Control samples (i.e., field blanks, trip blanks, duplicates) were not collected for this project. The field investigation was conducted on July 30, 2012 through August 2, 2012 and consisted of the following components:

- The advancement of seven (7) soil borings (SB-01 through SB-07) to a depth of 25 feet below ground surface (ftbg) or refusal, if encountered first. The borings were advanced using a Geoprobe® direct push drill rig. Prior to direct push advancement, borings were cleared to a depth of six (6) feet using a hand auger and/or a vacuum excavator (Vacex). Soil samples were collected using 5-foot long by 2-inch acetate liners within Macro Core stainless steel samplers. In addition, a site specific Health and Safety Plan was prepared prior to commencing field work;
- Field screening, classification, and evaluation of soils from the ground surface to the bottom of each boring. Soil samples were visually classified in the field using the USCS soil classification system. Field screening 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 sample from the four (4) soil borings identified as “High” risk boring locations (SB-01 through SB-04). The composite samples were comprised of soil from the entire boring column. The grab samples were collected from the zero (0) to six (6) inch interval above the water table. Composite and grab samples were also collected from one (1) of the three (3) “Moderate” risk borings (SB-05). Grab and composite samples were not collected from the remaining two (2) “Moderate” soil borings (SB-06 and SB-07) since contamination was not identified during field screening.
- Laboratory analysis of the composite samples for: (1) Target Compound List (TCL) Base Neutral/Acid (BN/A) extractable semi-volatile organic compounds (SVOCs) by United States Environmental Protection Agency (USEPA) Method 8270; (2) Target Analyte List (TAL) metals by USEPA Method 6010B/7010; (3) TCL pesticides by USEPA Method 8081A; and, (4) TCL polychlorinated biphenyls (PCBs) by USEPA Method 8082.
- Laboratory analysis of the grab samples for TCL volatile organic compounds (VOCs) by USEPA Method 8260.
- The installation of two (2) temporary well points (TWPs) in borings SB-01 and SB-05, and the collection of one (1) groundwater sample from each TWP using direct push technology by installing a slotted PVC screen perpendicular to the groundwater table and riser pipe to grade. Dedicated tubing was deployed in each TWP and connected to a check valve to extract the groundwater samples.
- Laboratory analysis of the groundwater samples for the parameters published by the New York City Department of Environmental Protection (NYCDEP) as Limitations for Effluent to Sanitary or Combined Sewers (NYCDEP Sewer Discharge Criteria).



- The collection of three (3) composite waste characterization (WC) samples as follows:
 - WC-1: composited of soil aliquots from borings SB-01 and SB-02 (grade to bottom);
 - WC-2: composited of soil aliquots from borings SB-03 and SB-04 (grade to bottom); and,
 - WC-3: composited of soil aliquots from borings SB-05, SB-06, and SB-07 (grade to bottom).
- Laboratory analysis of the waste characterization samples for: (a) Full Toxicity Characteristics Leaching Procedure (TCLP) by USEPA Method SW846; (b) Resource Conservation and Recovery Act (RCRA) Characteristics (ignitability, reactivity, and corrosivity) by USEPA Method SW846; and, (c) Total Petroleum Hydrocarbons Diesel Range Organics/Gasoline Range Organics (TPHC DRO/GRO) by USEPA Method 8015B.



2.0 CORRIDOR INFORMATION

2.1 Corridor Location, Description, and Use

The Corridor is located within the Chelsea neighborhood of Staten Island, New York. The Corridor consists of the following streets: Victory Boulevard, Melvin Avenue, Wild Avenue, Parish Avenue, Shelley Avenue, Burke Avenue, Prices Lane, Leroy Street, Glen Street, Cannon Avenue, and Meredith Avenue. The location is shown on Figure 1. The Corridor segments are primarily comprised of residences, condominiums, and apartment buildings. However, a few commercial operations are also present. Based on observations made during the Phase I CAR site reconnaissance, the following properties of potential environmental concern were identified.

- New York State Department of Transportation (NYSDOT) facility at 10 Glen Street.
- Lickety Split Ice Cream truck yard (also known as Lepro Ice Cream Corp.) at 3865-3869 Victory Boulevard.
- New York City Department of Environmental Protection (NYCDEP) pumping station at 173 Cannon Avenue.
- Hook and Ladder Number 1 (Oceanic) Fire Department, New York (FDNY) at 4010 Victory Boulevard.
- Public School 26 – Carteret School at 4100 Victory Boulevard.

2.2 Description of Surrounding Properties

The area surrounding the Corridor is primarily comprised of residential properties. However, based on observations made during the Site reconnaissance, a few properties of potential environmental concern were identified including an NYSDOT yard, an ice cream truck yard, an NYCDEP pumping station, an FDNY facility, and a school.

2.3 Corridor and Regional Topographic Setting

Based on a review of the United States Geologic Survey (USGS) 7.5-minute Topographic Quadrangle Map, Arthur Kill, dated 1975, the elevation of the Corridor exhibits a vertical change of approximately 40 feet along the length of the Corridor. The approximate elevation of the Corridor ranges from 10 feet above mean sea level [msl] near the Expressway along Meredith Avenue to 50 feet msl along Melvin Avenue between Victory Boulevard and Glen Street. The Corridor appears to be situated at a surface water drainage divide. Surface runoff is expected to follow the northwesterly or southeasterly slope of the Corridor leading to the Arthur Kill to the west and Main Creek to the east. A copy of the topographic map is presented in Figure 1.

2.4 Corridor and Regional Geology

Site and Regional Geology and Hydrogeology are based on information provided in the Geologic Map of New York State (Lower Hudson Sheet) and the USGS “Hydrogeologic Framework of Long Island, New York.” Staten Island is underlain by metamorphic, igneous, and sedimentary bedrock. Ordovician serpentinite, a metamorphosed portion of ocean crust, is found beneath the eastern and central portions of Staten Island. This rock also contains asbestos and can be hazardous if crushed into a fine powder.



The western portion of Staten Island is underlain by Mesozoic igneous and sedimentary rocks. A Triassic diabase intrusion, known as the Palisades Sill, intruded the older Triassic sedimentary rocks of the Brunswick Formation which consists of sandstone, siltstone, mudstone, and arkose.

Unconsolidated sediments overlay bedrock over much of Staten Island. The eastern portion of the island is overlain by Cretaceous sediments of the Raritan Formation which consists of stream and coalescing delta deposits. The formation fines upwards representing a prograding shoreline. The formation has been divided into two (2) units, the Lloyd Sand Member and a conformable overlying clay unit (the Raritan Confining Unit).

Pleistocene glacial and glaciofluvial sediments as well as recent river, alluvium, and salt marsh deposits overly the bedrock and the Cretaceous sediments. These sediments consist of glacial till and moraine. A terminal moraine known as the "Harbor Hill Moraine" stretches from Staten Island through Brooklyn and Queens and out across Long Island to the tip of Montauk Point. The southern edges of the moraine are marked by hills and elevated areas. In Staten Island, Todt Hill (at 409 feet above msl) is the highest point on the Atlantic seaboard south of Maine. Todt Hill is composed of glacial terminal moraine.

The subsurface soils encountered during this Phase II SCI from grade to 25 ftbg consisted predominantly of light, red, and dark brown clayey sand, fine to medium sand, and trace silt, with some fine to medium gravel. Grey rock was encountered at 15.5 ftbg within SB-03 and at 17 ftbg at SB-07. Rock was also observed between 2.5 and three (3) ftbg within four (4) attempted locations for SB-06 (R1, R2, R3, and R4).

2.5 Corridor and Regional Hydrogeology

The nearest surface water body is Neck Creek which crosses Meredith Avenue within the Corridor limits. Other nearby surface water bodies are Main Creek approximately 1,100 feet to the east, Arthur Kill approximately 1,900 feet to the west, and Fresh Kill approximately 4,300 feet to the south.

Based upon site topography, groundwater is anticipated to be present at five (5) to 20 ftbg depending upon the locations within the Corridor. Based on the observations made within the Phase II subsurface investigation, groundwater was encountered between nine (9) and 15 ftbg.

Surface runoff is expected to follow the northwesterly or southeasterly slope of the Corridor leading to the Arthur Kill to the west and Main Creek to the east. Based upon topography, groundwater flow direction is anticipated to be variable but generally northwest or southeast depending upon the location in the Corridor. Estimated groundwater levels and/or flow direction(s) may vary due to seasonal fluctuations in precipitation, local usage demands, geology, underground structures, or dewatering operations.



3.0 CORRIDOR EVALUATION

Proposed construction activities at this site include soil excavation and may include dewatering, which in turn requires that soils and groundwater 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. LiRo provided oversight for the advancement of seven (7) soil borings, the installation of two (2) temporary well points (TWPs), and the collection of soil and groundwater samples during the field investigation at the designated areas in the vicinity of the planned construction. The soil and groundwater samples from the borings and TWPs were transferred into laboratory supplied sample jars and properly labeled. The samples were stored with ice in a cooler to preserve the samples at 4° Celsius prior to and during shipment. A chain-of-custody was prepared, prior to sample shipment. 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

Seven (7) borings (SB-01 through SB-07) were advanced to a depth of 25 fbg, or refusal, if encountered first, using a Geoprobe® direct push drill rig. Prior to direct push advancement, borings were cleared to a depth of six (6) fbg using a hand auger and/or a vacuum excavator. Soil samples were collected using 5-foot long by 2-inch diameter acetate liners within Macro Core stainless steel samplers. Soil boring locations are shown 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 locations of each boring are described below:

- **SB-01** – Advanced in the vicinity of “High” risk site No. 1 and located on Victory Boulevard, 64 feet southwest of the southwest corner of Victory Boulevard and Melvin Avenue and 1 foot southeast of the curb line, in the sidewalk.
- **SB-02** – Advanced in the vicinity of “High” risk site No. 1 and located on Melvin Avenue, 75 feet southeast of the southwest corner of Victory Boulevard and Melvin Avenue and 5 feet southwest of the curb line, in the sidewalk.
- **SB-03** – Advanced in the vicinity of “High” risk site No. 2 and located on Victory Boulevard, 170 feet northeast of the northeast corner of Victory Boulevard and Burke Avenue and 5 feet northwest of the curb line, in the sidewalk.
- **SB-04** – Advanced in the vicinity of “High” risk site No. 2 and “Moderate” risk site No. 4 and located on Burke Avenue, 20 feet southeast of the southeast corner of Victory Boulevard and Burke Avenue and 3 feet northeast of the curb line, in the sidewalk.
- **SB-05** – Advanced in the vicinity of “Moderate” risk site Nos. 1 and 2, and, located on Cannon Avenue, 150 feet northeast of the southeast corner of Cannon Avenue and Parish Avenue and 2 feet northwest of the curb line, in sidewalk.



- **SB-06-R1** – Attempted (refusal at three [3] ftbg) in the vicinity of “Moderate” risk sites Nos. 2 and 7, and, located on Victory Boulevard, 400 feet northeast of the southwest corner of Cannon Avenue and Victory Boulevard and 5 feet northwest of the curb line, in the street.
- **SB-06-R2** – Attempted (refusal at three [3] ftbg) in the vicinity of “Moderate” risk sites Nos. 2 and 7, and, located on Victory Boulevard, 448 feet northeast of the southwest corner of Cannon Avenue and Victory Boulevard and 5 feet northwest of the curb line, in the street.
- **SB-06-R3** – Attempted (refusal at three [3] ftbg) in the vicinity of “Moderate” risk sites Nos.2 and 7, and, located on Victory Boulevard, 534 feet northeast of the southwest corner of Cannon Avenue and Victory Boulevard and 5 feet northwest of the curb line, in the street.
- **SB-06-R4** – Attempted (refusal at 2.5 ftbg) in the vicinity of “Moderate” risk sites Nos.2 and 7, and, located on Victory Boulevard, 303 feet northeast of the southwest corner of Cannon Avenue and Victory Boulevard and 5 feet northwest of the curb line, in the street.
- **SB-07** – Advanced in the vicinity of “Moderate” risk sites Nos. 5 and 6, and, located on Wild Avenue, 28 feet northeast of the southeast corner of Wild Avenue and Pearson Street and 5 feet southeast of the curb line, in the sidewalk.

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 samples were collected from each of the borings at 5-foot intervals. Upon sample retrieval, the soils were examined for visual evidence (i.e., staining, discoloration) and any olfactory indications (i.e., odors) of contamination. In addition, a PID was used to field screen the soil for VOC vapors.

In order to identify representative conditions relative to the presence of SVOCs, metals, pesticides, and PCBs over the entire soil column in each boring, composite soil samples were collected by mixing the soil from the entire column in a stainless steel bowl. Boring composite samples were collected from the four (4) “High” risk borings (SB-01 through SB-04) and one (1) “Moderate” risk boring (SB-05). Composite samples were not collected from the remaining two (2) “Moderate” soil borings since contamination was not identified during field screening.

In order to identify representative conditions relative to the presence of VOCs, grab soil samples were collected from zero (0) to six (6) inches above the water table in borings SB-01 through SB-05. If evidence of contamination was not identified during the field screening and groundwater was not encountered, the grab soil samples were collected from the bottom 6-inch interval in borings SB-01 through SB-04. Grab samples were not collected from the remaining two (2) “Moderate” soil borings since contamination was not identified during field screening.

In order to identify representative conditions for disposal purposes, waste classification (WC) samples were collected as follows:

- WC-1: composited of soil from borings SB-01 and SB-02 (grade to bottom);
- WC-2: composited of soil from borings SB-03 and SB-04 (grade to bottom); and,
- WC-3: composited of soil from borings SB-05 through SB-07 (grade to bottom).

Soil classification information, including stratigraphy, 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, a clear plastic liner was used inside the sampler for neat recovery of the soil cores. Following the completion of each boring, the boreholes were back-filled with drill cuttings; and then sealed with cement grout or asphalt, as appropriate.

3.2 Groundwater Quality Investigation

As groundwater may be encountered within the depths associated with the future excavation, two (2) groundwater samples were collected for field screening and laboratory analysis during the soil boring activities. TWP's were installed in soil borings SB-01 and SB-05. Groundwater was not encountered in all borings and the maximum proposed depth was not reached for borings SB-03, SB-06, and SB-17 due to refusal. Groundwater was encountered between nine (9) and 15 ftbg within all borings except SB-03, SB-06, and SB-17. For the installation of the TWP's, the Geoprobe® unit was advanced to a depth of 25 ftbg, approximately 15 feet into the encountered water table. The TWP's consisted of a 25-foot length section of two (2)-inch diameter schedule 40 PVC screen and riser. A groundwater sample was collected from each TWP for field screening and laboratory analysis via dedicated tubing and check valves. All tubing was new, clean, and unused and was properly disposed of after use. Upon extraction, the samples were examined for visual evidence (i.e., discoloration, sheen) and any olfactory indications (i.e., odors) of contamination were noted.

A summary of the measurements taken from the TWP's is provided in Appendix B. The locations of the TWP's are provided in Figure 2.

3.3 Laboratory Analyses

The soil and groundwater samples were submitted to CHEMTECH of Mountainside, New Jersey, a NYSDOH approved laboratory (No. 11376). Field derived Quality Assurance/Quality Control samples (i.e., field blank, trip blank, duplicate) were not collected for this project. Laboratory analytical reports are included in Appendix C.

The grab soil samples were analyzed for United States Environmental Protection Agency (USEPA) Target Compound List (TCL) volatile organic compounds (VOCs) by Method 8260. The boring composite soil samples were analyzed for: (1) TCL Base Neutral/Acid (BN/A) extractable SVOCs by USEPA Method 8270; (2) Target Analyte List (TAL) metals by USEPA Method 6010B/7010; (3) TCL pesticides by USEPA Method 8081A; TCL Herbicides by USEPA Method 8151A; and, (4) TCL polychlorinated biphenyls (PCBs) by USEPA Method 8082.

The waste characterization soil samples were analyzed for: (1) the USEPA Full Toxicity Characteristics Leaching Procedure (TCLP) parameters; (2) the Resource Conservation and Recovery Act (RCRA) Characteristics (ignitability, reactivity, and corrosivity); and, (3) Total Petroleum Hydrocarbons Diesel Range Organics/Gasoline Range Organics (TPHC DRO/GRO).

The groundwater samples were analyzed for parameters published by NYCDEP as Limitations for Effluent to Sanitary or Combined Sewers.



3.4 Data Evaluation

In order to evaluate the subsurface soil quality, the laboratory analytical results of the grab and composite soil samples were compared with the regulatory standards identified in: (1) NYSDEC Subpart 375-6: Remedial Program Unrestricted and Restricted Use (Track 1 and Track 2) Soil Cleanup Objectives (SCOs); and, (2) NYSDEC CP-51 Supplemental Soil Cleanup Objectives (CP-51 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 NYSDEC Part 371. The analytical results of the groundwater samples were compared to the NYCDEP Sewer Discharge Criteria.



4.0 FINDINGS

This section discusses the analytical data and findings for the activities discussed in Section 3.0. Boring logs and well installation records can be found in Appendix B. Complete analytical data reports are included in Appendix C.

4.1 Field Screening

Field screening, including visual observations, olfactory indicators, and PID readings, did not identify petroleum-impacted soils throughout the Corridor. Refer to Table 1 for a summary of environmental boring data.

4.2 Soil and Groundwater Laboratory Analytical Results

4.2.1 Volatile Organic Compounds (VOCs) in Soil

While VOCs were detected in four (4) of the five (5) grab samples collected, acetone was the only compound detected at a concentration exceeding the Unrestricted Use (Track 1) SCO. An exceedance of acetone was detected within one (1) of the five (5) samples (SB-05-8.5-9). No Residential (Track 2) SCO or CP-51 SSCO exceedances were detected. Acetone is a common laboratory cross contaminant and is typically not representative of subsurface conditions. Refer to Table 2 for a summary of TCL VOC detections.

4.2.2 Semi-Volatile Organic Compounds (SVOCs) in Soil

While one (1) SVOC was detected, dimethylphthalate, the concentrations did not exceed Unrestricted Use (Track 1) and Restricted Use (Track 2) SCOs and/or CP-51 SSCOs. Refer to Table 3 for a summary of TCL SVOC detections.

4.2.3 Target Analyte List Metals (TAL Metals) in Soil

Metals were detected in all five (5) composite samples collected. Iron was detected above the CP-51 SSCO in all five (5) composite samples. Zinc was detected above the Unrestricted Use (Track 1) SCO in one (1) of the five (5) composite samples (SB-01-COMP). Based on this consistency, most of the detected concentrations are attributed to background levels. Refer to Table 4 for a summary of TAL metals detections.

4.2.4 Pesticides in Soil

While two (2) pesticides, 4,4'-DDE and 4,4'-DDT, were detected in one (1) of the five (5) composite samples, the concentrations of these compounds did not exceed the Unrestricted Use (Track 1) and Restricted Use (Track 2) SCOs and/or CP-51 SSCOs. Refer to Table 5 for a summary of pesticide detections.

4.2.5 Herbicides in Soil

No herbicides were detected in the five (5) composite samples collected. Refer to Table 6 for a summary of Herbicide detections.



4.2.6 PCBs in Soil

While one (1) PCB, Aroclor 1260, was detected in three (3) of the five (5) composite samples, the concentrations did not exceed the Unrestricted Use (Track 1) and Restricted Use (Track 2) SCOs and/or CP-51 SSCOs. Refer to Table 7 for a summary of PCB detections.

4.2.7 Waste Classification of Soil

Ignitability (flash point), reactivity (cyanide and sulfide), and corrosivity (pH) were within the acceptable RCRA ranges. TCLP VOCs, SVOCs, metals, herbicides, pesticides, and PCBs were either not detected or were below 6 NYCRR Part 371 and RCRA. DRO were detected at concentrations ranging from approximately 5,629 ug/kg to 6,761 ug/Kg in all three (3) samples. GRO were detected in one (1) of the three (3) samples (WC-02) at a concentration of 587 ug/Kg. There are no regulatory standards for DRO and GRO. Analytical results will need to be compared to levels acceptable by the chosen receiving facility to determine appropriate waste classification prior to off-site disposal. Refer to Table 8 for a summary of TCLP parameters, RCRA characteristics, and DRO/GRO results.

4.2.8 Analysis of NYCDEP Parameters in Groundwater

The two (2) groundwater samples (GW-01 and GW-03) were analyzed for the parameters required by the NYCDEP Limitations for Effluent to Sanitary or Combined Sewers (Daily Limit). Total Suspended Solids (TSS) was detected at concentrations that exceed the NYCDEP Sewer Discharge Criteria in both groundwater samples (GW-01 and GW-03). In addition, cadmium exceeded the NYCDEP Sewer Discharge Criteria for composite discharge activities within one (1) (GW-03) of the two (2) samples. The anticipated discharge activities for the improvement work would likely be considered instantaneous discharge activity. All other parameters were within NYCDEP Sewer Discharge Criteria. However, based on the results for TSS, groundwater does not meet NYCDEP Sewer Discharge Criteria and may require pre-treatment prior to discharge. Refer to Table 9 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:

- Field screening, including visual observations, olfactory indicators, and PID readings, did not identify petroleum-impacted soils throughout the Corridor.
- Field screening and laboratory analytical results did not identify petroleum-impacted soils throughout the Corridor. However, the presence of petroleum components and metals in subsurface soils within the Corridor may be attributed to: (a) contaminants in historic fill material placed on the Corridor; (b) laboratory cross contamination (acetone); and/or, (c) natural background levels (metals);
- The subsurface soils did not exhibit hazardous waste characteristics; and,
- The groundwater samples contained concentrations of TSS that exceeded the NYCDEP Sewer Discharge Criteria. The presence of elevated levels of TSS in the groundwater is attributed to the fact that unfiltered samples were collected from the TWPs. However, groundwater samples collected from TWPs are considered to be more representative of conditions to be encountered during construction activities. While cadmium exceeded the NYCDEP Sewer Discharge Criteria for composite discharge activities within one (1) (GW-03) of the two (2) samples. The anticipated discharge activities for the improvement work would likely be considered instantaneous discharge activity.

Based on the results of the field investigation and laboratory analytical results, LiRo recommends the following:

- The Contract documents should identify provisions and a contingency for managing, handling, transporting, and disposing of non-hazardous contaminated 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;
- Due to the presence of VOC and metals concentrations above the Unrestricted Use (Track 1) SCOs and CP-51 SSCOs in the investigated sites, 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 as a direct result of construction activities. A CAMP shall be developed in accordance with NYSDEC Division of Environmental Remediation (DER)-10 Requirements. The CAMP requires real-time monitoring for VOCs and 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 downwind community from potential airborne contaminant releases as a direct result of investigative and remedial work activities. Specific requirements shall be reviewed for each situation in consultation with NYSDOH to ensure proper applicability;



- Dewatering may be necessary during construction activities within the Corridor. Since TSS was detected in the groundwater samples at a concentration exceeding the NYCDEP Sewer Discharge Limitations, groundwater may require pre-treatment prior to discharge. Therefore, if dewatering to a sanitary or combined sewer will be performed, the contractor may be required to obtain a NYCDEP sewer discharge permit; and,
- Before beginning any excavation activity, the contractor shall submit a site-specific 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).



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:

Amy Hewson
Senior Environmental Analyst

Report Reviewed By:

Thomas Fralick
Senior Geologist

Report Reviewed By:

Robert Kreuzer
Project 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.

LiRo 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, LiRo 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, LiRo 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 LiRo in this report are not, and should not be considered, an opinion concerning the compliance of any past or present owner or operator of the site with any federal, state or local law or regulation. No warranty or guarantee, whether express or implied, is made with respect to the data reported or findings, observations, and conclusions expressed in this report. Further, such data, findings, observations, and conclusions are based solely upon site conditions in existence at the time of investigation.

This report has been prepared on behalf of and for the exclusive use of the Client, and is subject to and issued in connection with the Agreement and the provisions thereof.



TABLES

Table 1 Summary of Environmental Boring Data
Table 2 Summary of TCL VOCs Detected in Soil
Table 3 Summary of TCL SVOCs Detected in Soil
Table 4 Summary of TAL Metals Detected in Soil
Table 5 Summary of Pesticides Detected in Soil
Table 6 Summary of Herbicides Detected in Soil
Table 7 Summary of PCBs Detected in Soil
Table 8 Summary of Waste Characterization in Soil
Table 9 Groundwater Quality Compared to NYCDEP Sewer Effluent Parameters

Table 1. Summary of Environmental Boring Data
Phase II Subsurface Corridor Investigation for New Storm Sewer and Water Main Extension - Travis Area
Victory Blvd., Melvin Ave., Wild Ave., Parish Ave., Shelley Ave., Etc., Staten Island, New York

| Boring No. | Sample ID | PID (ppm) | Sample Interval (ft bgs) | Total VOCs (ug/kg) | Total SVOCs (ug/kg) | Metals Exceed (Yes/No) ¹ | Total PCBs (ug/kg) | Herbicides Exceed (Yes/No) | Total Pesticide (ug/kg) | Depth to Water (ft bgs) | Total Depth (ft bgs) | Other Comments |
|------------|-------------------|-----------|--------------------------|--------------------|---------------------|-------------------------------------|--------------------|----------------------------|-------------------------|-------------------------|----------------------|---|
| SB-01 | SB-01-9.5-10 | <1 | 9.5-10 | ND | NA | NA | NA | NA | NA | 10 | 26 | No petroleum odors, staining, or elevated PID readings. |
| SB-01 | SB-01-COMP | <1 | Composite | NA | 410 | Yes | 93 | No | ND | 10 | 26 | No petroleum odors, staining, or elevated PID readings. |
| SB-02 | SB-02-9.5-10 | <1 | 9.5-10 | 8.4 | NA | NA | NA | NA | NA | 10.5 | 25 | No petroleum odors, staining, or elevated PID readings. |
| SB-02 | SB-02-0-25 (COMP) | <1 | Composite | NA | 400 | Yes | ND | ND | ND | 10.5 | 25 | No petroleum odors, staining, or elevated PID readings. |
| SB-03 | SB-03-14.5-15 | <1 | 14.5-15 | ND | NA | NA | NA | NA | NA | Not Observed | 15 | No petroleum odors, staining, or elevated PID readings. |
| SB-03 | SB-03-0-15 (COMP) | <1 | Composite | NA | 430 | Yes | 16 | No | ND | Not Observed | 15 | No petroleum odors, staining, or elevated PID readings. |
| SB-04 | SB-04-14-14.5 | <1 | 14-14.5 | 12.8 | NA | NA | NA | NA | NA | 15 | 25 | No petroleum odors, staining, or elevated PID readings. |
| SB-04 | SB-04-0-25 (COMP) | <1 | Composite | NA | 420 | Yes | 37 | No | ND | 15 | 25 | No petroleum odors, staining, or elevated PID readings. |
| SB-05 | SB-05-8.5-9 | <1 | 8.5-9 | 82.8 | NA | NA | NA | NA | NA | 9 | 25 | No petroleum odors, staining, or elevated PID readings. |
| SB-05 | SB-05-COMP | <1 | Composite | NA | 500 | Yes | ND | No | 3.8 | 9 | 25 | No petroleum odors, staining, or elevated PID readings. |
| SB-06 | NA | <1 | NA | NA | NA | NA | NA | NA | NA | NA | 3 | No petroleum odors, staining, or elevated PID readings. |
| SB-06 | NA | <1 | NA | NA | NA | NA | NA | NA | NA | NA | 3 | No petroleum odors, staining, or elevated PID readings. |
| SB-06 | NA | <1 | NA | NA | NA | NA | NA | NA | NA | NA | 3 | No petroleum odors, staining, or elevated PID readings. |
| SB-06 | NA | <1 | NA | NA | NA | NA | NA | NA | NA | NA | 2.5 | No petroleum odors, staining, or elevated PID readings. |
| SB-07 | NA | <1 | NA | NA | NA | NA | NA | NA | NA | Not Observed | 17 | No petroleum odors, staining, or elevated PID readings. |

Notes:
 1. Metal(s) exceeds CP-51 SSCOs/SCLs, Unrestricted Use (Track 1) SCOs, and/or Restricted Residential Use (Track 2) SCOs.
 All soil samples were analyzed for Target Compound List (TCL) Semi-Volatile Organic Compounds (SVOCs), Pesticides, PCBs, Herbicides, and Target Analyte List (TAL) Metals.
 NA = Not Analyzed/Not Applicable
 ND = Non detect
 ft bgs = feet below ground surface
 ppm = parts per million (or mg/kg)
 ppb = parts per billion (or ug/kg)
 mg/kg = milligram per kilogram
 ug/kg = microgram per kilogram
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**Table 2. Summary of Target Compound List (TCL) Volatile Organic Compounds (VOCs) Detected in Soil
Phase II Subsurface Corridor Investigation for New Storm Sewer and Water Main Extension - Travis Area
Victory Blvd., Melvin Ave., Wild Ave., Parish Ave., Shelley Ave., Etc., Staten Island, New York**

| TCL VOC | Part 375-6.8 (a) Unrestricted Use (Track 1) Soil Cleanup Objectives (SCOs) | Part 375-6.8 (b) Restricted Use (Track 2) Residential Soil Cleanup Objectives (SCOs) | CP-51 Supplemental Soil Cleanup Objectives (SSCOs) - Residential | Sample ID, Date Collect, and Depth (ft bgs) | | | | | | | | |
|--------------------------------|--|--|---|---|----------|--------------|----------|---------------|----------|---------------|----------|-------------|
| | | | | SB-01-9.5-10 | 8/2/2012 | SB-02-9.5-10 | 8/2/2012 | SB-03-14.5-15 | 8/2/2012 | SB-04-14-14.5 | 8/2/2012 | SB-05-8.5-9 |
| | | | | 8/1/2012 | 9.5-10 | 9.5-10 | 14.5-15 | 14.5-15 | 14-14.5 | 14-14.5 | 8.5-9 | |
| Acetone | 50 | 100,000 | NS | ND | 8.4 J | ND | 6.3 J | 65 | | | | |
| Carbon Disulfide | NS | NS | 100,000 | ND | ND | ND | ND | 1.4 J | | | | |
| Cyclohexane | NS | NS | NS | ND | ND | 54 | ND | ND | | | | |
| Methyl ethyl ketone/2-butanone | 120 | 100,000 | NS | ND | ND | ND | 4.7 J | 14 J | | | | |
| Methylene chloride | 50 | 51,000 | NS | ND | ND | ND | 1.8 J | 2.4 J | | | | |
| Total VOCs | NS | NS | NS | ND | 8.4 | ND | 12.8 | 82.8 | | | | |

Notes:

All concentrations are reported in parts per billion (ppb or ug/kg)

ft bgs = feet below ground surface

NS = No Standard

ND = Parameter not detected above minimum detection limits (MDL) value reported in the MDL for that parameter.

J = Compound detected below the quantitation limit

SCOs = Soil Cleanup Objectives as per the NYSDEC Regulations 6 NYCRR Subpart 375-6 Remedial Program Soil Cleanup Objectives (December 14, 2006).

CP-51 SSCOs = New York State Department of Environmental Conservation (NYSDEC) CP-51 – Soil Cleanup Guidance (October 21, 2010).

BOLD = Concentration exceeds NYSDEC CP-51 SSCOs

Shading = Concentration exceeds Unrestricted Use (Track 1) Soil Cleanup Objectives

italicized = Concentration exceeds Restricted Use (Track 2) Residential Soil Cleanup Objectives

Table 3. Summary of Target Compound List (TCL) Semi-Volatile Organic Compounds (SVOCs) Detected in Soil
Phase II Subsurface Corridor Investigation for New Storm Sewer and Water Main Extension - Travis Area
Victory Blvd., Melvin Ave., Wild Ave., Parish Ave., Shelley Ave., Etc., Staten Island, New York

| TCL SVOC | Part 375-6.8 (a) Unrestricted Use (Track 1) Soil Cleanup Objectives (SCOs) | Part 375-6.8 (b) Restricted Use (Track 2) Residential Soil Cleanup Objectives (SCOs) | CP-51 Supplemental Soil Cleanup Objectives (SSCOs) - Residential | Sample ID, Date Collect, and Depth (ft bgs) | | | | | |
|-------------------|--|--|---|---|---------------------|---------------------|---------------------|------------------|--|
| | | | | SB-01-COMP | SB-02-0-25- COMP | SB-03-0-15- COMP | SB-04-0-25- COMP | SB-05-COMP | |
| | | | | 8/1/2012 | 8/2/2012 | 8/2/2012 | 8/2/2012 | 8/1/2012 | |
| Dimethylphthalate | NS | NS | 100,000 | Composite 410 | Composite 400 | Composite 430 | Composite 420 | Composite 500 | |
| Total SVOCs | NS | NS | NS | 410 | 400 | 430 | 420 | 500 | |

Notes:

All concentrations are reported in parts per billion (ppb or ug/kg)

ft bgs = feet below ground surface

NS = No Standard

SCOs = Soil Cleanup Objectives as per the NYSDEC Regulations 6 NYCRR Subpart 375-6 Remedial Program Soil Cleanup Objectives (December 14, 2006).

CP-51 SSCOs = New York State Department of Environmental Conservation (NYSDEC) CP-51 – Soil Cleanup Guidance (CP-51) (October 21, 2010).

BOLD = Concentration exceeds NYSDEC CP-51 SSCOs

Shading = Concentration exceeds Unrestricted Use (Track 1) Soil Cleanup Objectives

italicized = Concentration exceeds Restricted Use (Track 2) Residential Soil Cleanup Objectives

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Table 4. Summary of Target Analyte List (TAL) Metals Detected in Soil
Phase II Subsurface Corridor Investigation for New Storm Sewer and Water Main Extension - Travis Area
Victory Blvd., Melvin Ave., Wild Ave., Parish Ave., Shelley Ave., Etc., Staten Island, New York

| Target Analyte List Metal | Part 375-6.8 (a) Unrestricted Use (Track 1) Soil Cleanup Objectives (SCOs) | Part 375-6.8 (b) Restricted Use (Track 2) Residential Soil Cleanup Objectives (SCOs) | CP-51 Supplemental Soil Cleanup Objectives (SSCOs) - Residential | Sample ID, Date Collect, and Depth (ft bgs) | | | | | | | | | |
|---------------------------|--|--|--|---|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| | | | | SB-01-COMP | SB-02-0-25-COMP | SB-03-0-15-COMP | SB-04-0-25-COMP | SB-05-COMP | SB-01-COMP | SB-02-0-25-COMP | SB-03-0-15-COMP | SB-04-0-25-COMP | SB-05-COMP |
| | | | | 8/1/2012 Composite | 8/2/2012 Composite | 8/2/2012 Composite | 8/2/2012 Composite | 8/2/2012 Composite | 8/1/2012 Composite | 8/2/2012 Composite | 8/2/2012 Composite | 8/2/2012 Composite | 8/1/2012 Composite |
| Aluminum | NS | NS | NS | 3,480 | 3,980 | 8,220 | 7,100 | 7,300 | 4,48 | 10.5 | 10.5 | 10.3 | 8.77 |
| Arsenic | 13 | 16 | NS | 4.48 | 30.6 | 34.2 | 48.5 | 93.2 | 31.4 | 0.42 | 0.52 | 0.68 | 0.74 |
| Barium | 350 | 350 | NS | 0.24 J | ND | ND | 0.2 J | ND | 4,900 | 266 | 229 | 745 | 795 |
| Beryllium | 7.2 | 14 | NS | 9.28 | 10.3 | 13.5 | 16.8 | 12.3 | 4.72 | 4.56 | 7.6 | 6.86 | 4.86 |
| Cadmium | 2.5 | 2.5 | NS | 31.1 | 14.6 | 17.6 | 22 | 16.4 | 10,200 | 13,800 | 16,800 | 18,100 | 14,100 |
| Calcium | NS | NS | NS | 45.2 | 15.4 | 13.3 | 10.7 | 21.9 | 3,490 | 870 | 2,340 | 3,230 | 1,020 |
| Chromium (total) | 30 | 36 | NS | 121 | 121 | 212 | 208 | 79.6 | 0.033 | 0.048 | 0.043 | 0.008 J | 0.046 |
| Chromium (hex) | NS | NS | NS | 7.51 | 7.17 | 13.4 | 18.9 | 8.38 | 450 | 495 | 910 | 1,070 | 496 |
| Cobalt | NS | NS | 30 | ND | ND | 0.38 J | ND | 0.68 J | 308 | 90.3 | 774 | 812 | 451 |
| Copper | 50 | 270 | NS | 19.7 | 18.2 | 21.7 | 23.4 | 25.4 | 174 | 32.3 | 39.9 | 44.1 | 54.9 |
| Iron | NS | NS | 2,000 | | | | | | | | | | |
| Lead | 63 | 400 | NS | | | | | | | | | | |
| Magnesium | NS | NS | NS | | | | | | | | | | |
| Manganese | 1,600 | 2,000 | NS | | | | | | | | | | |
| Mercury | 0.18 | 0.81 | NS | | | | | | | | | | |
| Nickel | 30 | 140 | NS | | | | | | | | | | |
| Potassium | NS | NS | NS | | | | | | | | | | |
| Selenium | 3.9 | 36 | NS | | | | | | | | | | |
| Sodium | NS | NS | NS | | | | | | | | | | |
| Vanadium | NS | NS | 100 | | | | | | | | | | |
| Zinc | 109 | 2,200 | NS | | | | | | | | | | |

Notes:

All concentrations are in parts per million (ppm or mg/kg)

ft bgs = feet below ground surface

ND = Compound not detected above method detection limit (see attached lab report for md/l's)

NS = No Standard

J = Compound detected below the quantitation limit

SSCOs = Soil Cleanup Objectives as per the NYSDEC Regulations 6 NYCRR Subpart 375-6 Remedial Program Soil Cleanup Objectives (December 14, 2006).

CP-51 SSCO = New York State Department of Environmental Conservation (NYSDEC) CP-51 – Soil Cleanup Guidance (CP-51) (October 21, 2010).

BOLD = Concentration exceeds NYSDEC CP-51 SSCO

Shading = Concentration exceeds Unrestricted Use (Track 1) Soil Cleanup Objectives

Italicized = Concentration exceeds Restricted Use (Track 2) Residential Soil Cleanup Objectives

Table 5. Summary of Pesticides Detected in Soil
Phase II Subsurface Corridor Investigation for New Storm Sewer and Water Main Extension - Travis Area
Victory Blvd., Melvin Ave., Wild Ave., Parish Ave., Shelley Ave., Etc., Staten Island, New York

| Pesticides | Part 375-6.8 (a) Unrestricted Use (Track 1) Soil Cleanup Objectives (SCOs) | Part 375-6.8 (b) Restricted Use (Track 2) Residential Soil Cleanup Objectives (SCOs) | CP-51 Supplemental Soil Cleanup Objectives (SSCOs) - Residential | Sample ID, Date Collect, and Depth (ft bgs) | | | | | |
|------------------|--|--|---|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| | | | | SB-01-COMP | SB-02-0-25- COMP | SB-03-0-15- COMP | SB-04-0-25- COMP | SB-05-COMP | |
| | | | | 8/1/2012 Composite | 8/2/2012 Composite | 8/2/2012 Composite | 8/2/2012 Composite | 8/1/2012 Composite | 8/1/2012 Composite |
| 4,4'-DDE | 3.3 | 1,800 | NS | ND | ND | ND | ND | ND | 2.3 P |
| 4,4'-DDT | 3.3 | 1,700 | NS | ND | ND | ND | ND | ND | 1.5 J |
| Total Pesticides | NS | NS | NS | ND | ND | ND | ND | ND | 3.8 |

Notes:

All concentrations are reported in parts per billion (ppb or ug/kg)

ft bgs = feet below ground surface

ND = Compound not detected above method detection limit (see attached lab report for mdl's)

NS = No Standard

P = This flag is used for pesticide and Aroclor target compounds when there is greater than 25% difference for detected concentrations between the two GC columns. The lower of the two values is reported and flagged with a "P". The "P" flag is not used unless a compound is identified on both columns.

J = Compound detected below the quantitation limit

SCOs = Soil Cleanup Objectives as per the NYSDEC Regulations 6 NYCRR Subpart 375-6 Remedial Program Soil Cleanup Objectives (December 14, 2006).
CP-51 SSCOs = New York State Department of Environmental Conservation (NYSDEC) CP-51 – Soil Cleanup Guidance (October 21, 2010).

BOLD = Concentration exceeds NYSDEC CP-51 SSCOs

Shading = Concentration exceeds Unrestricted Use (Track 1) Soil Cleanup Objectives

Italicized = Concentration exceeds Restricted Use (Track 2) Residential Soil Cleanup Objectives

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Table 6. Summary of Herbicides Detected in Soil
Phase II Subsurface Corridor Investigation for New Storm Sewer and Water Main Extension - Travis Area
Victory Blvd., Melvin Ave., Wild Ave., Parish Ave., Shelley Ave., Etc., Staten Island, New York

| Herbicides | Part 375-6.8 (a) Unrestricted Use (Track 1) Soil Cleanup Objectives (SCOs) | Part 375-6.8 (b) Restricted Use (Track 2) Residential Soil Cleanup Objectives (SCOs) | CP-51 Supplemental Soil Cleanup Objectives (SSCOs) - Residential | Sample ID, Date Collect, and Depth (ft bgs) | | | | | |
|------------|--|--|---|---|--|--|--|-------------------------------------|----|
| | | | | SB-01-COMP 8/1/2012 Composite | SB-02-0-25- COMP 8/2/2012 Composite | SB-03-0-15- COMP 8/2/2012 Composite | SB-04-0-25- COMP 8/2/2012 Composite | SB-05-COMP 8/1/2012 Composite | ND |
| Herbicides | NS | NS | NS | ND | ND | ND | ND | ND | ND |

Notes:

All concentrations are reported in parts per billion (ppb or ug/kg)

ft bgs = feet below ground surface

ND = Compound not detected above method detection limit (see attached lab report for mdl's)

NS = No Standard

SCOs = Soil Cleanup Objectives as per the NYSDEC Regulations 6 NYCRR Subpart 375-6 Remedial Program Soil Cleanup Objectives (December 14, 2006).

CP-51 SSCOs = New York State Department of Environmental Conservation (NYSDEC) CP-51 – Soil Cleanup Guidance (October 21, 2010).

BOLD = Concentration exceeds NYSDEC CP-51 SSCOs

Shading = Concentration exceeds Unrestricted Use (Track 1) Soil Cleanup Objectives

Italicized = Concentration exceeds Restricted Use (Track 2) Residential Soil Cleanup Objectives

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**Table 7. Summary of Polychlorinated Biphenyls (PCBs) Detected in Soil
Phase II Subsurface Corridor Investigation for New Storm Sewer and Water Main Extension - Travis Area
Victory Blvd., Melvin Ave., Wild Ave., Parish Ave., Shelley Ave., Etc., Staten Island, New York**

| PCBs | Part 375-6.8 (a) Unrestricted Use (Track 1) Soil Cleanup Objectives (SCOs) | Part 375-6.8 (b) Restricted Use (Track 2) Residential Soil Cleanup Objectives (SCOs) | CP-51 Supplemental Soil Cleanup Objectives (SSCOs) - Residential | Sample ID, Date Collect, and Depth (ft bgs) | | | | |
|--------------|--|--|---|---|-----------------------|-----------------------|-----------------------|-----------------------|
| | | | | SB-01-COMP | SB-02-0-25- COMP | SB-03-0-15- COMP | SB-04-0-25- COMP | SB-05-COMP |
| | | | | 8/1/2012 Composite | 8/2/2012 Composite | 8/2/2012 Composite | 8/2/2012 Composite | 8/1/2012 Composite |
| Aroclor 1260 | NS | NS | NS | 93 | ND | 16 J | 37 | ND |
| Total PCBs | 100 | 1,000 | NS | 93 | ND | 16 | 37 | ND |

Notes:

All concentrations are reported in parts per billion (ppb or ug/kg)
 ft bgs = feet below ground surface
 ND = Compound not detected above method detection limit (see attached lab report for mdl's)
 NS = No Standard
 J = Compound detected below the quantitation limit
 SCOs = Soil Cleanup Objectives as per the NYSDEC Regulations 6 NYCRR Subpart 375-6 Remedial Program Soil Cleanup Objectives (December 14, 2006).
 CP-51 SSCOs = New York State Department of Environmental Conservation (NYSDEC) CP-51 – Soil Cleanup Guidance (October 21, 2010).

BOLD = Concentration exceeds NYSDEC CP-51 SSCOs

Shading = Concentration exceeds Unrestricted Use (Track 1) Soil Cleanup Objectives

Italicized = Concentration exceeds Restricted Use (Track 2) Residential Soil Cleanup Objectives

Table 8. Summary of Waste Characterization in Soil
Phase II Subsurface Corridor Investigation for New Storm Sewer and Water Main Extension - Travis Area
Victory Blvd., Melvin Ave., Wild Ave., Parish Ave., Shelley Ave., Etc., Staten Island, New York

| Parameter | 6 NYCRR Part 371 and RCRA | Sample ID and Date Collect | | |
|--------------------------------------|---------------------------|----------------------------|---------------------|---------------------------|
| | | WC-01 (SB-01-SB-02) | WC-02 (SB-03-SB-04) | WC-03 (SB-05-SB-06-SB-07) |
| | | 8/1/2012 | 8/1/2012 | 8/1/2012 |
| VOCs¹ | ug/L | | | |
| Tetrachloroethene | 700 | 17 J | ND | ND |
| SVOCs¹ | ug/L | ND | ND | ND |
| PESTs¹ | ug/L | ND | ND | ND |
| HERBs¹ | ug/L | ND | ND | ND |
| METALS¹ | ug/L | | | |
| Arsenic | 5,000 | <50 N | <50 N | <50 N |
| Barium | 100,000 | 422 J* | 301 J* | 703* |
| Chromium | 5,000 | <25 N | <25 N | <25 N |
| Silver | 5,000 | <25 N | <25 N | <25 N |
| PCBs¹ | ug/Kg | | | |
| Aroclor-1260 | NS | 21 | ND | ND |
| MISC. PARAMETERS (units) | | | | |
| Reactivity Sulfide (mg/kg) | 500 | 14 | 13 | 14 |
| Reactivity Cyanide (mg/kg) | 250 | <0.05 | <0.05 | <0.05 |
| pH (SU) | 2-12.5 | 5.58 | 7.04 | 7.43 |
| Ignitability | >140 °F | No | No | No |
| TPHC Diesel Range Organics (ug/kg) | NS | 5,629 | 6,303 | 6,761 |
| TPHC Gasoline Range Organics (ug/kg) | NS | <25 | 587 | <25 |

Notes:

All concentrations are reported as indicated above

ft bgs = feet below ground surface

NS = No Standard

SU = Standard unit

< = Parameter not detected above minimum detection limits (MDL) value reported in the MDL for that parameter.

J = Compound detected below the quantitation limit

N = Spiked sample recovery not within control limits

* = Indicates the duplicate analysis is not within control limits

Shading = Concentration exceeds 6 NYCRR Part 371 and RCRA Toxicity Characteristic Regulatory Levels for Hazardous Waste.

Table 9. Groundwater Quality
Phase II Subsurface Corridor Investigation for New Storm Sewer and Water Main Extension - Travis Area
Victory Blvd., Melvin Ave., Wild Ave., Parish Ave., Shelley Ave., Etc., Staten Island, New York

| Parameter ¹ | NYCDEP Limitations to Sanitary or Combined Sewers | | Well ID and Date Collected | |
|-------------------------------------|---|------|----------------------------|----------|
| | | | GW-01 | GW-03 |
| | | | 8/1/2012 | 8/1/2012 |
| CBOD ³ | NS | mg/L | <2 | <2 |
| Chloride ⁴ | NS | mg/L | 260 | 100 |
| Flash Point - Liquid/Solid | > 140 | °F | >150 | <150 |
| Nitrate+Nitrite | NS | mg/L | 0.29 | <0.25 |
| Non-Polar Material ² | 50 | mg/L | <5 | <5 |
| pH | 5-12 | pH | NA | NA |
| Phenolics | NS | mg/L | <0.025 | <0.025 |
| Temperature | 150 | Fah. | NA | NA |
| TKN | NS | mg/L | 0.87 | 0.629 |
| Total Nitrogen ⁴ | NS | mg/L | 1.16 | 0.629 |
| Total Solids ⁴ | NS | mg/L | 2,230 | 3,300 |
| Total Suspended Solids ³ | 350 | mg/L | 1,600 | 2,600 |
| Cadmium (instantaneous/composite) | 2 / 0.69 | ug/L | 0.428 J | 0.852 J |
| Chromium Hexavalent (VI) | 5 | mg/L | <0.005 | <0.005 |
| Copper | 5 | ug/L | 33.3 | 43.8 |
| Lead | 5 | ug/L | 30.1 | 45.6 |
| Mercury | 0.05 | ug/L | <0.1 | <0.1 |
| Nickel | 3 | ug/L | 7.73 J | 38.3 |
| Zinc | 5 | ug/L | 65.6 | 146 |
| Benzene | 134 | ug/L | <2.5 | <2.5 |
| Carbontetrachloride | NS | ug/L | <2.5 Q | <2.5 Q |
| Chloroform | NS | ug/L | <2.5 | <2.5 |
| 1,4 Dichlorobenzene | NS | ug/L | <2.5 | <2.5 |
| Ethylbenzene | 380 | ug/L | <2.5 | <2.5 |
| Methyl-Tert-Butyl-Ether (MTBE) | 50 | ug/L | 5.1 Q | <2.5 Q |
| Naphthalene | 47 | ug/L | <1.25 | <1.3 |
| Tetrachloroethylene (Perc) | 20 | ug/L | <2.5 | <2.5 |
| Toluene | 74 | ug/L | <2.5 | <2.5 |
| 1,2,4 Trichlorobenzene | NS | ug/L | <1.25 | <1.3 |
| 1,1,1 Trichloroethane | NS | ug/L | <2.5 | <2.5 |
| Xylenes (Total) | 74 | ug/L | <7.5 | <7.5 |
| PCBs (Total) | 1 | ug/L | ND | ND |

Notes:

NS = No Standard

NA = Not Analyzed

< = Parameter not detected above minimum detection limits (MDL) value reported in the MDL for that parameter.

J = Compound detected below the quantitation limit

N = Spiked sample recovery not within control limits

Q = Indicates LCS control criteria did not meet requirements.

Shaded = Concentration exceeds NYCDEP Limitations for Effluent to Sanitary or Combined Sewers

¹ All handling and preservation of collected samples and laboratory analyses of samples was performed in accordance with 40 CFR Part 136.

² Analysis for non-polar materials was performed by USEPA method 1664.

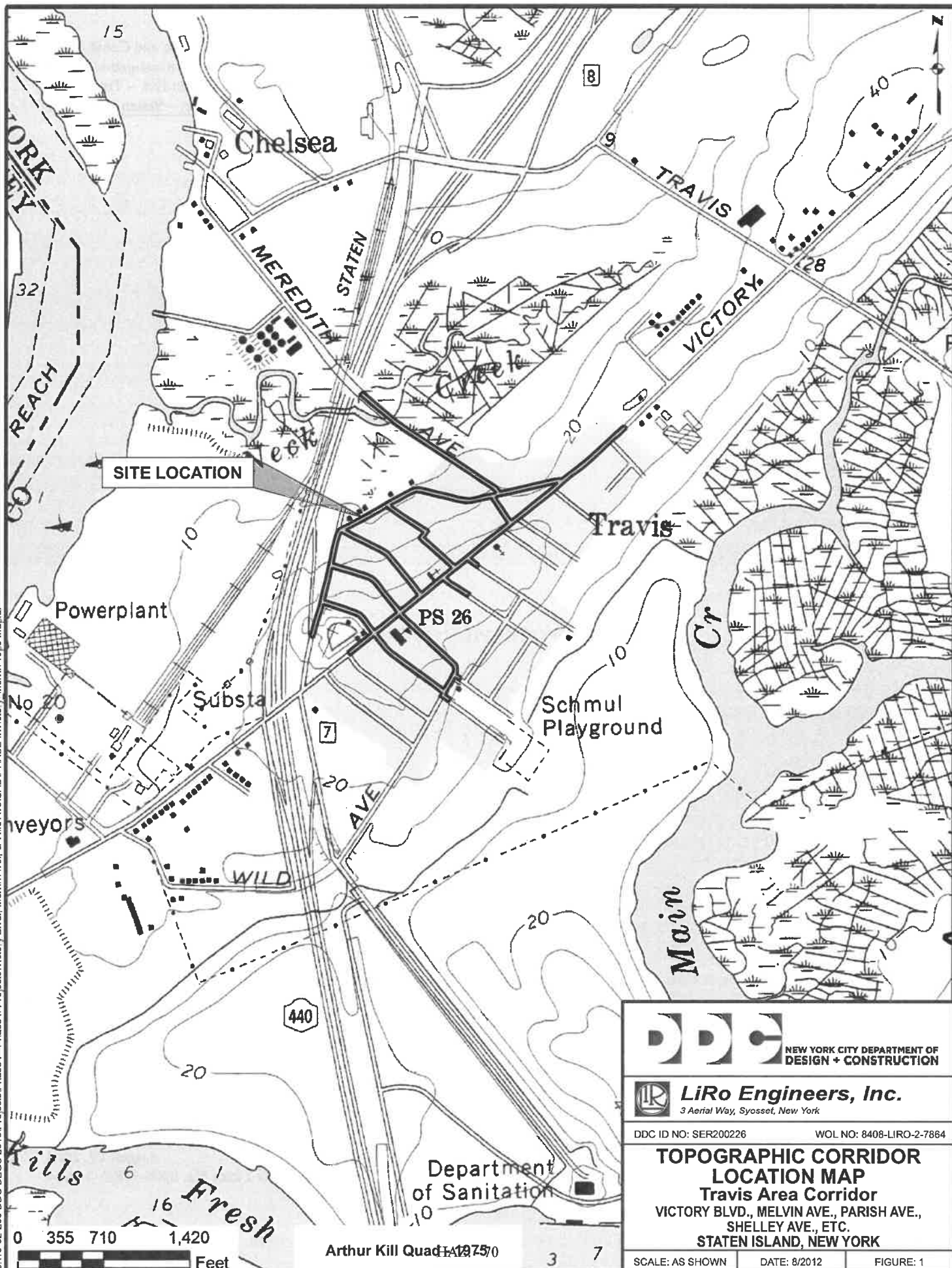
³ For discharge \geq 10,000 gpd, the TSS limit is 350 mg/l. For discharge $<$ 10,000 gpd, the limit is determined on a case by case basis.

⁴ Analysis for Carbonaceous Biochemical Oxygen Demand (CBOD), Chloride, Total Solids, and Total Nitrogen are required if proposed discharge \geq 10,000 gpd.



FIGURE 1 – TOPOGRAPHIC CORRIDOR LOCATION MAP

J:\10-62-205 DDC BEGS 2010\Projects\Victory Blvd., Melvin Ave., & Wild Ave\CAD\PHASE II\Victory, Melvin Topo Map.ai



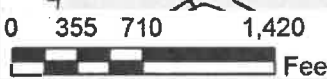
DDC NEW YORK CITY DEPARTMENT OF DESIGN + CONSTRUCTION

LiRo Engineers, Inc.
3 Aerial Way, Syosset, New York

DDC ID NO: SER200226 WOL NO: 8408-LIRO-2-7864

TOPOGRAPHIC CORRIDOR LOCATION MAP
Travis Area Corridor
VICTORY BLVD., MELVIN AVE., PARISH AVE., SHELLEY AVE., ETC.
STATEN ISLAND, NEW YORK

SCALE: AS SHOWN DATE: 8/2012 FIGURE: 1



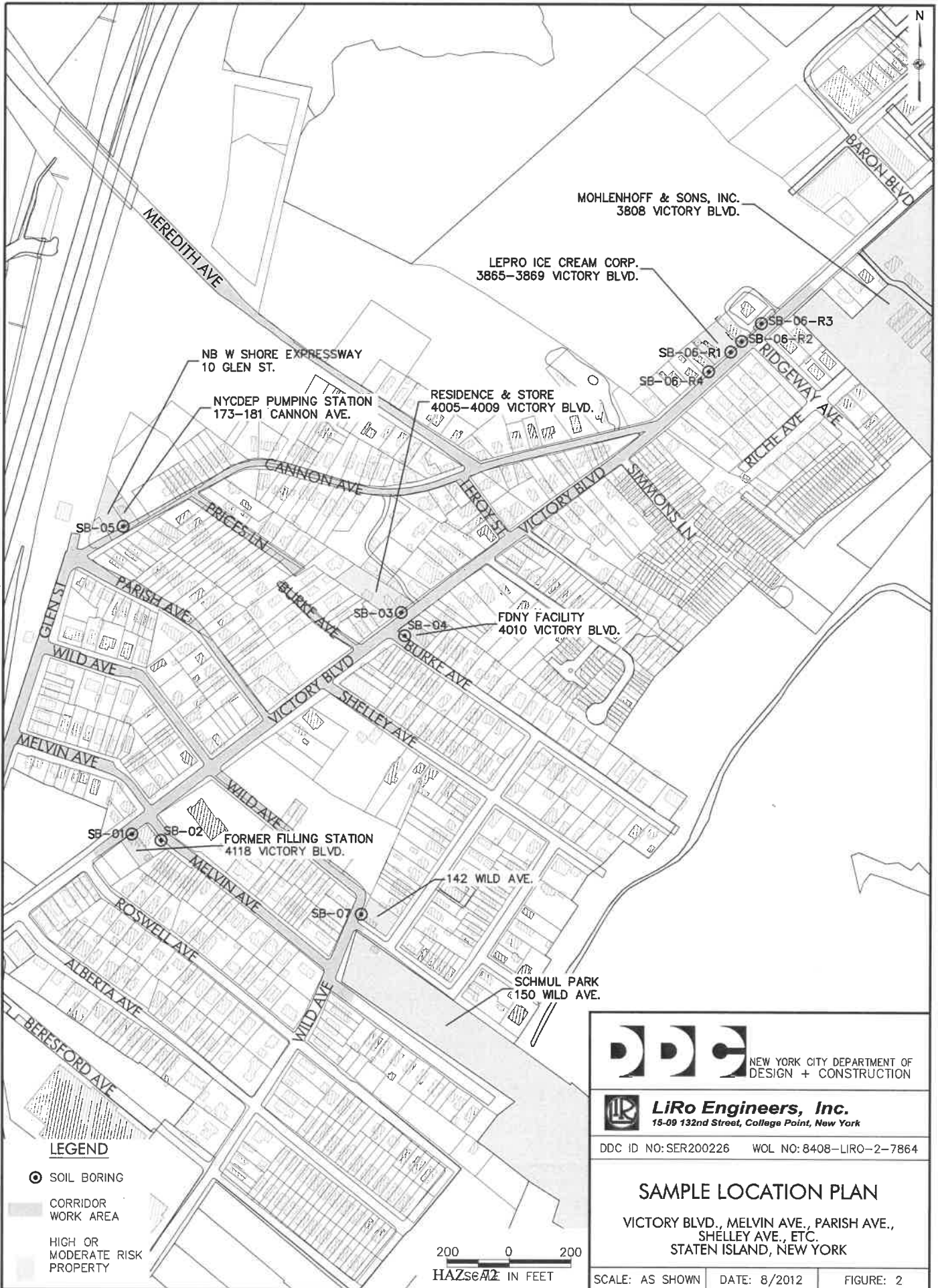
Arthur Kill Quad 142750

3 7



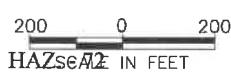
FIGURE 2 – SAMPLE LOCATION PLAN

J:\10-62-205 DDC BEGS 2010\Projects\Phase I - Phase II Projects\Victory Blvd., Melvin Ave., & Wild Ave\CAD\PHASE II\Victory_Melvin Sample Loc.DWG. 8/16/2012 1:04:55 PM, ES



LEGEND

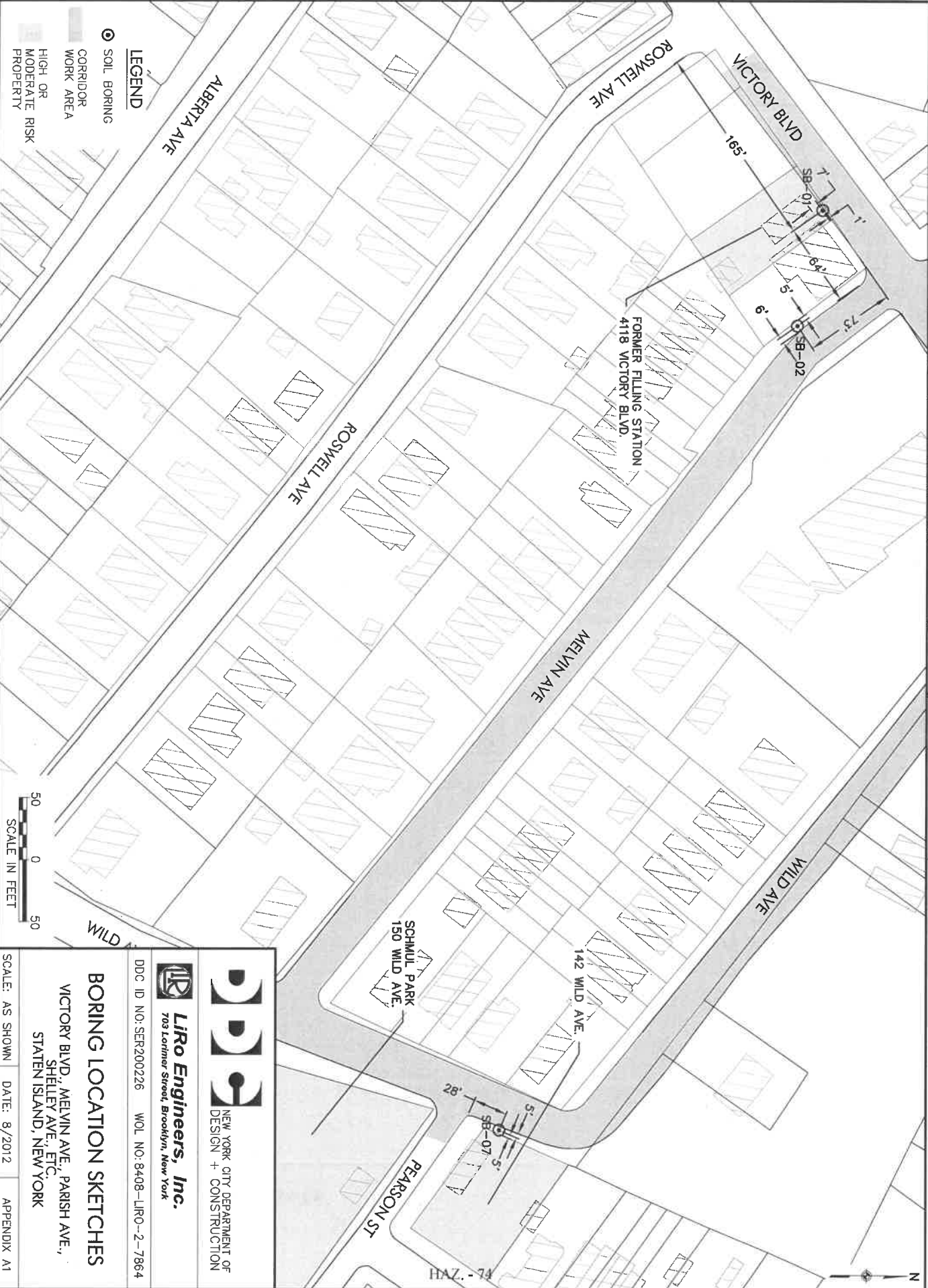
- ⊙ SOIL BORING
- ▨ CORRIDOR WORK AREA
- ▨ HIGH OR MODERATE RISK PROPERTY



| | |
|---|--------------|
|  NEW YORK CITY DEPARTMENT OF DESIGN + CONSTRUCTION | |
|  LiRo Engineers, Inc. 15-09 132nd Street, College Point, New York | |
| DDC ID NO: SER200226 WOL NO: 8408-LIRO-2-7864 | |
| SAMPLE LOCATION PLAN VICTORY BLVD., MELVIN AVE., PARISH AVE., SHELLEY AVE., ETC. STATEN ISLAND, NEW YORK | |
| SCALE: AS SHOWN | DATE: 8/2012 |
| FIGURE: 2 | |

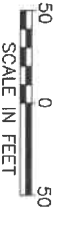


APPENDIX A
BORING LOCATION SKETCHES



LEGEND

- SOIL BORING
- ▭ CORRIDOR
- ▨ WORK AREA
- HIGH OR MODERATE RISK PROPERTY



LIRo Engineers, Inc.
705 Lorimer Street, Brooklyn, New York

NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

DDC ID NO: SER200226 WOL NO: 8408-LIRO-2-7864

BORING LOCATION SKETCHES

VICTORY BLVD., MELVIN AVE., PARISH AVE.,
SHELLEY AVE., ETC.
STATEN ISLAND, NEW YORK

SCALE: AS SHOWN DATE: 8/2012 APPENDIX A1



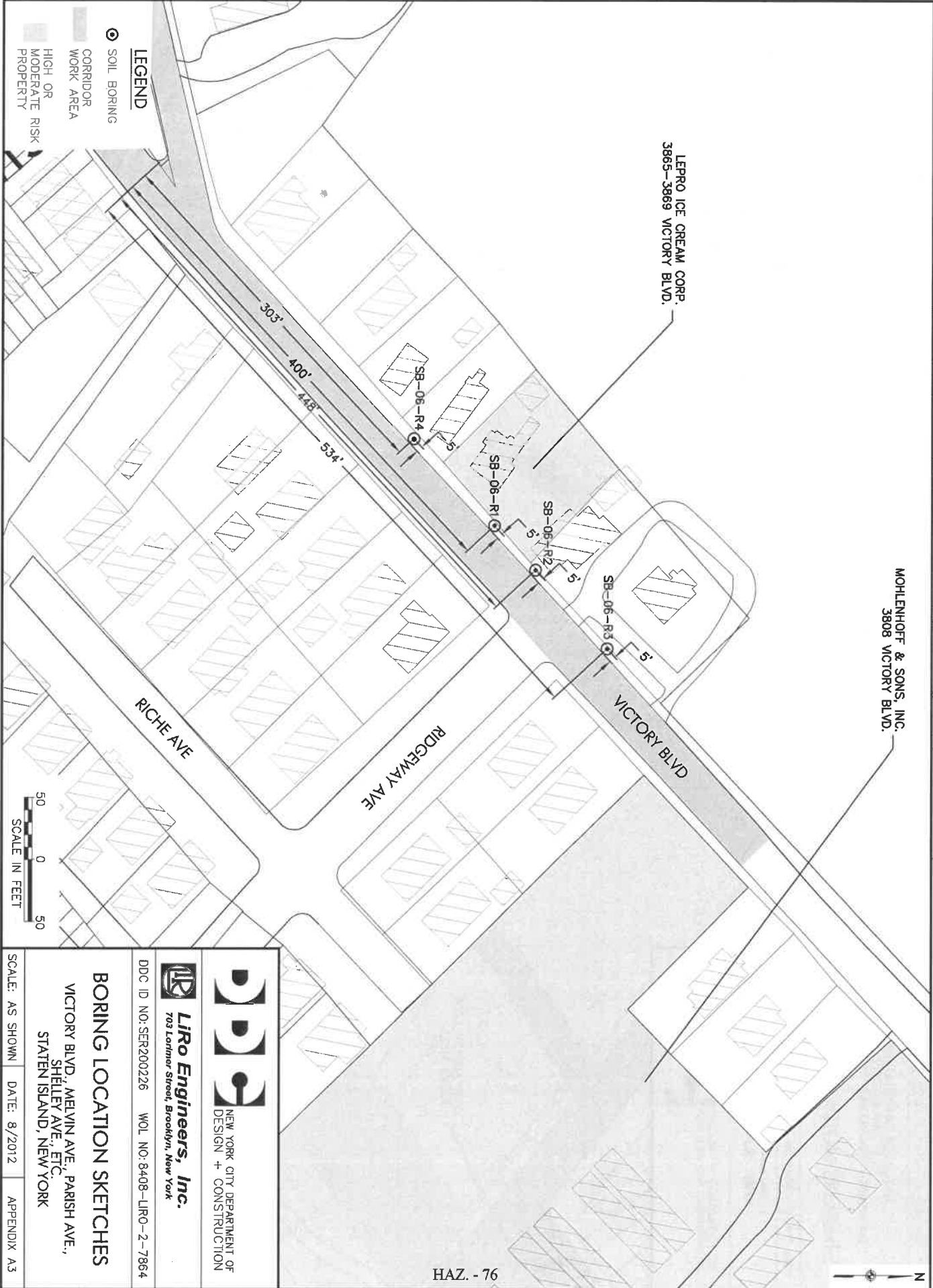
LIRo Engineers, Inc.
703 Lottner Street, Brooklyn, New York

DDC ID NO: SER200226 WOL NO: 8-408-LIRO-2-7864

BORING LOCATION SKETCHES

VICTORY BLVD., MELVIN AVE., PARISH AVE.,
SHELLEY AVE., ETC.
STATEN ISLAND, NEW YORK

SCALE: AS SHOWN DATE: 8/2012 APPENDIX A2



MOHLENHOFF & SONS, INC.
3808 VICTORY BLVD.

LEPRO ICE CREAM CORP.
3865-3869 VICTORY BLVD.

HAZ. - 76

DDI
NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

Liro Engineers, Inc.
703 Lorimer Street, Brooklyn, New York

DDC ID NO: SER200226 WOL NO: 8408-LIRO-2-7864

BORING LOCATION SKETCHES

VICTORY BLVD., MELVIN AVE., PARISH AVE.,
SHELLEY AVE., ETC.
STATEN ISLAND, NEW YORK

SCALE: AS SHOWN DATE: 8/2012 APPENDIX A3



APPENDIX B
GEOLOGIC BORING LOGS AND TEMPORARY WELL CONSTRUCTION DETAILS



LiRo Engineers, Inc.

TEST BORING LOG

| | | | | | | | | | | | |
|--|-------------|--------------|-------------|---------------------------|------------|----------------|---------|---------------------|-----------------------|-----------------------------|--|
| PROJECT: Victory Blvd/Travis Area, Staten Island, NY | | | | BORING NO.: SB-01 | | | | | | | |
| CLIENT: Department of Design and Construction | | | | SHEET: 1 of 1 | | | | | | | |
| BORING CONTRACTOR: Aquifer Drilling and Testing, Inc. | | | | JOB NO.: 10-62-205 | | | | | | | |
| GROUNDWATER: 10 | | | | CAS. | | SAMPLER | | TUBE | | GROUND ELEVATION: NA | |
| DATE | TIME | LEVEL | TYPE | TYPE | Geoprobe | | | | DATE STARTED: | July 30, 2012 | |
| NA | NA | NA | NA | DIA. | 2 in. dia. | Macro Core | 5 ft.lg | | DATE FINISHED: | August 1, 2012 | |
| | | | | WT. | n/a | | | | DRILLER: | Bernie Cruz | |
| | | | | FALL | n/a | | | | GEOLOGIST: | Eva Jakubowska | |
| | | | | | | | | REVIEWED BY: | | | |

| DEPTH FEET | STRATA | SAMPLE | | | | DESCRIPTION | | | | USCS | REMARKS |
|------------|--------|---------|---------|--------------|-----------|-----------------------|----------------------|--|------|-----------------------|---------|
| | | "S" NO. | "N" NO. | BLOWS PER 6" | REC% RQD% | COLOR | CONSISTENCY HARDNESS | MATERIAL DESCRIPTION | | | |
| 1 | | | | | NA | red-brown light brown | NA | Hand cleared 0-6 ftbg 0-2.0': SAND, gravel and timber wood 2.0-6.0': Clayey SAND | FILL | 0.0 ppm | |
| 5 | | | | | | | | | | 0.0 ppm saturated | |
| 10 | | 1 | | | 80% | red-brown | NA | 6.0-10.0': Clayey SAND | SC | 0.0 ppm wet at 9' bgs | |
| 15 | | 2 | | | 100% | red-brown dark brown | NA | 10.0-14.0': Clayey SAND 14.0-15.0': Clayey SAND | SC | 0.0 ppm saturated | |
| 20 | | 3 | | | 100% | red-brown | NA | 15.0-20.0': Clayey SAND | SC | 0.0 ppm saturated | |
| 25 | | 4 | | | 100% | red-brown | NA | 20.0-25.0': Clayey SAND | SC | 0.0 ppm saturated | |
| 30 | | | | | | | | Boring Terminated at 25 feet bgs | | | |
| 35 | | | | | | | | | | | |

COMMENTS: VOC grab sample collected at 9.5 - 10.0 ftbgs
 Composite sample collected 0 to 25.0 ftbgs for SVOC, PCB, Pest.
 and Metals. Temporary well was installed at this location and GW-01 was obtained.

PROJECT NO.: 10-62-205
BORING NO.: SB-01



LiRo Engineers, Inc.

TEST BORING LOG

PROJECT: Victory Blvd/Travis Area, Staten Island, NY
CLIENT: Department of Design and Construction
BORING CONTRACTOR: Aquifer Drilling and Testing, Inc.
GROUNDWATER: 10.5

BORING NO.: SB-02
SHEET: 1 of 1
JOB NO.: 10-62-205
LOCATION:
GROUND ELEVATION: NA
DATE STARTED: August 1, 2012
DATE FINISHED: August 2, 2012
DRILLER: Bernie C.
GEOLOGIST: Nicole Motto
REVIEWED BY:

| DEPTH FEET | STRATA | SAMPLE | | | | REC% RQD% | CAS. COLOR | SAMPLER HARDNESS | TUBE | DESCRIPTION MATERIAL DESCRIPTION | USCS | REMARKS |
|------------|--------|---------|---------|--------------|------|--------------|---------------|---------------------|------|---|------|------------------------------|
| | | "S" NO. | "N" NO. | BLOWS PER 6" | TYPE | | | | | | | |
| 1 | | | | | | NA | Reddish Brown | | | Hand cleared 0-6 ftbg 0-0.5': Medium SAND 0.5-6.0': SAND | Fill | PID: 0.0 ppm |
| 5 | | | | | | 85% | Reddish Brown | | | Fine-trace medium Sand 10' trace fine sand with Clay and some silt | SP | PID-0.0ppm |
| 10 | | | | | | 70% | Reddish Brown | | | Clay trace silt wet throughout | CL | PID-0.0ppm water at 10.5' |
| 15 | | | | | | 45% | Reddish Brown | | | Clay Trace Silt Wet Throughout | ML | PID-0.0ppm |
| 20 | | | | | | 65% | Reddish Brown | | | Clay Trace Silt Wet Throughout | ML | PID-0.0ppm |
| 25 | | | | | | | | | | | | |
| 30 | | | | | | | | | | | | |
| 35 | | | | | | | | | | | | |

COMMENTS: VOC grab sample collected at 9.5-10 ft.bgs
 Composite sample collected 0 to 25 ft.bgs for SVOC, PCB, Pest.
 and Metals.

PROJECT NO.:
BORING NO.: SB-02



LiRo Engineers, Inc.

TEST BORING LOG

| | | | | | | | | | |
|--|-------------|--------------|-------------|-------------|--------------------------------------|------------|----------|--|--------------------------------|
| PROJECT: Victory Blvd/Travis Area, Staten Island, NY | | | | | BORING NO.: SB-03 | | | | |
| CLIENT: Department of Design and Construction | | | | | SHEET: 1 of 1 | | | | |
| BORING CONTRACTOR: Aquifer Drilling and Testing, Inc. | | | | | JOB NO.: 10-62-205 | | | | |
| GROUNDWATER: None observed | | | | | LOCATION: | | | | |
| CAS. | | | | | GROUND ELEVATION: NA | | | | |
| SAMPLER | | | | | DATE STARTED: August 2, 2012 | | | | |
| TUBE | | | | | DATE FINISHED: August 2, 2012 | | | | |
| DATE | TIME | LEVEL | TYPE | TYPE | Geoprobe | | | | DRILLER: Bernie C. |
| NA | NA | NA | NA | DIA. | 2 in. dia. | Macro Core | 5 ft. lg | | GEOLOGIST: Nicole Motto |
| | | | | WT. | n/a | | | | REVIEWED BY: |
| | | | | FALL | n/a | | | | |

| DEPTH FEET | STRATA | SAMPLE | | | | RECYCLED RQD% | COLOR | CONSISTENCY HARDNESS | DESCRIPTION MATERIAL DESCRIPTION | USCS | REMARKS |
|------------|--------|---------|---------|--------------|------|---------------|---------------|--|----------------------------------|-------------------------------|---------|
| | | "S" NO. | "N" NO. | BLOWS PER 6" | REC% | | | | | | |
| 1 | | | | | | Hand Clear | Reddish Brown | Hand cleared 0-6 ftbg Fine - Medium sand some medium gravel | Fill | PID- 0.0ppm Dry / no odors | |
| 5 | | 1 | | | 55% | Reddish Brown | | Fine*-Medium sand Clay and trace medium gravel | SC | PID-0.0ppm Dry / No Odors | |
| 10 | | 2 | | | 75% | Reddish Brown | | Clay sands - Medium Gravel | SC | PID-0.0ppm Dry / No odors | |
| 15 | | 3 | | | | | | Grey rock encountered at 15' | | | |
| 20 | | | | | | | | Refusal at 15.5' Rock | | | |
| 25 | | | | | | | | | | | |
| 30 | | | | | | | | | | | |
| 35 | | | | | | | | | | | |

| | |
|--|-------------------------|
| COMMENTS: VOC grab sample collected at 14.5-15 ft.bgs | PROJECT NO.: |
| Composite sample collected 0 to 15 ft.bgs for SVOC, PCB, Pest. and Metals. No Ground water was encountered | BORING NO.: SB-3 |



LiRo Engineers, Inc.

TEST BORING LOG

PROJECT: Victory Blvd/Travis Area, Staten Island, NY
CLIENT: Department of Design and Construction
BORING CONTRACTOR: Aquifer Drilling and Testing, Inc.

BORING NO.: SB-04
SHEET: 1 of 1
JOB NO.: 10-62-205
LOCATION:

GROUNDWATER: 15
CAS. SAMPLER TUBE
DATE **TIME** **LEVEL** **TYPE** **TYPE**
 NA NA NA NA DIA. 2 in. dia. Macro Core 5 ft.lg
 WT. n/a
 FALL n/a

GROUND ELEVATION: NA
DATE STARTED: August 2, 2012
DATE FINISHED: August 2, 2012
DRILLER: Bernie C.
GEOLOGIST: Nicole Motto
REVIEWED BY:

| DEPTH FEET | STRATA | SAMPLE | | | | REC% RQD% | COLOR | CONSISTENCY HARDNESS | DESCRIPTION MATERIAL DESCRIPTION | USCS | REMARKS |
|------------|--------|---------|---------|--------------|------|---------------|---------------|--|---|----------------------------|------------|
| | | "S" NO. | "N" NO. | BLOWS PER 6" | TYPE | | | | | | |
| 1 | | | | | | | Reddish Brown | | Hand cleared 0-6 ftbg Medium Sand Some to trace Clay | SP | PID-0.0ppm |
| 5 | | | | | 90% | Reddish Brown | | Fine-trace medium Sand | ML | PID-0.0ppm | |
| 10 | | | | | 70% | Reddish Brown | | Clay with some Fine - Medium Gravels and trace fine sand and silt | CL | PID-0.0ppm | |
| 15 | | | | | 50% | Reddish Brown | | Fine-Medium sand some Clay trace Medium gravel | SC | PID-0.0ppm water at 15' | |
| 20 | | | | | 50% | Reddish Brown | | Medium sand some clay trace medium gravel | SM | PID-0.0ppm | |
| 25 | | | | | | | | | | | |
| 30 | | | | | | | | | | | |
| 35 | | | | | | | | | | | |

COMMENTS: VOC grab sample collected at 14-14.5ft.bgs
 Composite sample collected 0 to 25 ft.bgs for SVOC, PCB, Pest.
 and Metals.

PROJECT NO.:
BORING NO.: SB-04



LiRo Engineers, Inc.

TEST BORING LOG

| | |
|--|--------------------------------------|
| PROJECT: Victory Blvd/Travis Area, Staten Island, NY | BORING NO.: SB-05 |
| CLIENT: Department of Design and Construction | SHEET: 1 of 1 |
| BORING CONTRACTOR: Aquifer Drilling and Testing, Inc. | JOB NO.: 10-62-205 |
| GROUNDWATER: 9 | LOCATION: |
| CAS.: | GROUND ELEVATION: NA |
| SAMPLER: | DATE STARTED: July 30, 2012 |
| TUBE: | DATE FINISHED: August 1, 2012 |
| DATE: NA | DRILLER: Bernie Cruz |
| TIME: NA | GEOLOGIST: Eva Jakunowski |
| LEVEL: NA | REVIEWED BY: |
| TYPE: NA | |
| TYPE: Geoprobe | |
| DIA.: 2 in. dia. | |
| WT.: n/a | |
| FALL: n/a | |

| DEPTH FEET | STRATA | SAMPLE | | | | RECYCLED RQD% | CONSISTENCY HARDNESS | DESCRIPTION | USCS | REMARKS |
|------------|--------|---------|---------|--------------|-----------|---------------|--------------------------------|-------------|----------------|--|
| | | "S" NO. | "N" NO. | BLOWS PER 6" | REC% RQD% | | | | | |
| 1 | | | | | | NA | red-brown red-brown | NA | FILL SC | 0.0 ppm 0.0 ppm moist |
| 5 | | | | | | | dark-brown | | SM | 0.0 ppm moist |
| 10 | | 1 | | | 100% | | red-brown grey red-brown | NA | SM SM SM | 0.0 ppm wet 0.0 ppm wet |
| 15 | | 2 | | | 100% | | red-brown | NA | SC SC | 0.0 ppm saturated 0.0 ppm saturated |
| 20 | | 3 | | | 100% | | red-brown | NA | SC | 0.0 ppm saturated |
| 25 | | 4 | | | 100% | | red-brown | NA | SC | 0.0 ppm saturated |
| 30 | | | | | | | | | | |
| 35 | | | | | | | | | | |

COMMENTS: VOC grab sample collected at 8.5 - 9.0 ftbgs
 Composite sample collected 0 to 25.0 ftbgs for SVOC, PCB, Pest. and Metals. Temporary well was installed at this location and GW-03 was obtained.

PROJECT NO.: 10-62-205
BORING NO.: SB-05



LiRo Engineers, Inc.

TEST BORING LOG

| | | | | | | | | | |
|--|-------------|--------------|-------------|-------------|--------------------------------------|------------|---------|--|--------------------------------|
| PROJECT: Victory Blvd/Travis Area, Staten Island, NY | | | | | BORING NO.: SB-06 | | | | |
| CLIENT: Department of Design and Construction | | | | | SHEET: 1 of 1 | | | | |
| BORING CONTRACTOR: Aquifer Drilling and Testing, Inc. | | | | | JOB NO.: 10-62-205 | | | | |
| GROUNDWATER: NA | | | | | LOCATION: | | | | |
| CAS. | | | | | GROUND ELEVATION: NA | | | | |
| SAMPLER | | | | | DATE STARTED: August 1, 2012 | | | | |
| TUBE | | | | | DATE FINISHED: August 1, 2012 | | | | |
| DATE | TIME | LEVEL | TYPE | TYPE | Geoprobe | | | | |
| 02/27/11 | | water not | BGS | DIA. | 2 in. dia. | Macro Core | 5 ft.lg | | |
| | | observed | | WT. | n/a | | | | DRILLER: Bernie C. |
| | | | | FALL | n/a | | | | GEOLOGIST: Nicole Motto |
| | | | | | REVIEWED BY: | | | | |

| DEPTH FEET | SAMPLE | | | | | DESCRIPTION | | | USCS | REMARKS |
|---------------|--------|------------|------------|-----------------|------|-------------|-------------------------|-------------------------|------|---------|
| | STRATA | "S" NO. | "N" NO. | BLOWS PER 6" | REC% | COLOR | CONSISTENCY HARDNESS | MATERIAL DESCRIPTION | | |
| | | | | | RQD% | | | | | |
| 1 | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| 5 | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| 10 | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| 15 | | | | | | | | | | |
| | | | | | | | | | | |
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| 20 | | | | | | | | | | |
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| | | | | | | | | | | |
| 25 | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| 30 | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| 35 | | | | | | | | | | |

COMMENTS: VOC grab sample collected at 2 ft.bgs
 Composite sample collected 0 to 11 ft.bgs for SVOC, PCB, Pest.
 and Metals. Took Water samples from temp. well point for DEP discharge.

PROJECT NO.:
BORING NO.: SB-3



LiRo Engineers, Inc.

TEST BORING LOG

| | | | | | | |
|--|-------------|--------------|-------------|----------------|-----------------------------|--------------------------------------|
| PROJECT: Victory Blvd/Travis Area, Staten Island, NY | | | | | BORING NO.: SB-06 R1 | |
| CLIENT: Department of Design and Construction | | | | | SHEET: 1 of 1 | |
| BORING CONTRACTOR: Aquifer Drilling and Testing, Inc. | | | | | JOB NO.: 10-62-205 | |
| GROUNDWATER: NA | | | | | LOCATION: | |
| | | | CAS. | SAMPLER | TUBE | GROUND ELEVATION: NA |
| DATE | TIME | LEVEL | TYPE | TYPE | Geoprobe | DATE STARTED: August 1, 2012 |
| NA | NA | NA | NA | DIA. | 2 in. dia. | DATE FINISHED: August 1, 2012 |
| | | | | WT. | n/a | DRILLER: Bernie C. |
| | | | | FALL | n/a | GEOLOGIST: Nicole Motto |
| | | | | | REVIEWED BY: | |

| DEPTH FEET | SAMPLE | | | | | DESCRIPTION | | | USCS | REMARKS |
|---------------|--------|------------|------------|-----------------|--------------|-------------|-------------------------|---|------|------------|
| | STRATA | "S" NO. | "N" NO. | BLOWS PER 6" | REC% RQD% | COLOR | CONSISTENCY HARDNESS | MATERIAL DESCRIPTION | | |
| 1 | | | | | | | | Hand cleared 0-3 ftbg Med - fine Sand Coarse Gravel Rock Encountered at 3' | FILL | PID-0.0ppm |
| 5 | | | | | | | | Refusal | | |
| 10 | | | | | | | | | | |
| 15 | | | | | | | | | | |
| 20 | | | | | | | | | | |
| 25 | | | | | | | | | | |
| 30 | | | | | | | | | | |
| 35 | | | | | | | | | | |

| | |
|---|-----------------------------|
| COMMENTS: Refusal at 3' because of rock encountered by clearing crew moved to another location about 5 feet away | PROJECT NO.: |
| | BORING NO.: SB-06 R1 |



LiRo Engineers, Inc.

TEST BORING LOG

PROJECT: Victory Blvd/Travis Area, Staten Island, NY
CLIENT: Department of Design and Construction
BORING CONTRACTOR: Aquifer Drilling and Testing, Inc.

BORING NO.: SB-06 R2
SHEET: 1 of 1
JOB NO.: 10-62-205
LOCATION:

GROUNDWATER: NA
CAS.:
SAMPLER:
TUBE:

| DATE | TIME | LEVEL | TYPE | TYPE | Geoprobe | | |
|------|------|-------|------|------|------------|------------|---------|
| NA | NA | NA | NA | DIA. | 2 in. dia. | Macro Core | 5 ft.lg |
| | | | | WT. | n/a | | |
| | | | | FALL | n/a | | |

GROUND ELEVATION: NA
DATE STARTED: August 1, 2012
DATE FINISHED: August 1, 2012
DRILLER: Bernie C.
GEOLOGIST: Nicole Motto
REVIEWED BY:

| DEPTH FEET | SAMPLE | | | | | DESCRIPTION | | | USCS | REMARKS |
|---------------|--------|------------|------------|-----------------|--------------|-------------|-------------------------|---|------|------------|
| | STRATA | "S" NO. | "N" NO. | BLOWS PER 6" | REC% RQD% | COLOR | CONSISTENCY HARDNESS | MATERIAL DESCRIPTION | | |
| 1 | | | | | | | | Hand cleared 0-3 ftbg Ashapt, Med - fine Sand Coarse Gravel Rock Encountered at 3' | FILL | PID-0.0ppm |
| 5 | | | | | | | | Refusal | | |
| 10 | | | | | | | | | | |
| 15 | | | | | | | | | | |
| 20 | | | | | | | | | | |
| 25 | | | | | | | | | | |
| 30 | | | | | | | | | | |
| 35 | | | | | | | | | | |

COMMENTS: Refusal at 3' because of rock encountered by clearing crew moved to another location about 6 feet away

PROJECT NO.:
BORING NO.: SB-06 R2



LiRo Engineers, Inc.

TEST BORING LOG

PROJECT: Victory Blvd/Travis Area, Staten Island, NY
CLIENT: Department of Design and Construction
BORING CONTRACTOR: Aquifer Drilling and Testing, Inc.
GROUNDWATER: NA

| | | | | | | | |
|-------------|-------------|--------------|-------------|-------------|-------------|----------------|-------------|
| DATE | TIME | LEVEL | TYPE | TYPE | CAS. | SAMPLER | TUBE |
| NA | NA | NA | NA | DIA. | Geoprobe | | |
| | | | | WT. | 2 in. dia. | Macro Core | 5 ft.lg |
| | | | | FALL | n/a | | |
| | | | | | n/a | | |

BORING NO.: SB-06 R3
SHEET: 1 of 1
JOB NO.: 10-62-205
LOCATION:
GROUND ELEVATION: NA
DATE STARTED: August 1, 2012
DATE FINISHED: August 1, 2012
DRILLER: Bernie C.
GEOLOGIST: Nicole Motto
REVIEWED BY:

| DEPTH FEET | SAMPLE | | | | | DESCRIPTION | | | USCS | REMARKS |
|---------------|--------|------------|------------|-----------------|--------------|-------------|-------------------------|--|------|------------|
| | STRATA | "S" NO. | "N" NO. | BLOWS PER 6" | REC% RQD% | COLOR | CONSISTENCY HARDNESS | MATERIAL DESCRIPTION | | |
| 1 | | | | | | | | Hand cleared 0-3 ftbg Asphalt, Med - fine Sand Coarse Gravel Rock Encountered at 3' | FILL | PID-0.0ppm |
| 5 | | | | | | | | Refusal | | |
| 10 | | | | | | | | | | |
| 15 | | | | | | | | | | |
| 20 | | | | | | | | | | |
| 25 | | | | | | | | | | |
| 30 | | | | | | | | | | |
| 35 | | | | | | | | | | |

COMMENTS: Refusal at 3' because of rock encountered by clearing crew moved to another location about 10 feet away

PROJECT NO.:
BORING NO.: SB-06 R3



LiRo Engineers, Inc.

TEST BORING LOG

PROJECT: Victory Blvd/Travis Area, Staten Island, NY
CLIENT: Department of Design and Construction
BORING CONTRACTOR: Aquifer Drilling and Testing, Inc.

BORING NO.: SB-06 R4
SHEET: 1 of 1
JOB NO.: 10-62-205
LOCATION:

GROUNDWATER: NA
CAS.:
SAMPLER:
TUBE:

| DATE | TIME | LEVEL | TYPE | TYPE | Geoprobe | | |
|------|------|-------|------|------|------------|------------|---------|
| NA | NA | NA | NA | DIA. | 2 in. dia. | Macro Core | 5 ft.lg |
| | | | | WT. | n/a | | |
| | | | | FALL | n/a | | |

GROUND ELEVATION: NA
DATE STARTED: August 1, 2012
DATE FINISHED: August 1, 2012
DRILLER: Bernie C.
GEOLOGIST: Nicole Motto
REVIEWED BY:

| DEPTH FEET | SAMPLE | | | | | DESCRIPTION | | | USCS | REMARKS |
|---------------|--------|------------|------------|-----------------|--------------|-------------|-------------------------|--|------|------------|
| | STRATA | "S" NO. | "N" NO. | BLOWS PER 6" | REC% RQD% | COLOR | CONSISTENCY HARDNESS | MATERIAL DESCRIPTION | | |
| 1 | | | | | | | | Hand cleared 0-2.5 ftbg Coarse Gravel, Med - fine Sand Coarse Gravel Rock Encountered at 2.5' | FILL | PID-0.0ppm |
| 5 | | | | | | | | Refusal | | |
| 10 | | | | | | | | | | |
| 15 | | | | | | | | | | |
| 20 | | | | | | | | | | |
| 25 | | | | | | | | | | |
| 30 | | | | | | | | | | |
| 35 | | | | | | | | | | |

COMMENTS: Refusal at 3' because of rock encountered by _____
 Called Swanson and was told to omit SB-06 from _____
 Drilling however saved all soil and used for WC-03

PROJECT NO.:
BORING NO.: SB-06 R4



LiRo Engineers, Inc.

TEST BORING LOG

BORING NO: SB-07
SHEET: 1 of 1
JOB NO.: 10-62-205
LOCATION:
GROUND ELEVATION: NA
DATE STARTED: July 30, 2012
DATE FINISHED: August 1, 2012
DRILLER: Bernie Cruz
GEOLOGIST: Eva Jakubowska
REVIEWED BY:

PROJECT: Victory Blvd/Travis Area, Staten Island, NY
CLIENT: Department of Design and Construction
BORING CONTRACTOR: Aquifer Drilling and Testing, Inc.
GROUNDWATER: Not observed.
CAS. Geoprobe
SAMPLER Macro Core
TUBE 5 ft.lg
DATE NA
TIME NA
LEVEL NA
TYPE NA
TYPE DIA.
WT. n/a
FALL n/a

| DEPTH FEET | STRATA | SAMPLE | | | | REC% RQD% | COLOR | CONSISTENCY HARDNESS | DESCRIPTION MATERIAL DESCRIPTION | USCS | REMARKS |
|------------|--------|---------|---------|--------------|------|-----------|-----------|----------------------|---|---------|------------------------------|
| | | "S" NO. | "N" NO. | BLOWS PER 6" | TYPE | | | | | | |
| 1 | | | | | | NA | red-brown | NA | Hand cleared 0-6 ftbg 0-1.0': Ash and gravel, very little sand. 1.0-6.0': Fine SAND | FILL SP | 0.0 ppm 0.0 ppm saturated |
| 5 | | | | | | | | | | | |
| | | 1 | | | | 100% | red-brown | NA | 6.0-10.0': Fine SILT | ML | 0.0 ppm saturated |
| 10 | | | | | | | | | | | |
| | | 2 | | | | 100% | red-brown | NA | 10.0-15.0': Clayey SAND | SC | 0.0 ppm wet |
| 15 | | | | | | | | | | | |
| | | 3 | | | | 50% | red-brown | NA | 15.0-17.0': Clayey SAND | SC | 0.0 ppm wet |
| 17 | | | | | | | | | | | |
| 20 | | | | | | | | | Refusal at 17 feet bgs Boring Terminated at 17 feet bgs | | |
| 25 | | | | | | | | | | | |
| 30 | | | | | | | | | | | |
| 35 | | | | | | | | | | | |

COMMENTS: VOC grab sample collected at 11.5 - 12.0 ftbgs
 Composite sample collected 0 to 17.0 ftbgs for SVOC, PCB, Pest. and Metals. Temporary well was installed however due to refusal water samples could not be obtained.

PROJECT NO.: 10-62-205
BORING NO.: SB-07

| | |
|-------------------------|---|
| DRILLING SUMMARY | TEMPORARY WELL CONSTRUCTION DETAIL |
|-------------------------|---|

Geologist:
E. Jakubowska

Drilling Company:
Aquifer Drilling and Testing, Inc.

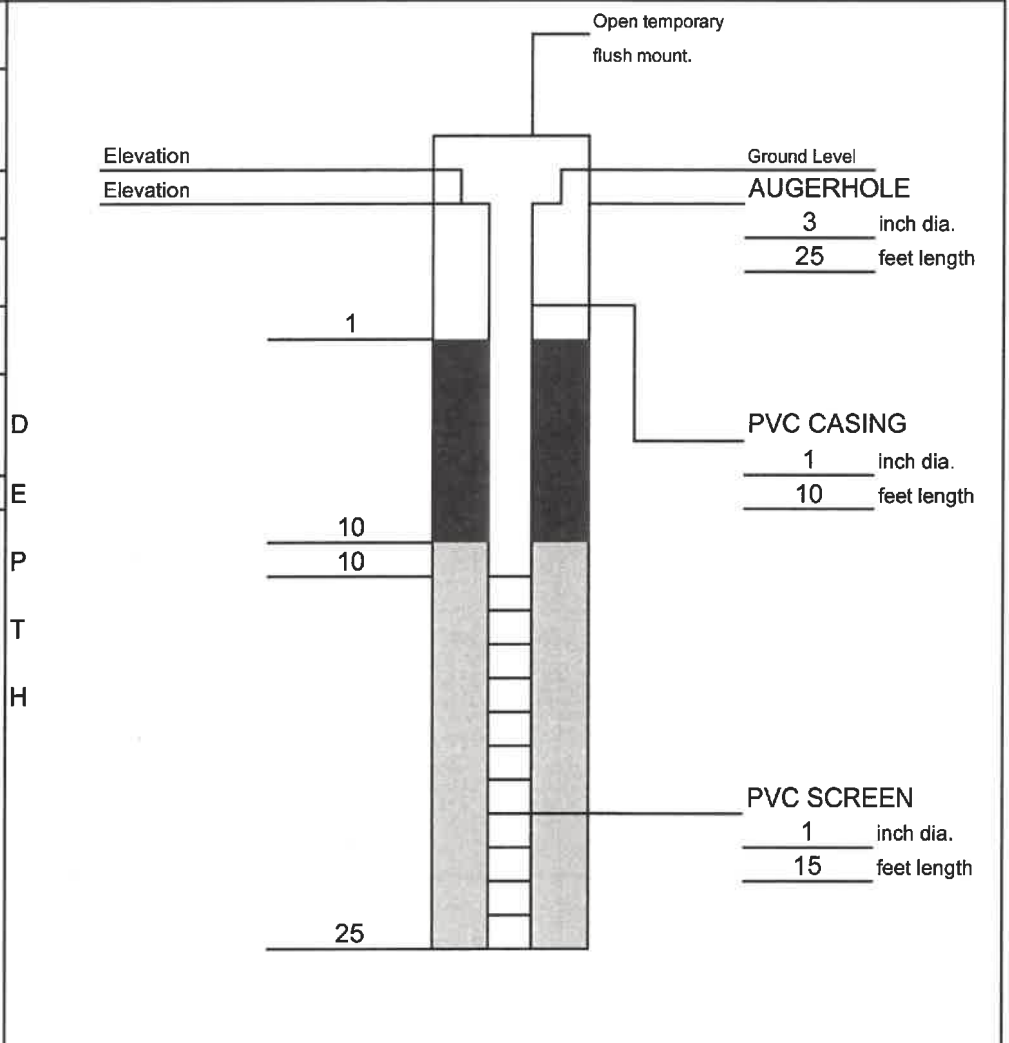
Driller:
Bernie Cruz

Rig Make/Model:
GeoProbe

Date:
8/1/2012

GEOLOGIC LOG

| Depth(ft.) | Description |
|------------|-------------|
| | See Log |



WELL DESIGN

| CASING MATERIAL | SCREEN MATERIAL | FILTER MATERIAL |
|-----------------|-------------------|--|
| Surface: None | Type: 1" PVC | Type: #2 Sand Setting: 25-10 ft bgs |
| Monitor: 1" PVC | Slot Size: 0.010" | SEAL MATERIAL Type: Bentonite Setting: 10-2 ft bgs Type: Cement Setting: NA |

COMMENTS:
Temporary well.
10 ft riser from 10 ft bgs to 0 (grade).
15 ft screen from bottom to 10 ft bgs.

Groundwater noted at approximately 10 ft bgs.

LEGEND

| | |
|--|------------------------|
| | Cement/Bentonite Grout |
| | Bentonite Seal |
| | Silica Sandpack |

| | | |
|-----------------------------|---|----------------------------------|
| Client: NYCDDC | Location: Victory Blvd-Travis Area, Staten Is, NY | Project No.: 10-62-205 |
| LiRo Engineers, Inc. | MONITORING WELL CONSTRUCTION DETAILS | Well Number: GW-01 |

| DRILLING SUMMARY | | TEMPORARY WELL CONSTRUCTION DETAIL | |
|---|---|---|-------------------|
| Geologist: E. Jakubowska | | | |
| Drilling Company: Aquifer Drilling and Testing, Inc. | | | |
| Driller: Bernie Cruz | | | |
| Rig Make/Model: GeoProbe | | | |
| Date: 8/1/2012 | | | |
| GEOLOGIC LOG | | | |
| Depth(ft.) | Description | <p style="text-align: center;">Not to Scale</p> | |
| | See Log | | |
| | | | |
| | | | |
| | | | |
| | | | |
| WELL DESIGN | | | |
| CASING MATERIAL | | SCREEN MATERIAL | |
| Surface: None | Monitor: 1" PVC | Type: 1" PVC | Slot Size: 0.010" |
| | | FILTER MATERIAL | |
| | | Type: #2 Sand Setting: 25-10 ft bgs | |
| | | SEAL MATERIAL | |
| | | Type: Bentonite Setting: 10-2 ft bgs | |
| | | Type: Cement Setting: NA | |
| COMMENTS: Temporary well. 10 ft riser from 10 ft bgs to 0 (grade). 15 ft screen from bottom to 10 ft bgs. | | LEGEND | |
| | | <div style="display: flex; align-items: center;"> <div style="width: 20px; height: 10px; background-color: #cccccc; margin-right: 5px;"></div> Cement/Bentonite Grout </div> | |
| | | <div style="display: flex; align-items: center;"> <div style="width: 20px; height: 10px; background-color: #333333; margin-right: 5px;"></div> Bentonite Seal </div> | |
| | | <div style="display: flex; align-items: center;"> <div style="width: 20px; height: 10px; background-color: #ffffff; border: 1px solid black; margin-right: 5px;"></div> Silica Sandpack </div> | |
| Client: NYCDDC | Location: Victory Blvd-Travis Area, Staten Is, NY | Project No.: 10-62-205 | |
| LiRo Engineers, Inc. | MONITORING WELL CONSTRUCTION DETAILS | Well Number: GW-03 | |



APPENDIX C
LABORATORY ANALYTICAL RESULTS

DATA FOR
VOLATILE ORGANICS
SEMI-VOLATILE ORGANICS
GC SEMI-VOLATILES
METALS
GENERAL CHEMISTRY

PROJECT NAME : TRAVIS AREA SI PHASE II

LIRO GROUP LTD.
690 Delaware Ave.

Buffalo, NY - 14209
Phone No: 716-882-5476

ORDER ID : D3662
ATTENTION : Steve Frank



DoD ELAP



284 Sheffield Street, Mountainside NJ 07092 (908)-789-8900 Fax : 908 789 8922

Date : 08/09/2012

Dear Steve Frank,

11 soil samples for the **Travis Area SI Phase II** project were received on **08/02/2012**. The analytical fax results for those samples requested for an expedited turn around time may be seen in this report. Please contact me if you have any questions or concerns regarding this report.

The invoice for this workorder is also attached to the e-mail.

Regards,

Kurt Hummler

908-728-3143

khummler@chemtech.net

CHEMTECH

CHAIN OF CUSTODY RECORD

284 Sheffield Street, Mountainside, NJ 07092
 (908) 789-8900 Fax (908) 789-8922
 www.chemtech.net

CHEMTECH PROJECT NO. D3662
 QUOTE NO. 023823
 COC Number

| | | | | | |
|---|--|--|--|--|--|
| CLIENT INFORMATION | | CLIENT PROJECT INFORMATION | | CLIENT BILLING INFORMATION | |
| REPORT TO BE SENT TO: COMPANY: <u>Lilo Engineers Inc.</u> ADDRESS: <u>690 Delaware Ave</u> CITY: <u>Buffalo</u> STATE: <u>NY</u> ZIP: <u>14209</u> ATTENTION: <u>Steve Frank</u> PHONE: <u>381-3136</u> FAX: <u>888-9640</u> | | PROJECT NAME: <u>Travis Area - Staten Island</u> PROJECT NO.: _____ LOCATION: <u>Staten Island</u> PROJECT MANAGER: <u>Steve Frank</u> e-mail: <u>frank@lilo.com</u> PHONE: _____ FAX: _____ | | PO#: _____ ADDRESS: <u>SAME</u> CITY: _____ STATE: _____ ZIP: _____ ATTENTION: _____ PHONE: _____ ANALYSIS: _____ | |
| DATA TURNAROUND INFORMATION FAX: _____ DAYS: _____ HARD COPY: _____ DAYS: _____ EDD: _____ DAYS: _____ PREAPPROVED TAT: <input type="checkbox"/> YES <input type="checkbox"/> NO *STANDARD TURNAROUND TIME IS 10 BUSINESS DAYS | | DATA DELIVERABLE INFORMATION <input checked="" type="checkbox"/> LEVEL 1: Results only <input type="checkbox"/> Others <input type="checkbox"/> LEVEL 2: Results + QC <input type="checkbox"/> LEVEL 3: Results (plus results raw data) + QC <input type="checkbox"/> LEVEL 4: Results + QC (all raw data) <input type="checkbox"/> EDD/Format: _____ | | ANALYSIS: _____ 1 TL VCS 9860B 2 TL VCS 9870C 3 TL VCS 9870C 4 TL VCS 9870C 5 TL VCS 9870C 6 TL VCS 9870C 7 TL VCS 9870C 8 TL VCS 9870C 9 TL VCS 9870C 10 TL VCS 9870C | |
| PROJECT IDENTIFICATION CHEMTECH SAMPLE ID 1. <u>S805 - Camp</u> 2. <u>S805-8.5-9</u> 3. <u>S804-0-25' (Camp)</u> 4. <u>S804-14'-14.5'</u> 5. <u>S803-14.5'-15'</u> 6. <u>S803-0'-15' (Camp)</u> 7. <u>S802-9.5'-10'</u> 8. <u>S802-0-25' (Camp)</u> 9. <u>tlc-01 (S801, S802)</u> 10. <u>tlc-02 (S803, S804)</u> | | SAMPLE TYPE 1. Soil X 2. X 3. X 4. X 5. X 6. X 7. X 8. X 9. X 10. X | | SAMPLE COLLECTION DATE 1. 81 1425 2. 81 1430 3. 82 1038 4. 1002 5. 1317 6. 1342 7. 0905 8. 0930 9. _____ 10. _____ | |
| RECEIVED BY: <u>[Signature]</u> DATE/TIME: <u>8.2.12 1800</u> | | RECEIVED BY: <u>[Signature]</u> DATE/TIME: _____ | | RECEIVED BY: <u>[Signature]</u> DATE/TIME: <u>8.2.12 1945</u> | |
| SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION INCLUDING COURIER DELIVERY Conditions of bottles or coolers at receipt: <input checked="" type="checkbox"/> Compliant <input type="checkbox"/> Non Compliant MeOH extraction requires an additional 4 oz jar for percent solid. | | COMMENTS ← Specify Preservatives A-HCl B-HNO ₃ C-H ₂ SO ₄ D-NaOH E-ICE F-Other | | COOLER TEMP. <u>5°C</u> ICE IN COOLER? <u>Yes</u> | |
| RELINQUISHED BY: _____ DATE/TIME: _____ | | RELINQUISHED BY: _____ DATE/TIME: _____ | | RELINQUISHED BY: _____ DATE/TIME: _____ | |
| SHIPPED VIA: CLIENT: <input type="checkbox"/> HAND DELIVERED <input type="checkbox"/> OVERNIGHT CHEMTECH: <input checked="" type="checkbox"/> PICKED UP <input type="checkbox"/> OVERNIGHT | | Page <u>1</u> of <u>2</u> | | Shipment Complete: <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | |



CHAIN OF CUSTODY RECORD

284 Sheffield Street, Mountainside, NJ 07092
(908) 789-8900 Fax (908) 789-8922
www.chemtech.net

CHEMTECH PROJECT NO. D3662
QUOTE NO. 023824
COC Number 023824

| CLIENT INFORMATION | | CLIENT PROJECT INFORMATION | | CLIENT BILLING INFORMATION | |
|---|------------------------|--|-------------------------------------|----------------------------|------------------------|
| COMPANY: <u>Lifo Engineers, Inc.</u> | | PROJECT NAME: <u>TCO'S Area - Station Island</u> | | BILL TO: <u>SAME</u> | |
| ADDRESS: <u>690 Delaware Ave.</u> | | LOCATION: <u>S.I.</u> | | ADDRESS: <u>SAME</u> | |
| CITY: <u>Bellefonte</u> | STATE: <u>PA</u> | PROJECT NO.: <u>14209</u> | PROJECT MANAGER: <u>Steve Frank</u> | CITY: <u></u> | STATE: <u></u> |
| ATTENTION: <u>Steve Frank</u> | FAX: <u>321-3136</u> | e-mail: <u>franks@lifo.com</u> | PHONE: <u></u> | ATTENTION: <u></u> | PHONE: <u></u> |
| DATA TURNAROUND INFORMATION | | DATA DELIVERABLE INFORMATION | | ANALYSIS | |
| FAX: _____ | DAYS: _____ | <input type="checkbox"/> LEVEL 1: Results only | <input type="checkbox"/> Others | 1 | |
| HARD COPY: _____ | DAYS: _____ | <input type="checkbox"/> LEVEL 2: Results + QC | | 2 | |
| EDD: _____ | DAYS: _____ | <input type="checkbox"/> LEVEL 3: Results (plus results raw data) + QC | | 3 | |
| <input type="checkbox"/> PRE-APPROVED TAT: <input type="checkbox"/> YES <input type="checkbox"/> NO | | <input type="checkbox"/> LEVEL 4: Results + QC (all raw data) | | 4 | |
| *STANDARD TURNAROUND TIME IS 10 BUSINESS DAYS | | <input type="checkbox"/> EDD Format: | | 5 | |
| CHEMTECH SAMPLE ID | PROJECT IDENTIFICATION | SAMPLE MATRIX | SAMPLE TYPE | SAMPLE COLLECTION DATE | SAMPLE COLLECTION TIME |
| 1. <u>WC-03 (SB05, SB06, SB07)</u> | <u>soil</u> | <u>X</u> | <u>81 MA</u> | <u>8/1/03</u> | <u>11:00</u> |
| 2. <u>WC-01 (SB01, SB02)</u> | <u>soil</u> | <u>↓</u> | <u>↓</u> | <u>↓</u> | <u>↓</u> |
| 3. <u>WC-02 (SB03, SB04)</u> | <u>soil</u> | <u>↓</u> | <u>↓</u> | <u>↓</u> | <u>↓</u> |
| 4. | | | | | |
| 5. | | | | | |
| 6. | | | | | |
| 7. | | | | | |
| 8. | | | | | |
| 9. | | | | | |
| 10. | | | | | |

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION INCLUDING COURIER DELIVERY

| RELINQUISHED BY SAMPLER | DATE/TIME | RECEIVED BY | DATE/TIME |
|-------------------------|---------------------|--------------------|---------------------|
| <u>[Signature]</u> | <u>8/2/03 12:00</u> | <u>[Signature]</u> | <u>8/2/03 12:00</u> |
| <u>[Signature]</u> | <u>8/2/03 14:45</u> | <u>[Signature]</u> | <u>8/2/03 14:45</u> |
| <u>[Signature]</u> | <u>8/2/03</u> | <u>[Signature]</u> | <u>8/2/03</u> |

RECEIVED BY: [Signature] DATE/TIME: 8/2/03 12:00

RECEIVED BY: [Signature] DATE/TIME: 8/2/03 14:45

RECEIVED BY: [Signature] DATE/TIME: 8/2/03

COOLING: Compliant Non Compliant

Ice in Cooler?: Yes

SHIPMENT COMPLETE: YES NO

SHIPPED VIA: CLIENT: HAND DELIVERED OVERNIGHT
CHEMTECH: PICKED UP OVERNIGHT

Page 2 of 2

Report of Analysis

| | | | | | | |
|--------------------|-------------------------|-----------------|----------|------------------|-----------|----|
| Client: | LIRO GROUP LTD. | Date Collected: | 08/01/12 | | | |
| Project: | Travis Area SI Phase II | Date Received: | 08/02/12 | | | |
| Client Sample ID: | SB05-COMP | SDG No.: | D3662 | | | |
| Lab Sample ID: | D3662-01 | Matrix: | SOIL | | | |
| Analytical Method: | SW8151A | % Moisture: | 24 | Decanted: | | |
| Sample Wt/Vol: | 30.08 | Units: | g | Final Vol: | 10000 | uL |
| Soil Aliquot Vol: | | | uL | Test: | Herbicide | |
| Extraction Type: | | | | Injection Volume | 1 | |
| GPC Factor : | 1.0 | PH: | N/A | | | |

| | | | | |
|-------------------|-----------|-----------|---------------|---------------|
| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
| PE005502.D | 1 | 08/08/12 | 08/09/12 | PB64965 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|-------------------|-------------------|-------|-----------|----------|-----|------------|----------|
| TARGETS | | | | | | | |
| 1918-00-9 | DICAMBA | 49 | U | 17.4 | 49 | 98 | ug/Kg |
| 120-36-5 | DICHLORPROP | 44 | U | 16.2 | 44 | 88 | ug/Kg |
| 94-75-7 | 2,4-D | 49 | U | 42.9 | 49 | 98 | ug/Kg |
| 93-72-1 | 2,4,5-TP (SILVEX) | 44 | U | 14.3 | 44 | 88 | ug/Kg |
| 93-76-5 | 2,4,5-T | 44 | U | 13.5 | 44 | 88 | ug/Kg |
| 94-82-6 | 2,4-DB | 44 | U | 38.8 | 44 | 88 | ug/Kg |
| 88-85-7 | DINOSEB | 44 | U | 32.1 | 44 | 88 | ug/Kg |
| SURROGATES | | | | | | | |
| 19719-28-9 | 2,4-DCAA | 243 | | 12 - 189 | | 49% | SPK: 500 |

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

E = Value Exceeds Calibration Range

P = Indicates >25% difference for detected concentrations between the two GC columns

Q = indicates LCS control criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

* = Values outside of QC limits

D = Dilution

S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.



Report of Analysis

| | | | |
|-------------------|-------------------------|-----------------|----------|
| Client: | LIRO GROUP LTD. | Date Collected: | 08/01/12 |
| Project: | Travis Area SI Phase II | Date Received: | 08/02/12 |
| Client Sample ID: | SB05-COMP | SDG No.: | D3662 |
| Lab Sample ID: | D3662-01 | Matrix: | SOIL |
| Level (low/med): | low | % Solid: | 76 |

| Cas | Parameter | Conc. | Qua. | DF | MDL | LOD | LOQ / CRQL | Units | Prep Date | Date Ana. | Ana Met. |
|-----------|-----------|-------|------|----|-------|-------|------------|-------|-----------|-----------|----------|
| 7429-90-5 | Aluminum | 7300 | | 1 | 0.79 | 2.35 | 4.7 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7440-36-0 | Antimony | 1.175 | U | 1 | 0.53 | 1.175 | 2.35 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7440-38-2 | Arsenic | 8.77 | | 1 | 0.31 | 0.47 | 0.94 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7440-39-3 | Barium | 93.2 | | 1 | 0.38 | 2.35 | 4.7 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7440-41-7 | Beryllium | 0.74 | | 1 | 0.06 | 0.14 | 0.28 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7440-43-9 | Cadmium | 0.14 | U | 1 | 0.06 | 0.14 | 0.28 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7440-70-2 | Calcium | 795 | | 1 | 1.01 | 47 | 94 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7440-47-3 | Chromium | 12.3 | | 1 | 0.12 | 0.235 | 0.47 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7440-48-4 | Cobalt | 4.86 | | 1 | 0.54 | 0.705 | 1.41 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7440-50-8 | Copper | 16.4 | | 1 | 0.3 | 0.47 | 0.94 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7439-89-6 | Iron | 14100 | | 1 | 1.25 | 2.35 | 4.7 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7439-92-1 | Lead | 21.9 | | 1 | 0.11 | 0.28 | 0.56 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7439-95-4 | Magnesium | 1020 | | 1 | 4.3 | 47 | 94 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7439-96-5 | Manganese | 79.6 | | 1 | 0.18 | 0.47 | 0.94 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7439-97-6 | Mercury | 0.046 | | 1 | 0.003 | 0.007 | 0.013 | mg/Kg | 08/03/12 | 08/06/12 | SW7471A |
| 7440-02-0 | Nickel | 8.38 | | 1 | 0.43 | 0.94 | 1.88 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7440-09-7 | Potassium | 496 | | 1 | 3.29 | 47 | 94 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7782-49-2 | Selenium | 0.68 | J | 1 | 0.39 | 0.47 | 0.94 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7440-22-4 | Silver | 0.235 | U | 1 | 0.14 | 0.235 | 0.47 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7440-23-5 | Sodium | 451 | | 1 | 2.37 | 47 | 94 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7440-28-0 | Thallium | 0.94 | U | 1 | 0.25 | 0.94 | 1.88 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7440-62-2 | Vanadium | 25.4 | | 1 | 0.55 | 0.94 | 1.88 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7440-66-6 | Zinc | 54.9 | | 1 | 0.66 | 0.94 | 1.88 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |

Color Before: Brown Clarity Before: Texture: Medium
 Color After: Yellow Clarity After: Artifacts: No
 Comments: METALS-TAL

U = Not Detected
 LOQ = Limit of Quantitation
 MDL = Method Detection Limit
 LOD = Limit of Detection
 D = Dilution
 Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
 B = Analyte Found in Associated Method Blank
 * = indicates the duplicate analysis is not within control limits.
 E = Indicates the reported value is estimated because of the presence of interference.
 OR = Over Range
 HAZ. ~~197~~ Spiked sample recovery not within control limits

Report of Analysis

| | | | | | | |
|--------------------|-------------------------|-----------------|----------|------------------|-------|----|
| Client: | LIRO GROUP LTD. | Date Collected: | 08/01/12 | | | |
| Project: | Travis Area SI Phase II | Date Received: | 08/02/12 | | | |
| Client Sample ID: | SB05-COMP | SDG No.: | D3662 | | | |
| Lab Sample ID: | D3662-01 | Matrix: | SOIL | | | |
| Analytical Method: | SW8082A | % Moisture: | 24 | Decanted: | | |
| Sample Wt/Vol: | 30.05 | Units: | g | Final Vol: | 10000 | uL |
| Soil Aliquot Vol: | | | uL | Test: | PCB | |
| Extraction Type: | | | | Injection Volume | 1 | |
| GPC Factor : | 1.0 | PH : | N/A | | | |

| | | | | |
|-------------------|-----------|-----------|---------------|---------------|
| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
| PB002645.D | 1 | 08/03/12 | 08/09/12 | PB64868 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|-------------------|----------------------|-------|-----------|----------|-----|------------|---------|
| TARGETS | | | | | | | |
| 12674-11-2 | Aroclor-1016 | 11 | U | 4.6 | 11 | 22 | ug/Kg |
| 11104-28-2 | Aroclor-1221 | 11 | U | 4.5 | 11 | 22 | ug/Kg |
| 11141-16-5 | Aroclor-1232 | 11 | U | 9.8 | 11 | 22 | ug/Kg |
| 53469-21-9 | Aroclor-1242 | 11 | U | 4.5 | 11 | 22 | ug/Kg |
| 12672-29-6 | Aroclor-1248 | 11 | U | 8.7 | 11 | 22 | ug/Kg |
| 11097-69-1 | Aroclor-1254 | 11 | U | 2 | 11 | 22 | ug/Kg |
| 11096-82-5 | Aroclor-1260 | 11 | U | 5.4 | 11 | 22 | ug/Kg |
| SURROGATES | | | | | | | |
| 877-09-8 | Tetrachloro-m-xylene | 14.5 | | 10 - 166 | | 73% | SPK: 20 |
| 2051-24-3 | Decachlorobiphenyl | 12.6 | | 60 - 125 | | 63% | SPK: 20 |

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

E = Value Exceeds Calibration Range

P = Indicates >25% difference for detected concentrations between the two GC columns

Q = indicates LCS control criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

* = Values outside of QC limits

D = Dilution

S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.

Report of Analysis

| | | | | | | |
|--------------------|-------------------------|-----------------|----------|------------------|---------------|----|
| Client: | LIRO GROUP LTD. | Date Collected: | 08/01/12 | | | |
| Project: | Travis Area SI Phase II | Date Received: | 08/02/12 | | | |
| Client Sample ID: | SB05-COMP | SDG No.: | D3662 | | | |
| Lab Sample ID: | D3662-01 | Matrix: | SOIL | | | |
| Analytical Method: | SW8081B | % Moisture: | 24 | Decanted: | | |
| Sample Wt/Vol: | 30.05 | Units: | g | Final Vol: | 10000 | uL |
| Soil Aliquot Vol: | | | uL | Test: | Pesticide-TCL | |
| Extraction Type: | | | | Injection Volume | 1 | |
| GPC Factor : | 1.0 | PH : | N/A | | | |

| | | | | |
|-------------------|-----------|-----------|---------------|---------------|
| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
| PO003022.D | 1 | 08/03/12 | 08/08/12 | PB64869 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|-------------------|----------------------|-------|-----------|----------|-----|------------|---------|
| TARGETS | | | | | | | |
| 319-84-6 | alpha-BHC | 1.1 | U | 0.17 | 1.1 | 2.2 | ug/Kg |
| 319-85-7 | beta-BHC | 1.1 | U | 0.24 | 1.1 | 2.2 | ug/Kg |
| 319-86-8 | delta-BHC | 1.1 | U | 0.13 | 1.1 | 2.2 | ug/Kg |
| 58-89-9 | gamma-BHC | 1.1 | U | 0.2 | 1.1 | 2.2 | ug/Kg |
| 76-44-8 | Heptachlor | 1.1 | U | 0.18 | 1.1 | 2.2 | ug/Kg |
| 309-00-2 | Aldrin | 1.1 | U | 0.13 | 1.1 | 2.2 | ug/Kg |
| 1024-57-3 | Heptachlor epoxide | 1.1 | U | 0.21 | 1.1 | 2.2 | ug/Kg |
| 959-98-8 | Endosulfan I | 1.1 | U | 0.2 | 1.1 | 2.2 | ug/Kg |
| 60-57-1 | Dieldrin | 1.1 | U | 0.17 | 1.1 | 2.2 | ug/Kg |
| 72-55-9 | 4,4-DDE | 2.3 | P | 0.26 | 1.1 | 2.2 | ug/Kg |
| 72-20-8 | Endrin | 1.1 | U | 0.24 | 1.1 | 2.2 | ug/Kg |
| 33213-65-9 | Endosulfan II | 1.1 | U | 0.18 | 1.1 | 2.2 | ug/Kg |
| 72-54-8 | 4,4-DDD | 1.1 | U | 0.22 | 1.1 | 2.2 | ug/Kg |
| 1031-07-8 | Endosulfan Sulfate | 1.1 | U | 0.2 | 1.1 | 2.2 | ug/Kg |
| 50-29-3 | 4,4-DDT | 1.5 | J | 0.18 | 1.1 | 2.2 | ug/Kg |
| 72-43-5 | Methoxychlor | 1.1 | U | 0.22 | 1.1 | 2.2 | ug/Kg |
| 53494-70-5 | Endrin ketone | 1.1 | U | 0.17 | 1.1 | 2.2 | ug/Kg |
| 7421-93-4 | Endrin aldehyde | 1.1 | U | 0.2 | 1.1 | 2.2 | ug/Kg |
| 5103-71-9 | alpha-Chlordane | 1.1 | U | 0.18 | 1.1 | 2.2 | ug/Kg |
| 5103-74-2 | gamma-Chlordane | 1.1 | U | 0.17 | 1.1 | 2.2 | ug/Kg |
| 8001-35-2 | Toxaphene | 11 | U | 4.5 | 11 | 22 | ug/Kg |
| SURROGATES | | | | | | | |
| 2051-24-3 | Decachlorobiphenyl | 19.5 | | 10 - 169 | | 97% | SPK: 20 |
| 877-09-8 | Tetrachloro-m-xylene | 19.6 | | 31 - 151 | | 98% | SPK: 20 |



284 Sheffield Street, Mountainside NJ 07092 (908)-789-8900 Fax : 908 789 8922

Report of Analysis

| | | | |
|--------------------|-------------------------|------------------|---------------|
| Client: | LIRO GROUP LTD. | Date Collected: | 08/01/12 |
| Project: | Travis Area SI Phase II | Date Received: | 08/02/12 |
| Client Sample ID: | SB05-COMP | SDG No.: | D3662 |
| Lab Sample ID: | D3662-01 | Matrix: | SOIL |
| Analytical Method: | SW8081B | % Moisture: | 24 Decanted: |
| Sample Wt/Vol: | 30.05 Units: g | Final Vol: | 10000 uL |
| Soil Aliquot Vol: | uL | Test: | Pesticide-TCL |
| Extraction Type: | | Injection Volume | 1 |
| GPC Factor : | 1.0 PH: N/A | | |

| | | | | |
|-------------------|-----------|-----------|---------------|---------------|
| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
| PO003022.D | 1 | 08/03/12 | 08/08/12 | PB64869 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|------------|-----------|-------|-----------|-----|-----|------------|-------|
|------------|-----------|-------|-----------|-----|-----|------------|-------|

U = Not Detected
 LOQ = Limit of Quantitation
 MDL = Method Detection Limit
 LOD = Limit of Detection
 E = Value Exceeds Calibration Range
 P = Indicates >25% difference for detected concentrations between the two GC columns
 Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
 B = Analyte Found in Associated Method Blank
 N = Presumptive Evidence of a Compound
 * = Values outside of QC limits
 D = Dilution
 S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.

Report of Analysis

| | | | |
|--------------------|-------------------------|-----------------|--------------|
| Client: | LIRO GROUP LTD. | Date Collected: | 08/01/12 |
| Project: | Travis Area SI Phase II | Date Received: | 08/02/12 |
| Client Sample ID: | SB05-COMP | SDG No.: | d3662 |
| Lab Sample ID: | D3662-01 | Matrix: | SOIL |
| Analytical Method: | SW8270D | % Moisture: | 24 |
| Sample Wt/Vol: | 30.07 Units: g | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC-TCL BNA |
| Extraction Type : | SOXH | Decanted : | N |
| Injection Volume : | 1 | Level : | LOW |
| | GPC Factor : 1.0 | GPC Cleanup : | N PH: N/A |

| | | | | |
|-------------------|-----------|-----------|---------------|---------------|
| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
| BG006549.D | 1 | 08/03/12 | 08/08/12 | PB64865 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|----------------|-----------------------------|-------|-----------|-----|-----|------------|-------|
| TARGETS | | | | | | | |
| 100-52-7 | Benzaldehyde | 215 | U | 23 | 215 | 430 | ug/Kg |
| 108-95-2 | Phenol | 215 | U | 10 | 215 | 430 | ug/Kg |
| 111-44-4 | bis(2-Chloroethyl)ether | 215 | U | 21 | 215 | 430 | ug/Kg |
| 95-57-8 | 2-Chlorophenol | 215 | U | 23 | 215 | 430 | ug/Kg |
| 95-48-7 | 2-Methylphenol | 215 | U | 24 | 215 | 430 | ug/Kg |
| 108-60-1 | 2,2-oxybis(1-Chloropropane) | 215 | U | 18 | 215 | 430 | ug/Kg |
| 98-86-2 | Acetophenone | 215 | U | 13 | 215 | 430 | ug/Kg |
| 65794-96-9 | 3+4-Methylphenols | 215 | U | 23 | 215 | 430 | ug/Kg |
| 621-64-7 | N-Nitroso-di-n-propylamine | 215 | U | 22 | 215 | 430 | ug/Kg |
| 67-72-1 | Hexachloroethane | 215 | U | 20 | 215 | 430 | ug/Kg |
| 98-95-3 | Nitrobenzene | 215 | U | 17 | 215 | 430 | ug/Kg |
| 78-59-1 | Isophorone | 215 | U | 14 | 215 | 430 | ug/Kg |
| 88-75-5 | 2-Nitrophenol | 215 | U | 21 | 215 | 430 | ug/Kg |
| 105-67-9 | 2,4-Dimethylphenol | 215 | U | 25 | 215 | 430 | ug/Kg |
| 111-91-1 | bis(2-Chloroethoxy)methane | 215 | U | 25 | 215 | 430 | ug/Kg |
| 120-83-2 | 2,4-Dichlorophenol | 215 | U | 17 | 215 | 430 | ug/Kg |
| 91-20-3 | Naphthalene | 215 | U | 15 | 215 | 430 | ug/Kg |
| 106-47-8 | 4-Chloroaniline | 215 | U | 31 | 215 | 430 | ug/Kg |
| 87-68-3 | Hexachlorobutadiene | 215 | U | 16 | 215 | 430 | ug/Kg |
| 105-60-2 | Caprolactam | 215 | U | 20 | 215 | 430 | ug/Kg |
| 59-50-7 | 4-Chloro-3-methylphenol | 215 | U | 19 | 215 | 430 | ug/Kg |
| 91-57-6 | 2-Methylnaphthalene | 215 | U | 11 | 215 | 430 | ug/Kg |
| 77-47-4 | Hexachlorocyclopentadiene | 215 | U | 11 | 215 | 430 | ug/Kg |
| 88-06-2 | 2,4,6-Trichlorophenol | 215 | U | 13 | 215 | 430 | ug/Kg |
| 95-95-4 | 2,4,5-Trichlorophenol | 215 | U | 31 | 215 | 430 | ug/Kg |
| 92-52-4 | 1,1-Biphenyl | 215 | U | 17 | 215 | 430 | ug/Kg |
| 91-58-7 | 2-Chloronaphthalene | 215 | U | 10 | 215 | 430 | ug/Kg |
| 88-74-4 | 2-Nitroaniline | 215 | U | 19 | 215 | 430 | ug/Kg |
| 131-11-3 | Dimethylphthalate | 500 | | 12 | 215 | 430 | ug/Kg |
| 208-96-8 | Acenaphthylene | 215 | U | 11 | 215 | 430 | ug/Kg |
| 606-20-2 | 2,6-Dinitrotoluene | 215 | U | 18 | 215 | 430 | ug/Kg |

Report of Analysis

| | | | |
|--------------------|-------------------------|-----------------|--------------|
| Client: | LIRO GROUP LTD. | Date Collected: | 08/01/12 |
| Project: | Travis Area SI Phase II | Date Received: | 08/02/12 |
| Client Sample ID: | SB05-COMP | SDG No.: | d3662 |
| Lab Sample ID: | D3662-01 | Matrix: | SOIL |
| Analytical Method: | SW8270D | % Moisture: | 24 |
| Sample Wt/Vol: | 30.07 Units: g | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC-TCL BNA |
| Extraction Type : | SOXH | Decanted : | N |
| Injection Volume : | 1 | Level : | LOW |
| | GPC Factor : 1.0 | GPC Cleanup : | N |
| | | PH : | N/A |

| | | | | |
|-------------------|-----------|-----------|---------------|---------------|
| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
| BG006549.D | 1 | 08/03/12 | 08/08/12 | PB64865 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|------------|----------------------------|-------|-----------|-----|-----|------------|-------|
| 99-09-2 | 3-Nitroaniline | 215 | U | 28 | 215 | 430 | ug/Kg |
| 83-32-9 | Acenaphthene | 215 | U | 12 | 215 | 430 | ug/Kg |
| 51-28-5 | 2,4-Dinitrophenol | 215 | U | 45 | 215 | 430 | ug/Kg |
| 100-02-7 | 4-Nitrophenol | 215 | U | 81 | 215 | 430 | ug/Kg |
| 132-64-9 | Dibenzofuran | 215 | U | 17 | 215 | 430 | ug/Kg |
| 121-14-2 | 2,4-Dinitrotoluene | 215 | U | 13 | 215 | 430 | ug/Kg |
| 84-66-2 | Diethylphthalate | 215 | U | 6.8 | 215 | 430 | ug/Kg |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 215 | U | 24 | 215 | 430 | ug/Kg |
| 86-73-7 | Fluorene | 215 | U | 17 | 215 | 430 | ug/Kg |
| 100-01-6 | 4-Nitroaniline | 215 | U | 57 | 215 | 430 | ug/Kg |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | 215 | U | 25 | 215 | 430 | ug/Kg |
| 86-30-6 | N-Nitrosodiphenylamine | 215 | U | 11 | 215 | 430 | ug/Kg |
| 101-55-3 | 4-Bromophenyl-phenylether | 215 | U | 8.5 | 215 | 430 | ug/Kg |
| 118-74-1 | Hexachlorobenzene | 215 | U | 18 | 215 | 430 | ug/Kg |
| 1912-24-9 | Atrazine | 215 | U | 23 | 215 | 430 | ug/Kg |
| 87-86-5 | Pentachlorophenol | 215 | U | 30 | 215 | 430 | ug/Kg |
| 85-01-8 | Phenanthrene | 215 | U | 12 | 215 | 430 | ug/Kg |
| 120-12-7 | Anthracene | 215 | U | 8.9 | 215 | 430 | ug/Kg |
| 86-74-8 | Carbazole | 215 | U | 9.6 | 215 | 430 | ug/Kg |
| 84-74-2 | Di-n-butylphthalate | 215 | U | 34 | 215 | 430 | ug/Kg |
| 206-44-0 | Fluoranthene | 215 | U | 8.8 | 215 | 430 | ug/Kg |
| 129-00-0 | Pyrene | 215 | U | 11 | 215 | 430 | ug/Kg |
| 85-68-7 | Butylbenzylphthalate | 215 | U | 21 | 215 | 430 | ug/Kg |
| 91-94-1 | 3,3-Dichlorobenzidine | 215 | U | 28 | 215 | 430 | ug/Kg |
| 56-55-3 | Benzo(a)anthracene | 215 | U | 21 | 215 | 430 | ug/Kg |
| 218-01-9 | Chrysene | 215 | U | 20 | 215 | 430 | ug/Kg |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | 215 | U | 15 | 215 | 430 | ug/Kg |
| 117-84-0 | Di-n-octyl phthalate | 215 | U | 5 | 215 | 430 | ug/Kg |
| 205-99-2 | Benzo(b)fluoranthene | 215 | U | 14 | 215 | 430 | ug/Kg |
| 207-08-9 | Benzo(k)fluoranthene | 215 | U | 21 | 215 | 430 | ug/Kg |
| 50-32-8 | Benzo(a)pyrene | 215 | U | 9.5 | 215 | 430 | ug/Kg |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 215 | U | 15 | 215 | 430 | ug/Kg |
| 53-70-3 | Dibenz(a,h)anthracene | 215 | U | 13 | 215 | 430 | ug/Kg |

Report of Analysis

| | | | |
|--------------------|-------------------------|-----------------|--------------|
| Client: | LIRO GROUP LTD. | Date Collected: | 08/01/12 |
| Project: | Travis Area SI Phase II | Date Received: | 08/02/12 |
| Client Sample ID: | SB05-COMP | SDG No.: | d3662 |
| Lab Sample ID: | D3662-01 | Matrix: | SOIL |
| Analytical Method: | SW8270D | % Moisture: | 24 |
| Sample Wt/Vol: | 30.07 Units: g | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC-TCL BNA |
| Extraction Type : | SOXH | Decanted : | N |
| Injection Volume : | 1 | Level : | LOW |
| | GPC Factor : 1.0 | GPC Cleanup : | N |
| | | PH : | N/A |

| | | | | |
|-------------------|-----------|-----------|---------------|---------------|
| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
| BG006549.D | 1 | 08/03/12 | 08/08/12 | PB64865 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---------------------------|----------------------------|--------|-----------|----------|-----|------------|----------|
| 191-24-2 | Benzo(g,h,i)perylene | 215 | U | 18 | 215 | 430 | ug/Kg |
| 95-94-3 | 1,2,4,5-Tetrachlorobenzene | 215 | U | 17 | 215 | 430 | ug/Kg |
| 58-90-2 | 2,3,4,6-Tetrachlorophenol | 215 | U | 17 | 215 | 430 | ug/Kg |
| SURROGATES | | | | | | | |
| 367-12-4 | 2-Fluorophenol | 119 | | 28 - 127 | | 79% | SPK: 150 |
| 13127-88-3 | Phenol-d5 | 125 | | 34 - 127 | | 84% | SPK: 150 |
| 4165-60-0 | Nitrobenzene-d5 | 76.3 | | 31 - 132 | | 76% | SPK: 100 |
| 321-60-8 | 2-Fluorobiphenyl | 60.1 | | 39 - 123 | | 60% | SPK: 100 |
| 118-79-6 | 2,4,6-Tribromophenol | 93.9 | | 30 - 133 | | 63% | SPK: 150 |
| 1718-51-0 | Terphenyl-d14 | 57.4 | | 37 - 115 | | 57% | SPK: 100 |
| INTERNAL STANDARDS | | | | | | | |
| 3855-82-1 | 1,4-Dichlorobenzene-d4 | 97579 | | 8.71 | | | |
| 1146-65-2 | Naphthalene-d8 | 360581 | | 10.92 | | | |
| 15067-26-2 | Acenaphthene-d10 | 257851 | | 13.91 | | | |
| 1517-22-2 | Phenanthrene-d10 | 479615 | | 16.4 | | | |
| 1719-03-5 | Chrysene-d12 | 541095 | | 20.92 | | | |
| 1520-96-3 | Perylene-d12 | 517676 | | 24.84 | | | |

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

E = Value Exceeds Calibration Range

Q = indicates LCS control criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

* = Values outside of QC limits

D = Dilution

Report of Analysis

| | | | |
|--------------------|-------------------------|-----------------|----------|
| Client: | LIRO GROUP LTD. | Date Collected: | 08/01/12 |
| Project: | Travis Area SI Phase II | Date Received: | 08/02/12 |
| Client Sample ID: | SB05-8.5-9 | SDG No.: | d3662 |
| Lab Sample ID: | D3662-02 | Matrix: | SOIL |
| Analytical Method: | SW8260C | % Moisture: | 20 |
| Sample Wt/Vol: | 5 Units: g | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC-TCL |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| | | | | |
|-------------------|-----------|-----------|---------------|---------------|
| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
| VT004365.D | 1 | | 08/06/12 | VT080612 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|----------------|--------------------------------|-------|-----------|------|------|------------|-------|
| TARGETS | | | | | | | |
| 75-71-8 | Dichlorodifluoromethane | 3.1 | U | 0.81 | 3.1 | 6.2 | ug/Kg |
| 74-87-3 | Chloromethane | 3.1 | U | 1.1 | 3.1 | 6.2 | ug/Kg |
| 75-01-4 | Vinyl Chloride | 3.1 | U | 1.5 | 3.1 | 6.2 | ug/Kg |
| 74-83-9 | Bromomethane | 3.1 | U | 3.1 | 3.1 | 6.2 | ug/Kg |
| 75-00-3 | Chloroethane | 3.1 | U | 1.8 | 3.1 | 6.2 | ug/Kg |
| 75-69-4 | Trichlorofluoromethane | 3.1 | U | 1.6 | 3.1 | 6.2 | ug/Kg |
| 76-13-1 | 1,1,2-Trichlorotrifluoroethane | 3.1 | U | 1.7 | 3.1 | 6.2 | ug/Kg |
| 75-35-4 | 1,1-Dichloroethene | 3.1 | U | 1.8 | 3.1 | 6.2 | ug/Kg |
| 67-64-1 | Acetone | 65 | | 3.8 | 15.5 | 31 | ug/Kg |
| 75-15-0 | Carbon Disulfide | 1.4 | J | 1.3 | 3.1 | 6.2 | ug/Kg |
| 1634-04-4 | Methyl tert-butyl Ether | 3.1 | U | 1.2 | 3.1 | 6.2 | ug/Kg |
| 79-20-9 | Methyl Acetate | 3.1 | U | 1.9 | 3.1 | 6.2 | ug/Kg |
| 75-09-2 | Methylene Chloride | 2.4 | J | 1.8 | 3.1 | 6.2 | ug/Kg |
| 156-60-5 | trans-1,2-Dichloroethene | 3.1 | U | 0.86 | 3.1 | 6.2 | ug/Kg |
| 75-34-3 | 1,1-Dichloroethane | 3.1 | U | 1.2 | 3.1 | 6.2 | ug/Kg |
| 110-82-7 | Cyclohexane | 3.1 | U | 1.3 | 3.1 | 6.2 | ug/Kg |
| 78-93-3 | 2-Butanone | 14 | J | 3.9 | 15.5 | 31 | ug/Kg |
| 56-23-5 | Carbon Tetrachloride | 3.1 | U | 1.2 | 3.1 | 6.2 | ug/Kg |
| 156-59-2 | cis-1,2-Dichloroethene | 3.1 | U | 1.1 | 3.1 | 6.2 | ug/Kg |
| 74-97-5 | Bromochloromethane | 3.1 | U | 0.99 | 3.1 | 6.2 | ug/Kg |
| 67-66-3 | Chloroform | 3.1 | U | 0.92 | 3.1 | 6.2 | ug/Kg |
| 71-55-6 | 1,1,1-Trichloroethane | 3.1 | U | 1.1 | 3.1 | 6.2 | ug/Kg |
| 108-87-2 | Methylcyclohexane | 3.1 | U | 1.3 | 3.1 | 6.2 | ug/Kg |
| 71-43-2 | Benzene | 3.1 | U | 0.48 | 3.1 | 6.2 | ug/Kg |
| 107-06-2 | 1,2-Dichloroethane | 3.1 | U | 0.8 | 3.1 | 6.2 | ug/Kg |
| 79-01-6 | Trichloroethene | 3.1 | U | 1.1 | 3.1 | 6.2 | ug/Kg |
| 78-87-5 | 1,2-Dichloropropane | 3.1 | U | 0.32 | 3.1 | 6.2 | ug/Kg |
| 75-27-4 | Bromodichloromethane | 3.1 | U | 0.78 | 3.1 | 6.2 | ug/Kg |
| 108-10-1 | 4-Methyl-2-Pentanone | 15.5 | U | 3.6 | 15.5 | 31 | ug/Kg |
| 108-88-3 | Toluene | 3.1 | U | 0.8 | 3.1 | 6.2 | ug/Kg |
| 10061-02-6 | t-1,3-Dichloropropene | 3.1 | U | 0.99 | 3.1 | 6.2 | ug/Kg |

Report of Analysis

| | | | |
|--------------------|-------------------------|-----------------|----------|
| Client: | LIRO GROUP LTD. | Date Collected: | 08/01/12 |
| Project: | Travis Area SI Phase II | Date Received: | 08/02/12 |
| Client Sample ID: | SB05-8.5-9 | SDG No.: | d3662 |
| Lab Sample ID: | D3662-02 | Matrix: | SOIL |
| Analytical Method: | SW8260C | % Moisture: | 20 |
| Sample Wt/Vol: | 5 Units: g | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC-TCL |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| | | | | |
|-------------------|-----------|-----------|---------------|---------------|
| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
| VT004365.D | 1 | | 08/06/12 | VT080612 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---------------------------|-----------------------------|---------|-----------|----------|------|------------|---------|
| 10061-01-5 | cis-1,3-Dichloropropene | 3.1 | U | 0.9 | 3.1 | 6.2 | ug/Kg |
| 79-00-5 | 1,1,2-Trichloroethane | 3.1 | U | 1.1 | 3.1 | 6.2 | ug/Kg |
| 591-78-6 | 2-Hexanone | 15.5 | U | 4.9 | 15.5 | 31 | ug/Kg |
| 124-48-1 | Dibromochloromethane | 3.1 | U | 0.68 | 3.1 | 6.2 | ug/Kg |
| 106-93-4 | 1,2-Dibromoethane | 3.1 | U | 0.8 | 3.1 | 6.2 | ug/Kg |
| 127-18-4 | Tetrachloroethene | 3.1 | U | 1.3 | 3.1 | 6.2 | ug/Kg |
| 108-90-7 | Chlorobenzene | 3.1 | U | 0.62 | 3.1 | 6.2 | ug/Kg |
| 100-41-4 | Ethyl Benzene | 3.1 | U | 0.78 | 3.1 | 6.2 | ug/Kg |
| 179601-23-1 | m/p-Xylenes | 6 | U | 0.9 | 6 | 12 | ug/Kg |
| 95-47-6 | o-Xylene | 3.1 | U | 0.85 | 3.1 | 6.2 | ug/Kg |
| 100-42-5 | Styrene | 3.1 | U | 0.56 | 3.1 | 6.2 | ug/Kg |
| 75-25-2 | Bromoform | 3.1 | U | 0.92 | 3.1 | 6.2 | ug/Kg |
| 98-82-8 | Isopropylbenzene | 3.1 | U | 0.6 | 3.1 | 6.2 | ug/Kg |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 3.1 | U | 0.57 | 3.1 | 6.2 | ug/Kg |
| 541-73-1 | 1,3-Dichlorobenzene | 3.1 | U | 0.46 | 3.1 | 6.2 | ug/Kg |
| 106-46-7 | 1,4-Dichlorobenzene | 3.1 | U | 0.51 | 3.1 | 6.2 | ug/Kg |
| 95-50-1 | 1,2-Dichlorobenzene | 3.1 | U | 0.78 | 3.1 | 6.2 | ug/Kg |
| 96-12-8 | 1,2-Dibromo-3-Chloropropane | 3.1 | U | 1.1 | 3.1 | 6.2 | ug/Kg |
| 120-82-1 | 1,2,4-Trichlorobenzene | 3.1 | U | 0.88 | 3.1 | 6.2 | ug/Kg |
| 87-61-6 | 1,2,3-Trichlorobenzene | 3.1 | U | 0.62 | 3.1 | 6.2 | ug/Kg |
| 123-91-1 | 1,4-Dioxane | 60 | U | 62 | 60 | 120 | ug/Kg |
| SURROGATES | | | | | | | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 54.2 | | 56 - 120 | | 108% | SPK: 50 |
| 1868-53-7 | Dibromofluoromethane | 49 | | 57 - 135 | | 98% | SPK: 50 |
| 2037-26-5 | Toluene-d8 | 49.6 | | 67 - 123 | | 99% | SPK: 50 |
| 460-00-4 | 4-Bromofluorobenzene | 49.1 | | 33 - 141 | | 98% | SPK: 50 |
| INTERNAL STANDARDS | | | | | | | |
| 363-72-4 | Pentafluorobenzene | 1838160 | 7.43 | | | | |
| 540-36-3 | 1,4-Difluorobenzene | 2418760 | 8.38 | | | | |
| 3114-55-4 | Chlorobenzene-d5 | 2058180 | 11.22 | | | | |
| 3855-82-1 | 1,4-Dichlorobenzene-d4 | 1103170 | 13.16 | | | | |

Report of Analysis

| | | | |
|--------------------|-------------------------|-----------------|----------|
| Client: | LIRO GROUP LTD. | Date Collected: | 08/01/12 |
| Project: | Travis Area SI Phase II | Date Received: | 08/02/12 |
| Client Sample ID: | SB05-8.5-9 | SDG No.: | d3662 |
| Lab Sample ID: | D3662-02 | Matrix: | SOIL |
| Analytical Method: | SW8260C | % Moisture: | 20 |
| Sample Wt/Vol: | 5 Units: g | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC-TCL |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| | | | | |
|-------------------|-----------|-----------|---------------|---------------|
| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
| VT004365.D | 1 | | 08/06/12 | VT080612 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|------------|-----------|-------|-----------|-----|-----|------------|-------|
|------------|-----------|-------|-----------|-----|-----|------------|-------|

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

E = Value Exceeds Calibration Range

Q = indicates LCS control criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

* = Values outside of QC limits

D = Dilution



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Report of Analysis

| | | | | |
|--------------------|-------------------------|------------------|-----------|-----------|
| Client: | LIRO GROUP LTD. | Date Collected: | 08/02/12 | |
| Project: | Travis Area SI Phase II | Date Received: | 08/02/12 | |
| Client Sample ID: | SB04-0-25(COMP) | SDG No.: | D3662 | |
| Lab Sample ID: | D3662-03 | Matrix: | SOIL | |
| Analytical Method: | SW8151A | % Moisture: | 14.1 | Decanted: |
| Sample Wt/Vol: | 30.1 Units: g | Final Vol: | 10000 | uL |
| Soil Aliquot Vol: | uL | Test: | Herbicide | |
| Extraction Type: | | Injection Volume | 1 | |
| GPC Factor : | 1.0 | PH : | N/A | |

| | | | | |
|-------------------|-----------|-----------|---------------|---------------|
| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
| PE005503.D | 1 | 08/08/12 | 08/09/12 | PB64965 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|-------------------|-------------------|-------|-----------|----------|------|------------|----------|
| TARGETS | | | | | | | |
| 1918-00-9 | DICAMBA | 43.5 | U | 15.4 | 43.5 | 87 | ug/Kg |
| 120-36-5 | DICHLORPROP | 39 | U | 14.3 | 39 | 78 | ug/Kg |
| 94-75-7 | 2,4-D | 43.5 | U | 37.9 | 43.5 | 87 | ug/Kg |
| 93-72-1 | 2,4,5-TP (SILVEX) | 39 | U | 12.7 | 39 | 78 | ug/Kg |
| 93-76-5 | 2,4,5-T | 39 | U | 11.9 | 39 | 78 | ug/Kg |
| 94-82-6 | 2,4-DB | 39 | U | 34.3 | 39 | 78 | ug/Kg |
| 88-85-7 | DINOSEB | 39 | U | 28.4 | 39 | 78 | ug/Kg |
| SURROGATES | | | | | | | |
| 19719-28-9 | 2,4-DCAA | 253 | | 12 - 189 | | 51% | SPK: 500 |

U = Not Detected
 LOQ = Limit of Quantitation
 MDL = Method Detection Limit
 LOD = Limit of Detection
 E = Value Exceeds Calibration Range
 P = Indicates >25% difference for detected concentrations between the two GC columns
 Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
 B = Analyte Found in Associated Method Blank
 N = Presumptive Evidence of a Compound
 * = Values outside of QC limits
 D = Dilution
 S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.

Report of Analysis

| | | | |
|-------------------|-------------------------|-----------------|----------|
| Client: | LIRO GROUP LTD. | Date Collected: | 08/02/12 |
| Project: | Travis Area SI Phase II | Date Received: | 08/02/12 |
| Client Sample ID: | SB04-0-25(COMP) | SDG No.: | D3662 |
| Lab Sample ID: | D3662-03 | Matrix: | SOIL |
| Level (low/med): | low | % Solid: | 85.9 |

| Cas | Parameter | Conc. | Qua. | DF | MDL | LOD | LOQ / CRQL | Units | Prep Date | Date Ana. | Ana Met. |
|-----------|-----------|-------|------|----|-------|-------|------------|-------|-----------|-----------|----------|
| 7429-90-5 | Aluminum | 7100 | | 1 | 0.73 | 2.17 | 4.34 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7440-36-0 | Antimony | 1.085 | U | 1 | 0.49 | 1.085 | 2.17 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7440-38-2 | Arsenic | 10.3 | | 1 | 0.29 | 0.435 | 0.87 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7440-39-3 | Barium | 48.5 | | 1 | 0.35 | 2.17 | 4.34 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7440-41-7 | Beryllium | 0.68 | | 1 | 0.05 | 0.13 | 0.26 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7440-43-9 | Cadmium | 0.2 | J | 1 | 0.05 | 0.13 | 0.26 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7440-70-2 | Calcium | 745 | | 1 | 0.93 | 43.45 | 86.9 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7440-47-3 | Chromium | 16.8 | | 1 | 0.11 | 0.215 | 0.43 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7440-48-4 | Cobalt | 6.86 | | 1 | 0.5 | 0.65 | 1.3 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7440-50-8 | Copper | 22 | | 1 | 0.28 | 0.435 | 0.87 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7439-89-6 | Iron | 18100 | | 1 | 1.16 | 2.17 | 4.34 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7439-92-1 | Lead | 10.7 | | 1 | 0.1 | 0.26 | 0.52 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7439-95-4 | Magnesium | 3230 | | 1 | 3.98 | 43.45 | 86.9 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7439-96-5 | Manganese | 208 | | 1 | 0.17 | 0.435 | 0.87 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7439-97-6 | Mercury | 0.008 | J | 1 | 0.002 | 0.005 | 0.01 | mg/Kg | 08/03/12 | 08/06/12 | SW7471A |
| 7440-02-0 | Nickel | 18.9 | | 1 | 0.4 | 0.87 | 1.74 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7440-09-7 | Potassium | 1070 | | 1 | 3.04 | 43.45 | 86.9 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7782-49-2 | Selenium | 0.435 | U | 1 | 0.36 | 0.435 | 0.87 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7440-22-4 | Silver | 0.215 | U | 1 | 0.13 | 0.215 | 0.43 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7440-23-5 | Sodium | 812 | | 1 | 2.19 | 43.45 | 86.9 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7440-28-0 | Thallium | 0.87 | U | 1 | 0.23 | 0.87 | 1.74 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7440-62-2 | Vanadium | 23.4 | | 1 | 0.51 | 0.87 | 1.74 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7440-66-6 | Zinc | 44.1 | | 1 | 0.61 | 0.87 | 1.74 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |

Color Before: Brown Clarity Before: Texture: Medium
 Color After: Yellow Clarity After: Artifacts: No
 Comments: METALS-TAL

U = Not Detected
 LOQ = Limit of Quantitation
 MDL = Method Detection Limit
 LOD = Limit of Detection
 D = Dilution
 Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
 B = Analyte Found in Associated Method Blank
 * = indicates the duplicate analysis is not within control limits.
 E = Indicates the reported value is estimated because of the presence of interference.
 OR = Over Range
 HAZ. - Spiked sample recovery not within control limits



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Report of Analysis

| | | | | | | |
|--------------------|-------------------------|-----------------|----------|------------------|-------|----|
| Client: | LIRO GROUP LTD. | Date Collected: | 08/02/12 | | | |
| Project: | Travis Area SI Phase II | Date Received: | 08/02/12 | | | |
| Client Sample ID: | SB04-0-25(COMP) | SDG No.: | D3662 | | | |
| Lab Sample ID: | D3662-03 | Matrix: | SOIL | | | |
| Analytical Method: | SW8082A | % Moisture: | 14 | Decanted: | | |
| Sample Wt/Vol: | 30.08 | Units: | g | Final Vol: | 10000 | uL |
| Soil Aliquot Vol: | | | uL | Test: | PCB | |
| Extraction Type: | | | | Injection Volume | 1 | |
| GPC Factor : | 1.0 | PH: | N/A | | | |

| | | | | |
|-------------------|-----------|-----------|---------------|---------------|
| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
| PB002646.D | 1 | 08/03/12 | 08/09/12 | PB64868 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|-------------------|----------------------|-------|-----------|----------|-----|------------|---------|
| TARGETS | | | | | | | |
| 12674-11-2 | Aroclor-1016 | 10 | U | 4 | 10 | 20 | ug/Kg |
| 11104-28-2 | Aroclor-1221 | 10 | U | 3.9 | 10 | 20 | ug/Kg |
| 11141-16-5 | Aroclor-1232 | 10 | U | 8.7 | 10 | 20 | ug/Kg |
| 53469-21-9 | Aroclor-1242 | 10 | U | 3.9 | 10 | 20 | ug/Kg |
| 12672-29-6 | Aroclor-1248 | 10 | U | 7.6 | 10 | 20 | ug/Kg |
| 11097-69-1 | Aroclor-1254 | 10 | U | 1.7 | 10 | 20 | ug/Kg |
| 11096-82-5 | Aroclor-1260 | 37 | | 4.8 | 10 | 20 | ug/Kg |
| SURROGATES | | | | | | | |
| 877-09-8 | Tetrachloro-m-xylene | 16.6 | | 10 - 166 | | 83% | SPK: 20 |
| 2051-24-3 | Decachlorobiphenyl | 15 | | 60 - 125 | | 75% | SPK: 20 |

U = Not Detected
 LOQ = Limit of Quantitation
 MDL = Method Detection Limit
 LOD = Limit of Detection
 E = Value Exceeds Calibration Range
 P = Indicates >25% difference for detected concentrations between the two GC columns
 Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
 B = Analyte Found in Associated Method Blank
 N = Presumptive Evidence of a Compound
 * = Values outside of QC limits
 D = Dilution
 S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.

Report of Analysis

| | | | |
|--------------------|-------------------------|------------------|----------------|
| Client: | LIRO GROUP LTD. | Date Collected: | 08/02/12 |
| Project: | Travis Area SI Phase II | Date Received: | 08/02/12 |
| Client Sample ID: | SB04-0-25(COMP) | SDG No.: | D3662 |
| Lab Sample ID: | D3662-03 | Matrix: | SOIL |
| Analytical Method: | SW8081B | % Moisture: | 14.1 Decanted: |
| Sample Wt/Vol: | 30.08 Units: g | Final Vol: | 10000 uL |
| Soil Aliquot Vol: | uL | Test: | Pesticide-TCL |
| Extraction Type: | | Injection Volume | 1 |
| GPC Factor : | 1.0 PH: N/A | | |

| | | | | |
|-------------------|-----------|-----------|---------------|---------------|
| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
| PO003023.D | 1 | 08/03/12 | 08/08/12 | PB64869 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|-------------------|----------------------|-------|-----------|----------|-----|------------|---------|
| TARGETS | | | | | | | |
| 319-84-6 | alpha-BHC | 1 | U | 0.15 | 1 | 2 | ug/Kg |
| 319-85-7 | beta-BHC | 1 | U | 0.21 | 1 | 2 | ug/Kg |
| 319-86-8 | delta-BHC | 1 | U | 0.12 | 1 | 2 | ug/Kg |
| 58-89-9 | gamma-BHC | 1 | U | 0.17 | 1 | 2 | ug/Kg |
| 76-44-8 | Heptachlor | 1 | U | 0.16 | 1 | 2 | ug/Kg |
| 309-00-2 | Aldrin | 1 | U | 0.12 | 1 | 2 | ug/Kg |
| 1024-57-3 | Heptachlor epoxide | 1 | U | 0.19 | 1 | 2 | ug/Kg |
| 959-98-8 | Endosulfan I | 1 | U | 0.17 | 1 | 2 | ug/Kg |
| 60-57-1 | Dieldrin | 1 | U | 0.15 | 1 | 2 | ug/Kg |
| 72-55-9 | 4,4-DDE | 1 | U | 0.23 | 1 | 2 | ug/Kg |
| 72-20-8 | Endrin | 1 | U | 0.21 | 1 | 2 | ug/Kg |
| 33213-65-9 | Endosulfan II | 1 | U | 0.16 | 1 | 2 | ug/Kg |
| 72-54-8 | 4,4-DDD | 1 | U | 0.2 | 1 | 2 | ug/Kg |
| 1031-07-8 | Endosulfan Sulfate | 1 | U | 0.17 | 1 | 2 | ug/Kg |
| 50-29-3 | 4,4-DDT | 1 | U | 0.16 | 1 | 2 | ug/Kg |
| 72-43-5 | Methoxychlor | 1 | U | 0.2 | 1 | 2 | ug/Kg |
| 53494-70-5 | Endrin ketone | 1 | U | 0.15 | 1 | 2 | ug/Kg |
| 7421-93-4 | Endrin aldehyde | 1 | U | 0.17 | 1 | 2 | ug/Kg |
| 5103-71-9 | alpha-Chlordane | 1 | U | 0.16 | 1 | 2 | ug/Kg |
| 5103-74-2 | gamma-Chlordane | 1 | U | 0.15 | 1 | 2 | ug/Kg |
| 8001-35-2 | Toxaphene | 10 | U | 3.9 | 10 | 20 | ug/Kg |
| SURROGATES | | | | | | | |
| 2051-24-3 | Decachlorobiphenyl | 22.7 | | 10 - 169 | | 114% | SPK: 20 |
| 877-09-8 | Tetrachloro-m-xylene | 21.4 | | 31 - 151 | | 107% | SPK: 20 |



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Report of Analysis

| | | | |
|--------------------|-------------------------|------------------|---------------------|
| Client: | LIRO GROUP LTD. | Date Collected: | 08/02/12 |
| Project: | Travis Area SI Phase II | Date Received: | 08/02/12 |
| Client Sample ID: | SB04-0-25(COMP) | SDG No.: | D3662 |
| Lab Sample ID: | D3662-03 | Matrix: | SOIL |
| Analytical Method: | SW8081B | % Moisture: | 14.1 Decanted: |
| Sample Wt/Vol: | 30.08 Units: g | Final Vol: | 10000 uL |
| Soil Aliquot Vol: | uL | Test: | Pesticide-TCL |
| Extraction Type: | | Injection Volume | 1 |
| GPC Factor : | 1.0 PH: N/A | | |

| | | | | |
|-------------------|-----------|-----------|---------------|---------------|
| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
| PO003023.D | 1 | 08/03/12 | 08/08/12 | PB64869 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|------------|-----------|-------|-----------|-----|-----|------------|-------|
|------------|-----------|-------|-----------|-----|-----|------------|-------|

U = Not Detected
 LOQ = Limit of Quantitation
 MDL = Method Detection Limit
 LOD = Limit of Detection
 E = Value Exceeds Calibration Range
 P = Indicates >25% difference for detected concentrations between the two GC columns
 Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
 B = Analyte Found in Associated Method Blank
 N = Presumptive Evidence of a Compound
 * = Values outside of QC limits
 D = Dilution
 S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.

Report of Analysis

| | | | |
|--------------------|-------------------------|-----------------|--------------|
| Client: | LIRO GROUP LTD. | Date Collected: | 08/02/12 |
| Project: | Travis Area SI Phase II | Date Received: | 08/02/12 |
| Client Sample ID: | SB04-0-25(COMP) | SDG No.: | d3662 |
| Lab Sample ID: | D3662-03 | Matrix: | SOIL |
| Analytical Method: | SW8270D | % Moisture: | 14 |
| Sample Wt/Vol: | 30.1 Units: g | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC-TCL BNA |
| Extraction Type : | SOXH Decanted : N | Level : | LOW |
| Injection Volume : | 1 GPC Factor : 1.0 | GPC Cleanup : | N PH: N/A |

| | | | | |
|-------------------|-----------|-----------|---------------|---------------|
| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
| BG006562.D | 1 | 08/03/12 | 08/08/12 | PB64865 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|----------------|-----------------------------|-------|-----------|-----|-----|------------|-------|
| TARGETS | | | | | | | |
| 100-52-7 | Benzaldehyde | 190 | U | 20 | 190 | 380 | ug/Kg |
| 108-95-2 | Phenol | 190 | U | 8.9 | 190 | 380 | ug/Kg |
| 111-44-4 | bis(2-Chloroethyl)ether | 190 | U | 19 | 190 | 380 | ug/Kg |
| 95-57-8 | 2-Chlorophenol | 190 | U | 20 | 190 | 380 | ug/Kg |
| 95-48-7 | 2-Methylphenol | 190 | U | 21 | 190 | 380 | ug/Kg |
| 108-60-1 | 2,2-oxybis(1-Chloropropane) | 190 | U | 16 | 190 | 380 | ug/Kg |
| 98-86-2 | Acetophenone | 190 | U | 12 | 190 | 380 | ug/Kg |
| 65794-96-9 | 3+4-Methylphenols | 190 | U | 20 | 190 | 380 | ug/Kg |
| 621-64-7 | N-Nitroso-di-n-propylamine | 190 | U | 19 | 190 | 380 | ug/Kg |
| 67-72-1 | Hexachloroethane | 190 | U | 17 | 190 | 380 | ug/Kg |
| 98-95-3 | Nitrobenzene | 190 | U | 15 | 190 | 380 | ug/Kg |
| 78-59-1 | Isophorone | 190 | U | 13 | 190 | 380 | ug/Kg |
| 88-75-5 | 2-Nitrophenol | 190 | U | 19 | 190 | 380 | ug/Kg |
| 105-67-9 | 2,4-Dimethylphenol | 190 | U | 22 | 190 | 380 | ug/Kg |
| 111-91-1 | bis(2-Chloroethoxy)methane | 190 | U | 22 | 190 | 380 | ug/Kg |
| 120-83-2 | 2,4-Dichlorophenol | 190 | U | 15 | 190 | 380 | ug/Kg |
| 91-20-3 | Naphthalene | 190 | U | 13 | 190 | 380 | ug/Kg |
| 106-47-8 | 4-Chloroaniline | 190 | U | 27 | 190 | 380 | ug/Kg |
| 87-68-3 | Hexachlorobutadiene | 190 | U | 14 | 190 | 380 | ug/Kg |
| 105-60-2 | Caprolactam | 190 | U | 18 | 190 | 380 | ug/Kg |
| 59-50-7 | 4-Chloro-3-methylphenol | 190 | U | 17 | 190 | 380 | ug/Kg |
| 91-57-6 | 2-Methylnaphthalene | 190 | U | 9.7 | 190 | 380 | ug/Kg |
| 77-47-4 | Hexachlorocyclopentadiene | 190 | U | 9.4 | 190 | 380 | ug/Kg |
| 88-06-2 | 2,4,6-Trichlorophenol | 190 | U | 12 | 190 | 380 | ug/Kg |
| 95-95-4 | 2,4,5-Trichlorophenol | 190 | U | 27 | 190 | 380 | ug/Kg |
| 92-52-4 | 1,1-Biphenyl | 190 | U | 15 | 190 | 380 | ug/Kg |
| 91-58-7 | 2-Chloronaphthalene | 190 | U | 8.8 | 190 | 380 | ug/Kg |
| 88-74-4 | 2-Nitroaniline | 190 | U | 17 | 190 | 380 | ug/Kg |
| 131-11-3 | Dimethylphthalate | 420 | | 10 | 190 | 380 | ug/Kg |
| 208-96-8 | Acenaphthylene | 190 | U | 9.7 | 190 | 380 | ug/Kg |
| 606-20-2 | 2,6-Dinitrotoluene | 190 | U | 16 | 190 | 380 | ug/Kg |

Report of Analysis

| | | | |
|--------------------|-------------------------|-----------------|--------------|
| Client: | LIRO GROUP LTD. | Date Collected: | 08/02/12 |
| Project: | Travis Area SI Phase II | Date Received: | 08/02/12 |
| Client Sample ID: | SB04-0-25(COMP) | SDG No.: | d3662 |
| Lab Sample ID: | D3662-03 | Matrix: | SOIL |
| Analytical Method: | SW8270D | % Moisture: | 14 |
| Sample Wt/Vol: | 30.1 Units: g | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC-TCL BNA |
| Extraction Type : | SOXH | Decanted : | N |
| Injection Volume : | 1 | Level : | LOW |
| | GPC Factor : 1.0 | GPC Cleanup : | N PH : N/A |

| | | | | |
|-------------------|-----------|-----------|---------------|---------------|
| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
| BG006562.D | 1 | 08/03/12 | 08/08/12 | PB64865 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|------------|----------------------------|-------|-----------|-----|-----|------------|-------|
| 99-09-2 | 3-Nitroaniline | 190 | U | 25 | 190 | 380 | ug/Kg |
| 83-32-9 | Acenaphthene | 190 | U | 11 | 190 | 380 | ug/Kg |
| 51-28-5 | 2,4-Dinitrophenol | 190 | U | 39 | 190 | 380 | ug/Kg |
| 100-02-7 | 4-Nitrophenol | 190 | U | 72 | 190 | 380 | ug/Kg |
| 132-64-9 | Dibenzofuran | 190 | U | 15 | 190 | 380 | ug/Kg |
| 121-14-2 | 2,4-Dinitrotoluene | 190 | U | 12 | 190 | 380 | ug/Kg |
| 84-66-2 | Diethylphthalate | 190 | U | 6 | 190 | 380 | ug/Kg |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 190 | U | 21 | 190 | 380 | ug/Kg |
| 86-73-7 | Fluorene | 190 | U | 15 | 190 | 380 | ug/Kg |
| 100-01-6 | 4-Nitroaniline | 190 | U | 50 | 190 | 380 | ug/Kg |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | 190 | U | 22 | 190 | 380 | ug/Kg |
| 86-30-6 | N-Nitrosodiphenylamine | 190 | U | 9.3 | 190 | 380 | ug/Kg |
| 101-55-3 | 4-Bromophenyl-phenylether | 190 | U | 7.5 | 190 | 380 | ug/Kg |
| 118-74-1 | Hexachlorobenzene | 190 | U | 16 | 190 | 380 | ug/Kg |
| 1912-24-9 | Atrazine | 190 | U | 20 | 190 | 380 | ug/Kg |
| 87-86-5 | Pentachlorophenol | 190 | U | 26 | 190 | 380 | ug/Kg |
| 85-01-8 | Phenanthrene | 190 | U | 10 | 190 | 380 | ug/Kg |
| 120-12-7 | Anthracene | 190 | U | 7.9 | 190 | 380 | ug/Kg |
| 86-74-8 | Carbazole | 190 | U | 8.5 | 190 | 380 | ug/Kg |
| 84-74-2 | Di-n-butylphthalate | 190 | U | 30 | 190 | 380 | ug/Kg |
| 206-44-0 | Fluoranthene | 190 | U | 7.8 | 190 | 380 | ug/Kg |
| 129-00-0 | Pyrene | 190 | U | 9.3 | 190 | 380 | ug/Kg |
| 85-68-7 | Butylbenzylphthalate | 190 | U | 19 | 190 | 380 | ug/Kg |
| 91-94-1 | 3,3-Dichlorobenzidine | 190 | U | 25 | 190 | 380 | ug/Kg |
| 56-55-3 | Benzo(a)anthracene | 190 | U | 18 | 190 | 380 | ug/Kg |
| 218-01-9 | Chrysene | 190 | U | 17 | 190 | 380 | ug/Kg |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | 190 | U | 14 | 190 | 380 | ug/Kg |
| 117-84-0 | Di-n-octyl phthalate | 190 | U | 4.4 | 190 | 380 | ug/Kg |
| 205-99-2 | Benzo(b)fluoranthene | 190 | U | 13 | 190 | 380 | ug/Kg |
| 207-08-9 | Benzo(k)fluoranthene | 190 | U | 18 | 190 | 380 | ug/Kg |
| 50-32-8 | Benzo(a)pyrene | 190 | U | 8.3 | 190 | 380 | ug/Kg |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 190 | U | 13 | 190 | 380 | ug/Kg |
| 53-70-3 | Dibenz(a,h)anthracene | 190 | U | 11 | 190 | 380 | ug/Kg |

Report of Analysis

| | | | | | |
|--------------------|-------------------------|--------------|-----------------|---------------|-----------|
| Client: | LIRO GROUP LTD. | | Date Collected: | 08/02/12 | |
| Project: | Travis Area SI Phase II | | Date Received: | 08/02/12 | |
| Client Sample ID: | SB04-0-25(COMP) | | SDG No.: | d3662 | |
| Lab Sample ID: | D3662-03 | | Matrix: | SOIL | |
| Analytical Method: | SW8270D | | % Moisture: | 14 | |
| Sample Wt/Vol: | 30.1 | Units: g | Final Vol: | 1000 | uL |
| Soil Aliquot Vol: | | uL | Test: | SVOC-TCL BNA | |
| Extraction Type : | SOXH | Decanted : | N | Level : | LOW |
| Injection Volume : | 1 | GPC Factor : | 1.0 | GPC Cleanup : | N PH: N/A |

| | | | | |
|-------------------|-----------|-----------|---------------|---------------|
| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
| BG006562.D | 1 | 08/03/12 | 08/08/12 | PB64865 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---------------------------|----------------------------|--------|-----------|----------|-----|------------|----------|
| 191-24-2 | Benzo(g,h,i)perylene | 190 | U | 16 | 190 | 380 | ug/Kg |
| 95-94-3 | 1,2,4,5-Tetrachlorobenzene | 190 | U | 15 | 190 | 380 | ug/Kg |
| 58-90-2 | 2,3,4,6-Tetrachlorophenol | 190 | U | 15 | 190 | 380 | ug/Kg |
| SURROGATES | | | | | | | |
| 367-12-4 | 2-Fluorophenol | 125 | | 28 - 127 | | 83% | SPK: 150 |
| 13127-88-3 | Phenol-d5 | 130 | | 34 - 127 | | 87% | SPK: 150 |
| 4165-60-0 | Nitrobenzene-d5 | 88 | | 31 - 132 | | 88% | SPK: 100 |
| 321-60-8 | 2-Fluorobiphenyl | 80.8 | | 39 - 123 | | 81% | SPK: 100 |
| 118-79-6 | 2,4,6-Tribromophenol | 112 | | 30 - 133 | | 75% | SPK: 150 |
| 1718-51-0 | Terphenyl-d14 | 84.4 | | 37 - 115 | | 84% | SPK: 100 |
| INTERNAL STANDARDS | | | | | | | |
| 3855-82-1 | 1,4-Dichlorobenzene-d4 | 104920 | | 8.72 | | | |
| 1146-65-2 | Naphthalene-d8 | 372201 | | 10.91 | | | |
| 15067-26-2 | Acenaphthene-d10 | 269583 | | 13.91 | | | |
| 1517-22-2 | Phenanthrene-d10 | 502596 | | 16.4 | | | |
| 1719-03-5 | Chrysene-d12 | 547602 | | 20.92 | | | |
| 1520-96-3 | Perylene-d12 | 523631 | | 24.84 | | | |

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

E = Value Exceeds Calibration Range

Q = indicates LCS control criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

* = Values outside of QC limits

D = Dilution

Report of Analysis

| | | | |
|--------------------|-------------------------|-----------------|----------|
| Client: | LIRO GROUP LTD. | Date Collected: | 08/02/12 |
| Project: | Travis Area SI Phase II | Date Received: | 08/02/12 |
| Client Sample ID: | SB04-14-14.5 | SDG No.: | d3662 |
| Lab Sample ID: | D3662-04 | Matrix: | SOIL |
| Analytical Method: | SW8260C | % Moisture: | 13 |
| Sample Wt/Vol: | 5.03 Units: g | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC-TCL |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| | | | | |
|-------------------|-----------|-----------|---------------|---------------|
| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
| VT004366.D | 1 | | 08/06/12 | VT080612 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|----------------|--------------------------------|-------|-----------|------|------|------------|-------|
| TARGETS | | | | | | | |
| 75-71-8 | Dichlorodifluoromethane | 2.85 | U | 0.74 | 2.85 | 5.7 | ug/Kg |
| 74-87-3 | Chloromethane | 2.85 | U | 0.98 | 2.85 | 5.7 | ug/Kg |
| 75-01-4 | Vinyl Chloride | 2.85 | U | 1.4 | 2.85 | 5.7 | ug/Kg |
| 74-83-9 | Bromomethane | 2.85 | U | 2.8 | 2.85 | 5.7 | ug/Kg |
| 75-00-3 | Chloroethane | 2.85 | U | 1.6 | 2.85 | 5.7 | ug/Kg |
| 75-69-4 | Trichlorofluoromethane | 2.85 | U | 1.5 | 2.85 | 5.7 | ug/Kg |
| 76-13-1 | 1,1,2-Trichlorotrifluoroethane | 2.85 | U | 1.5 | 2.85 | 5.7 | ug/Kg |
| 75-35-4 | 1,1-Dichloroethene | 2.85 | U | 1.7 | 2.85 | 5.7 | ug/Kg |
| 67-64-1 | Acetone | 6.3 | J | 3.5 | 14.5 | 29 | ug/Kg |
| 75-15-0 | Carbon Disulfide | 2.85 | U | 1.2 | 2.85 | 5.7 | ug/Kg |
| 1634-04-4 | Methyl tert-butyl Ether | 2.85 | U | 1.1 | 2.85 | 5.7 | ug/Kg |
| 79-20-9 | Methyl Acetate | 2.85 | U | 1.7 | 2.85 | 5.7 | ug/Kg |
| 75-09-2 | Methylene Chloride | 1.8 | J | 1.6 | 2.85 | 5.7 | ug/Kg |
| 156-60-5 | trans-1,2-Dichloroethene | 2.85 | U | 0.79 | 2.85 | 5.7 | ug/Kg |
| 75-34-3 | 1,1-Dichloroethane | 2.85 | U | 1.1 | 2.85 | 5.7 | ug/Kg |
| 110-82-7 | Cyclohexane | 2.85 | U | 1.2 | 2.85 | 5.7 | ug/Kg |
| 78-93-3 | 2-Butanone | 4.7 | J | 3.6 | 14.5 | 29 | ug/Kg |
| 56-23-5 | Carbon Tetrachloride | 2.85 | U | 1.1 | 2.85 | 5.7 | ug/Kg |
| 156-59-2 | cis-1,2-Dichloroethene | 2.85 | U | 1 | 2.85 | 5.7 | ug/Kg |
| 74-97-5 | Bromochloromethane | 2.85 | U | 0.9 | 2.85 | 5.7 | ug/Kg |
| 67-66-3 | Chloroform | 2.85 | U | 0.85 | 2.85 | 5.7 | ug/Kg |
| 71-55-6 | 1,1,1-Trichloroethane | 2.85 | U | 1 | 2.85 | 5.7 | ug/Kg |
| 108-87-2 | Methylcyclohexane | 2.85 | U | 1.2 | 2.85 | 5.7 | ug/Kg |
| 71-43-2 | Benzene | 2.85 | U | 0.43 | 2.85 | 5.7 | ug/Kg |
| 107-06-2 | 1,2-Dichloroethane | 2.85 | U | 0.73 | 2.85 | 5.7 | ug/Kg |
| 79-01-6 | Trichloroethene | 2.85 | U | 0.98 | 2.85 | 5.7 | ug/Kg |
| 78-87-5 | 1,2-Dichloropropane | 2.85 | U | 0.3 | 2.85 | 5.7 | ug/Kg |
| 75-27-4 | Bromodichloromethane | 2.85 | U | 0.71 | 2.85 | 5.7 | ug/Kg |
| 108-10-1 | 4-Methyl-2-Pentanone | 14.5 | U | 3.3 | 14.5 | 29 | ug/Kg |
| 108-88-3 | Toluene | 2.85 | U | 0.73 | 2.85 | 5.7 | ug/Kg |
| 10061-02-6 | t-1,3-Dichloropropene | 2.85 | U | 0.9 | 2.85 | 5.7 | ug/Kg |

Report of Analysis

| | | | |
|--------------------|-------------------------|-----------------|----------|
| Client: | LIRO GROUP LTD. | Date Collected: | 08/02/12 |
| Project: | Travis Area SI Phase II | Date Received: | 08/02/12 |
| Client Sample ID: | SB04-14-14.5 | SDG No.: | d3662 |
| Lab Sample ID: | D3662-04 | Matrix: | SOIL |
| Analytical Method: | SW8260C | % Moisture: | 13 |
| Sample Wt/Vol: | 5.03 Units: g | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC-TCL |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| | | | | |
|-------------------|-----------|-----------|---------------|---------------|
| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
| VT004366.D | 1 | | 08/06/12 | VT080612 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---------------------------|-----------------------------|---------|-----------|----------|------|------------|---------|
| 10061-01-5 | cis-1,3-Dichloropropene | 2.85 | U | 0.82 | 2.85 | 5.7 | ug/Kg |
| 79-00-5 | 1,1,2-Trichloroethane | 2.85 | U | 1 | 2.85 | 5.7 | ug/Kg |
| 591-78-6 | 2-Hexanone | 14.5 | U | 4.5 | 14.5 | 29 | ug/Kg |
| 124-48-1 | Dibromochloromethane | 2.85 | U | 0.62 | 2.85 | 5.7 | ug/Kg |
| 106-93-4 | 1,2-Dibromoethane | 2.85 | U | 0.73 | 2.85 | 5.7 | ug/Kg |
| 127-18-4 | Tetrachloroethene | 2.85 | U | 1.2 | 2.85 | 5.7 | ug/Kg |
| 108-90-7 | Chlorobenzene | 2.85 | U | 0.57 | 2.85 | 5.7 | ug/Kg |
| 100-41-4 | Ethyl Benzene | 2.85 | U | 0.71 | 2.85 | 5.7 | ug/Kg |
| 179601-23-1 | m/p-Xylenes | 5.5 | U | 0.82 | 5.5 | 11 | ug/Kg |
| 95-47-6 | o-Xylene | 2.85 | U | 0.78 | 2.85 | 5.7 | ug/Kg |
| 100-42-5 | Styrene | 2.85 | U | 0.51 | 2.85 | 5.7 | ug/Kg |
| 75-25-2 | Bromoform | 2.85 | U | 0.85 | 2.85 | 5.7 | ug/Kg |
| 98-82-8 | Isopropylbenzene | 2.85 | U | 0.55 | 2.85 | 5.7 | ug/Kg |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 2.85 | U | 0.53 | 2.85 | 5.7 | ug/Kg |
| 541-73-1 | 1,3-Dichlorobenzene | 2.85 | U | 0.42 | 2.85 | 5.7 | ug/Kg |
| 106-46-7 | 1,4-Dichlorobenzene | 2.85 | U | 0.47 | 2.85 | 5.7 | ug/Kg |
| 95-50-1 | 1,2-Dichlorobenzene | 2.85 | U | 0.71 | 2.85 | 5.7 | ug/Kg |
| 96-12-8 | 1,2-Dibromo-3-Chloropropane | 2.85 | U | 0.99 | 2.85 | 5.7 | ug/Kg |
| 120-82-1 | 1,2,4-Trichlorobenzene | 2.85 | U | 0.8 | 2.85 | 5.7 | ug/Kg |
| 87-61-6 | 1,2,3-Trichlorobenzene | 2.85 | U | 0.57 | 2.85 | 5.7 | ug/Kg |
| 123-91-1 | 1,4-Dioxane | 55 | U | 57 | 55 | 110 | ug/Kg |
| SURROGATES | | | | | | | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 55.8 | | 56 - 120 | | 112% | SPK: 50 |
| 1868-53-7 | Dibromofluoromethane | 49.2 | | 57 - 135 | | 98% | SPK: 50 |
| 2037-26-5 | Toluene-d8 | 49 | | 67 - 123 | | 98% | SPK: 50 |
| 460-00-4 | 4-Bromofluorobenzene | 50.9 | | 33 - 141 | | 102% | SPK: 50 |
| INTERNAL STANDARDS | | | | | | | |
| 363-72-4 | Pentafluorobenzene | 1790770 | 7.43 | | | | |
| 540-36-3 | 1,4-Difluorobenzene | 2385370 | 8.38 | | | | |
| 3114-55-4 | Chlorobenzene-d5 | 2040200 | 11.22 | | | | |
| 3855-82-1 | 1,4-Dichlorobenzene-d4 | 1147130 | 13.16 | | | | |

Report of Analysis

| | | | |
|--------------------|-------------------------|-----------------|----------|
| Client: | LIRO GROUP LTD. | Date Collected: | 08/02/12 |
| Project: | Travis Area SI Phase II | Date Received: | 08/02/12 |
| Client Sample ID: | SB04-14-14.5 | SDG No.: | d3662 |
| Lab Sample ID: | D3662-04 | Matrix: | SOIL |
| Analytical Method: | SW8260C | % Moisture: | 13 |
| Sample Wt/Vol: | 5.03 Units: g | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC-TCL |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| | | | | |
|-------------------|-----------|-----------|---------------|---------------|
| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
| VT004366.D | 1 | | 08/06/12 | VT080612 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|------------|-----------|-------|-----------|-----|-----|------------|-------|
|------------|-----------|-------|-----------|-----|-----|------------|-------|

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

E = Value Exceeds Calibration Range

Q = indicates LCS control criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

* = Values outside of QC limits

D = Dilution

Report of Analysis

| | | | |
|--------------------|-------------------------|-----------------|----------|
| Client: | LIRO GROUP LTD. | Date Collected: | 08/02/12 |
| Project: | Travis Area SI Phase II | Date Received: | 08/02/12 |
| Client Sample ID: | SB03-14.5-15 | SDG No.: | d3662 |
| Lab Sample ID: | D3662-05 | Matrix: | SOIL |
| Analytical Method: | SW8260C | % Moisture: | 14 |
| Sample Wt/Vol: | 5.02 Units: g | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC-TCL |
| GC Column: | RTX-VMS ID : 0.18 | Level : | LOW |

| | | | | |
|-------------------|-----------|-----------|---------------|---------------|
| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
| VF034701.D | 1 | | 08/07/12 | VF080712 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|----------------|--------------------------------|-------|-----------|------|------|------------|-------|
| TARGETS | | | | | | | |
| 75-71-8 | Dichlorodifluoromethane | 2.9 | U | 0.75 | 2.9 | 5.8 | ug/Kg |
| 74-87-3 | Chloromethane | 2.9 | U | 1 | 2.9 | 5.8 | ug/Kg |
| 75-01-4 | Vinyl Chloride | 2.9 | U | 1.4 | 2.9 | 5.8 | ug/Kg |
| 74-83-9 | Bromomethane | 2.9 | U | 2.8 | 2.9 | 5.8 | ug/Kg |
| 75-00-3 | Chloroethane | 2.9 | U | 1.6 | 2.9 | 5.8 | ug/Kg |
| 75-69-4 | Trichlorofluoromethane | 2.9 | U | 1.5 | 2.9 | 5.8 | ug/Kg |
| 76-13-1 | 1,1,2-Trichlorotrifluoroethane | 2.9 | U | 1.5 | 2.9 | 5.8 | ug/Kg |
| 75-35-4 | 1,1-Dichloroethene | 2.9 | U | 1.7 | 2.9 | 5.8 | ug/Kg |
| 67-64-1 | Acetone | 14.5 | U | 3.5 | 14.5 | 29 | ug/Kg |
| 75-15-0 | Carbon Disulfide | 2.9 | U | 1.2 | 2.9 | 5.8 | ug/Kg |
| 1634-04-4 | Methyl tert-butyl Ether | 2.9 | U | 1.1 | 2.9 | 5.8 | ug/Kg |
| 79-20-9 | Methyl Acetate | 2.9 | U | 1.7 | 2.9 | 5.8 | ug/Kg |
| 75-09-2 | Methylene Chloride | 2.9 | U | 1.6 | 2.9 | 5.8 | ug/Kg |
| 156-60-5 | trans-1,2-Dichloroethene | 2.9 | U | 0.8 | 2.9 | 5.8 | ug/Kg |
| 75-34-3 | 1,1-Dichloroethane | 2.9 | U | 1.1 | 2.9 | 5.8 | ug/Kg |
| 110-82-7 | Cyclohexane | 54 | | 1.2 | 2.9 | 5.8 | ug/Kg |
| 78-93-3 | 2-Butanone | 14.5 | U | 3.6 | 14.5 | 29 | ug/Kg |
| 56-23-5 | Carbon Tetrachloride | 2.9 | U | 1.1 | 2.9 | 5.8 | ug/Kg |
| 156-59-2 | cis-1,2-Dichloroethene | 2.9 | U | 1 | 2.9 | 5.8 | ug/Kg |
| 74-97-5 | Bromochloromethane | 2.9 | U | 0.91 | 2.9 | 5.8 | ug/Kg |
| 67-66-3 | Chloroform | 2.9 | U | 0.86 | 2.9 | 5.8 | ug/Kg |
| 71-55-6 | 1,1,1-Trichloroethane | 2.9 | U | 1 | 2.9 | 5.8 | ug/Kg |
| 108-87-2 | Methylcyclohexane | 290 | E | 1.2 | 2.9 | 5.8 | ug/Kg |
| 71-43-2 | Benzene | 2.9 | U | 0.44 | 2.9 | 5.8 | ug/Kg |
| 107-06-2 | 1,2-Dichloroethane | 2.9 | U | 0.74 | 2.9 | 5.8 | ug/Kg |
| 79-01-6 | Trichloroethene | 2.9 | U | 1 | 2.9 | 5.8 | ug/Kg |
| 78-87-5 | 1,2-Dichloropropane | 2.9 | U | 0.3 | 2.9 | 5.8 | ug/Kg |
| 75-27-4 | Bromodichloromethane | 2.9 | U | 0.72 | 2.9 | 5.8 | ug/Kg |
| 108-10-1 | 4-Methyl-2-Pentanone | 14.5 | U | 3.4 | 14.5 | 29 | ug/Kg |
| 108-88-3 | Toluene | 2.9 | U | 0.74 | 2.9 | 5.8 | ug/Kg |
| 10061-02-6 | t-1,3-Dichloropropene | 2.9 | U | 0.91 | 2.9 | 5.8 | ug/Kg |

Report of Analysis

| | | | |
|--------------------|-------------------------|-----------------|--------------|
| Client: | LIRO GROUP LTD. | Date Collected: | 08/02/12 |
| Project: | Travis Area SI Phase II | Date Received: | 08/02/12 |
| Client Sample ID: | SB03-14.5-15 | SDG No.: | d3662 |
| Lab Sample ID: | D3662-05 | Matrix: | SOIL |
| Analytical Method: | SW8260C | % Moisture: | 14 |
| Sample Wt/Vol: | 5.02 Units: g | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC-TCL |
| GC Column: | RTX-VMS ID : 0.18 | Level : | LOW |

| | | | | |
|-------------------|-----------|-----------|---------------|---------------|
| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
| VF034701.D | 1 | | 08/07/12 | VF080712 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---------------------------|-----------------------------|--------|-----------|----------|------|------------|---------|
| 10061-01-5 | cis-1,3-Dichloropropene | 2.9 | U | 0.83 | 2.9 | 5.8 | ug/Kg |
| 79-00-5 | 1,1,2-Trichloroethane | 2.9 | U | 1 | 2.9 | 5.8 | ug/Kg |
| 591-78-6 | 2-Hexanone | 14.5 | U | 4.5 | 14.5 | 29 | ug/Kg |
| 124-48-1 | Dibromochloromethane | 2.9 | U | 0.63 | 2.9 | 5.8 | ug/Kg |
| 106-93-4 | 1,2-Dibromoethane | 2.9 | U | 0.74 | 2.9 | 5.8 | ug/Kg |
| 127-18-4 | Tetrachloroethene | 2.9 | U | 1.2 | 2.9 | 5.8 | ug/Kg |
| 108-90-7 | Chlorobenzene | 2.9 | U | 0.58 | 2.9 | 5.8 | ug/Kg |
| 100-41-4 | Ethyl Benzene | 2.9 | U | 0.72 | 2.9 | 5.8 | ug/Kg |
| 179601-23-1 | m/p-Xylenes | 6 | U | 0.83 | 6 | 12 | ug/Kg |
| 95-47-6 | o-Xylene | 2.9 | U | 0.79 | 2.9 | 5.8 | ug/Kg |
| 100-42-5 | Styrene | 2.9 | U | 0.52 | 2.9 | 5.8 | ug/Kg |
| 75-25-2 | Bromoform | 2.9 | U | 0.86 | 2.9 | 5.8 | ug/Kg |
| 98-82-8 | Isopropylbenzene | 2.9 | U | 0.56 | 2.9 | 5.8 | ug/Kg |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 2.9 | U | 0.53 | 2.9 | 5.8 | ug/Kg |
| 541-73-1 | 1,3-Dichlorobenzene | 2.9 | U | 0.43 | 2.9 | 5.8 | ug/Kg |
| 106-46-7 | 1,4-Dichlorobenzene | 2.9 | U | 0.47 | 2.9 | 5.8 | ug/Kg |
| 95-50-1 | 1,2-Dichlorobenzene | 2.9 | U | 0.72 | 2.9 | 5.8 | ug/Kg |
| 96-12-8 | 1,2-Dibromo-3-Chloropropane | 2.9 | U | 1 | 2.9 | 5.8 | ug/Kg |
| 120-82-1 | 1,2,4-Trichlorobenzene | 2.9 | U | 0.81 | 2.9 | 5.8 | ug/Kg |
| 87-61-6 | 1,2,3-Trichlorobenzene | 2.9 | U | 0.58 | 2.9 | 5.8 | ug/Kg |
| 123-91-1 | 1,4-Dioxane | 60 | U | 58 | 60 | 120 | ug/Kg |
| SURROGATES | | | | | | | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 50.2 | | 56 - 120 | | 100% | SPK: 50 |
| 1868-53-7 | Dibromofluoromethane | 48.3 | | 57 - 135 | | 97% | SPK: 50 |
| 2037-26-5 | Toluene-d8 | 51 | | 67 - 123 | | 102% | SPK: 50 |
| 460-00-4 | 4-Bromofluorobenzene | 58.3 | | 33 - 141 | | 117% | SPK: 50 |
| INTERNAL STANDARDS | | | | | | | |
| 363-72-4 | Pentafluorobenzene | 231992 | 4.4 | | | | |
| 540-36-3 | 1,4-Difluorobenzene | 464833 | 5.14 | | | | |
| 3114-55-4 | Chlorobenzene-d5 | 444238 | 9.34 | | | | |
| 3855-82-1 | 1,4-Dichlorobenzene-d4 | 224035 | 12.24 | | | | |

Report of Analysis

| | | | |
|--------------------|-------------------------|-----------------|----------|
| Client: | LIRO GROUP LTD. | Date Collected: | 08/02/12 |
| Project: | Travis Area SI Phase II | Date Received: | 08/02/12 |
| Client Sample ID: | SB03-14.5-15 | SDG No.: | d3662 |
| Lab Sample ID: | D3662-05 | Matrix: | SOIL |
| Analytical Method: | SW8260C | % Moisture: | 14 |
| Sample Wt/Vol: | 5.02 Units: g | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC-TCL |
| GC Column: | RTX-VMS ID: 0.18 | Level: | LOW |

| | | | | |
|-------------------|-----------|-----------|---------------|---------------|
| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
| VF034701.D | 1 | | 08/07/12 | VF080712 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|------------|-----------|-------|-----------|-----|-----|------------|-------|
|------------|-----------|-------|-----------|-----|-----|------------|-------|

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

E = Value Exceeds Calibration Range

Q = indicates LCS control criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

* = Values outside of QC limits

D = Dilution

Report of Analysis

| | | | |
|--------------------|-------------------------|-----------------|----------|
| Client: | LIRO GROUP LTD. | Date Collected: | 08/02/12 |
| Project: | Travis Area SI Phase II | Date Received: | 08/02/12 |
| Client Sample ID: | SB03-14.5-15DL | SDG No.: | d3662 |
| Lab Sample ID: | D3662-05DL | Matrix: | SOIL |
| Analytical Method: | SW8260C | % Moisture: | 14 |
| Sample Wt/Vol: | 5 Units: g | Final Vol: | 10000 uL |
| Soil Aliquot Vol: | 100 uL | Test: | VOC-TCL |
| GC Column: | RTX-VMS ID : 0.18 | Level : | MED |

| | | | | |
|-------------------|-----------|-----------|---------------|---------------|
| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
| VH048782.D | 1 | | 08/09/12 | VH080912 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|----------------|--------------------------------|-------|-----------|-----|------|------------|-------|
| TARGETS | | | | | | | |
| 75-71-8 | Dichlorodifluoromethane | 290 | U | 64 | 290 | 580 | ug/Kg |
| 74-87-3 | Chloromethane | 290 | U | 63 | 290 | 580 | ug/Kg |
| 75-01-4 | Vinyl Chloride | 290 | U | 40 | 290 | 580 | ug/Kg |
| 74-83-9 | Bromomethane | 290 | U | 72 | 290 | 580 | ug/Kg |
| 75-00-3 | Chloroethane | 290 | U | 77 | 290 | 580 | ug/Kg |
| 75-69-4 | Trichlorofluoromethane | 290 | U | 41 | 290 | 580 | ug/Kg |
| 76-13-1 | 1,1,2-Trichlorotrifluoroethane | 290 | U | 52 | 290 | 580 | ug/Kg |
| 75-35-4 | 1,1-Dichloroethene | 290 | U | 55 | 290 | 580 | ug/Kg |
| 67-64-1 | Acetone | 1450 | U | 350 | 1450 | 2900 | ug/Kg |
| 75-15-0 | Carbon Disulfide | 290 | U | 63 | 290 | 580 | ug/Kg |
| 1634-04-4 | Methyl tert-butyl Ether | 290 | U | 41 | 290 | 580 | ug/Kg |
| 79-20-9 | Methyl Acetate | 290 | U | 97 | 290 | 580 | ug/Kg |
| 75-09-2 | Methylene Chloride | 290 | U | 48 | 290 | 580 | ug/Kg |
| 156-60-5 | trans-1,2-Dichloroethene | 290 | U | 48 | 290 | 580 | ug/Kg |
| 75-34-3 | 1,1-Dichloroethane | 290 | U | 42 | 290 | 580 | ug/Kg |
| 110-82-7 | Cyclohexane | 290 | U | 64 | 290 | 580 | ug/Kg |
| 78-93-3 | 2-Butanone | 1450 | U | 150 | 1450 | 2900 | ug/Kg |
| 56-23-5 | Carbon Tetrachloride | 290 | U | 72 | 290 | 580 | ug/Kg |
| 156-59-2 | cis-1,2-Dichloroethene | 290 | U | 41 | 290 | 580 | ug/Kg |
| 74-97-5 | Bromochloromethane | 290 | U | 260 | 290 | 580 | ug/Kg |
| 67-66-3 | Chloroform | 290 | U | 40 | 290 | 580 | ug/Kg |
| 71-55-6 | 1,1,1-Trichloroethane | 290 | U | 47 | 290 | 580 | ug/Kg |
| 108-87-2 | Methylcyclohexane | 290 | U | 79 | 290 | 580 | ug/Kg |
| 71-43-2 | Benzene | 290 | U | 37 | 290 | 580 | ug/Kg |
| 107-06-2 | 1,2-Dichloroethane | 290 | U | 56 | 290 | 580 | ug/Kg |
| 79-01-6 | Trichloroethene | 290 | U | 33 | 290 | 580 | ug/Kg |
| 78-87-5 | 1,2-Dichloropropane | 290 | U | 53 | 290 | 580 | ug/Kg |
| 75-27-4 | Bromodichloromethane | 290 | U | 42 | 290 | 580 | ug/Kg |
| 108-10-1 | 4-Methyl-2-Pentanone | 1450 | U | 240 | 1450 | 2900 | ug/Kg |
| 108-88-3 | Toluene | 290 | U | 43 | 290 | 580 | ug/Kg |
| 10061-02-6 | t-1,3-Dichloropropene | 290 | U | 34 | 290 | 580 | ug/Kg |

Report of Analysis

| | | | |
|--------------------|-------------------------|-----------------|----------|
| Client: | LIRO GROUP LTD. | Date Collected: | 08/02/12 |
| Project: | Travis Area SI Phase II | Date Received: | 08/02/12 |
| Client Sample ID: | SB03-14.5-15DL | SDG No.: | d3662 |
| Lab Sample ID: | D3662-05DL | Matrix: | SOIL |
| Analytical Method: | SW8260C | % Moisture: | 14 |
| Sample Wt/Vol: | 5 Units: g | Final Vol: | 10000 uL |
| Soil Aliquot Vol: | 100 uL | Test: | VOC-TCL |
| GC Column: | RTX-VMS ID : 0.18 | Level : | MED |

| | | | | |
|-------------------|-----------|-----------|---------------|---------------|
| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
| VH048782.D | 1 | | 08/09/12 | VH080912 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---------------------------|-----------------------------|--------|-----------|----------|------|------------|---------|
| 10061-01-5 | cis-1,3-Dichloropropene | 290 | U | 36 | 290 | 580 | ug/Kg |
| 79-00-5 | 1,1,2-Trichloroethane | 290 | U | 44 | 290 | 580 | ug/Kg |
| 591-78-6 | 2-Hexanone | 1450 | U | 230 | 1450 | 2900 | ug/Kg |
| 124-48-1 | Dibromochloromethane | 290 | U | 60 | 290 | 580 | ug/Kg |
| 106-93-4 | 1,2-Dibromoethane | 290 | U | 48 | 290 | 580 | ug/Kg |
| 127-18-4 | Tetrachloroethene | 290 | U | 31 | 290 | 580 | ug/Kg |
| 108-90-7 | Chlorobenzene | 290 | U | 57 | 290 | 580 | ug/Kg |
| 100-41-4 | Ethyl Benzene | 290 | U | 62 | 290 | 580 | ug/Kg |
| 179601-23-1 | m/p-Xylenes | 600 | U | 110 | 600 | 1200 | ug/Kg |
| 95-47-6 | o-Xylene | 290 | U | 50 | 290 | 580 | ug/Kg |
| 100-42-5 | Styrene | 290 | U | 42 | 290 | 580 | ug/Kg |
| 75-25-2 | Bromoform | 290 | U | 55 | 290 | 580 | ug/Kg |
| 98-82-8 | Isopropylbenzene | 290 | U | 52 | 290 | 580 | ug/Kg |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 290 | U | 36 | 290 | 580 | ug/Kg |
| 541-73-1 | 1,3-Dichlorobenzene | 290 | U | 50 | 290 | 580 | ug/Kg |
| 106-46-7 | 1,4-Dichlorobenzene | 290 | U | 37 | 290 | 580 | ug/Kg |
| 95-50-1 | 1,2-Dichlorobenzene | 290 | U | 52 | 290 | 580 | ug/Kg |
| 96-12-8 | 1,2-Dibromo-3-Chloropropane | 290 | U | 53 | 290 | 580 | ug/Kg |
| 120-82-1 | 1,2,4-Trichlorobenzene | 290 | U | 72 | 290 | 580 | ug/Kg |
| 87-61-6 | 1,2,3-Trichlorobenzene | 290 | U | 76 | 290 | 580 | ug/Kg |
| 123-91-1 | 1,4-Dioxane | 6000 | U | 5800 | 6000 | 12000 | ug/Kg |
| SURROGATES | | | | | | | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 54.8 | | 56 - 120 | | 110% | SPK: 50 |
| 1868-53-7 | Dibromofluoromethane | 49.4 | | 57 - 135 | | 99% | SPK: 50 |
| 2037-26-5 | Toluene-d8 | 52.9 | | 67 - 123 | | 106% | SPK: 50 |
| 460-00-4 | 4-Bromofluorobenzene | 59.9 | | 33 - 141 | | 120% | SPK: 50 |
| INTERNAL STANDARDS | | | | | | | |
| 363-72-4 | Pentafluorobenzene | 287813 | 4.95 | | | | |
| 540-36-3 | 1,4-Difluorobenzene | 495106 | 5.67 | | | | |
| 3114-55-4 | Chlorobenzene-d5 | 527319 | 9.78 | | | | |
| 3855-82-1 | 1,4-Dichlorobenzene-d4 | 319615 | 12.52 | | | | |

Report of Analysis

| | | | |
|--------------------|-------------------------|-----------------|----------|
| Client: | LIRO GROUP LTD. | Date Collected: | 08/02/12 |
| Project: | Travis Area SI Phase II | Date Received: | 08/02/12 |
| Client Sample ID: | SB03-14.5-15DL | SDG No.: | d3662 |
| Lab Sample ID: | D3662-05DL | Matrix: | SOIL |
| Analytical Method: | SW8260C | % Moisture: | 14 |
| Sample Wt/Vol: | 5 Units: g | Final Vol: | 10000 uL |
| Soil Aliquot Vol: | 100 uL | Test: | VOC-TCL |
| GC Column: | RTX-VMS ID: 0.18 | Level: | MED |

| | | | | |
|-------------------|-----------|-----------|---------------|---------------|
| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
| VH048782.D | 1 | | 08/09/12 | VH080912 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|------------|-----------|-------|-----------|-----|-----|------------|-------|
|------------|-----------|-------|-----------|-----|-----|------------|-------|

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution

Report of Analysis

| | | | | | | |
|--------------------|-------------------------|------------------|----------|------------|-----------|----|
| Client: | LIRO GROUP LTD. | Date Collected: | 08/02/12 | | | |
| Project: | Travis Area SI Phase II | Date Received: | 08/02/12 | | | |
| Client Sample ID: | SB03-0-15(COMP) | SDG No.: | D3662 | | | |
| Lab Sample ID: | D3662-06 | Matrix: | SOIL | | | |
| Analytical Method: | SW8151A | % Moisture: | 14.7 | Decanted: | | |
| Sample Wt/Vol: | 30.04 | Units: | g | Final Vol: | 10000 | uL |
| Soil Aliquot Vol: | | | uL | Test: | Herbicide | |
| Extraction Type: | | Injection Volume | 1 | | | |
| GPC Factor : | 1.0 | PH: | N/A | | | |

| | | | | |
|-------------------|-----------|-----------|---------------|---------------|
| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
| PE005504.D | 1 | 08/08/12 | 08/09/12 | PB64965 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|-------------------|-------------------|-------|-----------|----------|-----|------------|----------|
| TARGETS | | | | | | | |
| 1918-00-9 | DICAMBA | 44 | U | 15.5 | 44 | 88 | ug/Kg |
| 120-36-5 | DICHLORPROP | 39 | U | 14.5 | 39 | 78 | ug/Kg |
| 94-75-7 | 2,4-D | 44 | U | 38.3 | 44 | 88 | ug/Kg |
| 93-72-1 | 2,4,5-TP (SILVEX) | 39 | U | 12.8 | 39 | 78 | ug/Kg |
| 93-76-5 | 2,4,5-T | 39 | U | 12 | 39 | 78 | ug/Kg |
| 94-82-6 | 2,4-DB | 39 | U | 34.6 | 39 | 78 | ug/Kg |
| 88-85-7 | DINOSEB | 39 | U | 28.7 | 39 | 78 | ug/Kg |
| SURROGATES | | | | | | | |
| 19719-28-9 | 2,4-DCAA | 276 | | 12 - 189 | | 55% | SPK: 500 |

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

E = Value Exceeds Calibration Range

P = Indicates >25% difference for detected concentrations between the two GC columns

Q = indicates LCS control criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

* = Values outside of QC limits

D = Dilution

S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.



284 Sheffield Street, Mountainside NJ 07092 (908)-789-8900 Fax : 908 789 8922

Report of Analysis

| | | | |
|-------------------|-------------------------|-----------------|----------|
| Client: | LIRO GROUP LTD. | Date Collected: | 08/02/12 |
| Project: | Travis Area SI Phase II | Date Received: | 08/02/12 |
| Client Sample ID: | SB03-0-15(COMP) | SDG No.: | D3662 |
| Lab Sample ID: | D3662-06 | Matrix: | SOIL |
| Level (low/med): | low | % Solid: | 85.3 |

| Cas | Parameter | Conc. | Qua. | DF | MDL | LOD | LOQ / CRQL | Units | Prep Date | Date Ana. | Ana Met. |
|-----------|-----------|-------|------|----|-------|-------|------------|-------|-----------|-----------|----------|
| 7429-90-5 | Aluminum | 8220 | | 1 | 0.69 | 2.065 | 4.13 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7440-36-0 | Antimony | 1.03 | U | 1 | 0.46 | 1.03 | 2.06 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7440-38-2 | Arsenic | 10.5 | | 1 | 0.27 | 0.415 | 0.83 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7440-39-3 | Barium | 34.2 | | 1 | 0.33 | 2.065 | 4.13 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7440-41-7 | Beryllium | 0.52 | | 1 | 0.05 | 0.125 | 0.25 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7440-43-9 | Cadmium | 0.125 | U | 1 | 0.05 | 0.125 | 0.25 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7440-70-2 | Calcium | 229 | | 1 | 0.88 | 41.3 | 82.6 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7440-47-3 | Chromium | 13.5 | | 1 | 0.11 | 0.205 | 0.41 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7440-48-4 | Cobalt | 7.6 | | 1 | 0.47 | 0.62 | 1.24 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7440-50-8 | Copper | 17.6 | | 1 | 0.26 | 0.415 | 0.83 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7439-89-6 | Iron | 16800 | | 1 | 1.1 | 2.065 | 4.13 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7439-92-1 | Lead | 13.3 | | 1 | 0.1 | 0.25 | 0.5 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7439-95-4 | Magnesium | 2340 | | 1 | 3.78 | 41.3 | 82.6 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7439-96-5 | Manganese | 212 | | 1 | 0.16 | 0.415 | 0.83 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7439-97-6 | Mercury | 0.043 | | 1 | 0.002 | 0.005 | 0.01 | mg/Kg | 08/03/12 | 08/06/12 | SW7471A |
| 7440-02-0 | Nickel | 13.4 | | 1 | 0.38 | 0.825 | 1.65 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7440-09-7 | Potassium | 910 | | 1 | 2.89 | 41.3 | 82.6 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7782-49-2 | Selenium | 0.38 | J | 1 | 0.34 | 0.415 | 0.83 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7440-22-4 | Silver | 0.205 | U | 1 | 0.12 | 0.205 | 0.41 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7440-23-5 | Sodium | 774 | | 1 | 2.08 | 41.3 | 82.6 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7440-28-0 | Thallium | 0.825 | U | 1 | 0.22 | 0.825 | 1.65 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7440-62-2 | Vanadium | 21.7 | | 1 | 0.49 | 0.825 | 1.65 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7440-66-6 | Zinc | 39.9 | | 1 | 0.58 | 0.825 | 1.65 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |

Color Before: Brown Clarity Before: Texture: Medium
 Color After: Yellow Clarity After: Artifacts: No
 Comments: METALS-TAL

U = Not Detected
 LOQ = Limit of Quantitation
 MDL = Method Detection Limit
 LOD = Limit of Detection
 D = Dilution
 Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
 B = Analyte Found in Associated Method Blank
 * = indicates the duplicate analysis is not within control limits.
 E = Indicates the reported value is estimated because of the presence of interference.
 OR = Over Range
 HAZ. - N25 Spiked sample recovery not within control limits

Report of Analysis

| | | | | | | |
|--------------------|-------------------------|-----------------|----------|------------------|-------|----|
| Client: | LIRO GROUP LTD. | Date Collected: | 08/02/12 | | | |
| Project: | Travis Area SI Phase II | Date Received: | 08/02/12 | | | |
| Client Sample ID: | SB03-0-15(COMP) | SDG No.: | D3662 | | | |
| Lab Sample ID: | D3662-06 | Matrix: | SOIL | | | |
| Analytical Method: | SW8082A | % Moisture: | 15 | Decanted: | | |
| Sample Wt/Vol: | 30.04 | Units: | g | Final Vol: | 10000 | uL |
| Soil Aliquot Vol: | | | uL | Test: | PCB | |
| Extraction Type: | | | | Injection Volume | 1 | |
| GPC Factor : | 1.0 | PH : | N/A | | | |

| | | | | |
|-------------------|-----------|-----------|---------------|---------------|
| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
| PB002647.D | 1 | 08/03/12 | 08/09/12 | PB64868 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|-------------------|----------------------|-------|-----------|----------|-----|------------|---------|
| TARGETS | | | | | | | |
| 12674-11-2 | Aroclor-1016 | 10 | U | 4.1 | 10 | 20 | ug/Kg |
| 11104-28-2 | Aroclor-1221 | 10 | U | 4 | 10 | 20 | ug/Kg |
| 11141-16-5 | Aroclor-1232 | 10 | U | 8.8 | 10 | 20 | ug/Kg |
| 53469-21-9 | Aroclor-1242 | 10 | U | 4 | 10 | 20 | ug/Kg |
| 12672-29-6 | Aroclor-1248 | 10 | U | 7.7 | 10 | 20 | ug/Kg |
| 11097-69-1 | Aroclor-1254 | 10 | U | 1.8 | 10 | 20 | ug/Kg |
| 11096-82-5 | Aroclor-1260 | 16 | J | 4.8 | 10 | 20 | ug/Kg |
| SURROGATES | | | | | | | |
| 877-09-8 | Tetrachloro-m-xylene | 13.9 | | 10 - 166 | | 70% | SPK: 20 |
| 2051-24-3 | Decachlorobiphenyl | 12.5 | | 60 - 125 | | 62% | SPK: 20 |

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

E = Value Exceeds Calibration Range

P = Indicates >25% difference for detected concentrations between the two GC columns

Q = indicates LCS control criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

* = Values outside of QC limits

D = Dilution

S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.

Report of Analysis

| | | | |
|--------------------|-------------------------|------------------|---------------------|
| Client: | LIRO GROUP LTD. | Date Collected: | 08/02/12 |
| Project: | Travis Area SI Phase II | Date Received: | 08/02/12 |
| Client Sample ID: | SB03-0-15(COMP) | SDG No.: | D3662 |
| Lab Sample ID: | D3662-06 | Matrix: | SOIL |
| Analytical Method: | SW8081B | % Moisture: | 14.7 Decanted: |
| Sample Wt/Vol: | 30.04 Units: g | Final Vol: | 10000 uL |
| Soil Aliquot Vol: | uL | Test: | Pesticide-TCL |
| Extraction Type: | | Injection Volume | 1 |
| GPC Factor : | 1.0 PH: N/A | | |

| | | | | |
|-------------------|-----------|-----------|---------------|---------------|
| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
| PO003024.D | 1 | 08/03/12 | 08/08/12 | PB64869 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|-------------------|----------------------|-------|-----------|----------|-----|------------|---------|
| TARGETS | | | | | | | |
| 319-84-6 | alpha-BHC | 1 | U | 0.15 | 1 | 2 | ug/Kg |
| 319-85-7 | beta-BHC | 1 | U | 0.21 | 1 | 2 | ug/Kg |
| 319-86-8 | delta-BHC | 1 | U | 0.12 | 1 | 2 | ug/Kg |
| 58-89-9 | gamma-BHC | 1 | U | 0.18 | 1 | 2 | ug/Kg |
| 76-44-8 | Heptachlor | 1 | U | 0.16 | 1 | 2 | ug/Kg |
| 309-00-2 | Aldrin | 1 | U | 0.12 | 1 | 2 | ug/Kg |
| 1024-57-3 | Heptachlor epoxide | 1 | U | 0.19 | 1 | 2 | ug/Kg |
| 959-98-8 | Endosulfan I | 1 | U | 0.18 | 1 | 2 | ug/Kg |
| 60-57-1 | Dieldrin | 1 | U | 0.15 | 1 | 2 | ug/Kg |
| 72-55-9 | 4,4-DDE | 1 | U | 0.23 | 1 | 2 | ug/Kg |
| 72-20-8 | Endrin | 1 | U | 0.21 | 1 | 2 | ug/Kg |
| 33213-65-9 | Endosulfan II | 1 | U | 0.16 | 1 | 2 | ug/Kg |
| 72-54-8 | 4,4-DDD | 1 | U | 0.2 | 1 | 2 | ug/Kg |
| 1031-07-8 | Endosulfan Sulfate | 1 | U | 0.18 | 1 | 2 | ug/Kg |
| 50-29-3 | 4,4-DDT | 1 | U | 0.16 | 1 | 2 | ug/Kg |
| 72-43-5 | Methoxychlor | 1 | U | 0.2 | 1 | 2 | ug/Kg |
| 53494-70-5 | Endrin ketone | 1 | U | 0.15 | 1 | 2 | ug/Kg |
| 7421-93-4 | Endrin aldehyde | 1 | U | 0.18 | 1 | 2 | ug/Kg |
| 5103-71-9 | alpha-Chlordane | 1 | U | 0.16 | 1 | 2 | ug/Kg |
| 5103-74-2 | gamma-Chlordane | 1 | U | 0.15 | 1 | 2 | ug/Kg |
| 8001-35-2 | Toxaphene | 10 | U | 4 | 10 | 20 | ug/Kg |
| SURROGATES | | | | | | | |
| 2051-24-3 | Decachlorobiphenyl | 16 | | 10 - 169 | | 80% | SPK: 20 |
| 877-09-8 | Tetrachloro-m-xylene | 17.8 | | 31 - 151 | | 89% | SPK: 20 |

Report of Analysis

| | | | |
|--------------------|-------------------------|------------------|---------------------|
| Client: | LIRO GROUP LTD. | Date Collected: | 08/02/12 |
| Project: | Travis Area SI Phase II | Date Received: | 08/02/12 |
| Client Sample ID: | SB03-0-15(COMP) | SDG No.: | D3662 |
| Lab Sample ID: | D3662-06 | Matrix: | SOIL |
| Analytical Method: | SW8081B | % Moisture: | 14.7 Decanted: |
| Sample Wt/Vol: | 30.04 Units: g | Final Vol: | 10000 uL |
| Soil Aliquot Vol: | uL | Test: | Pesticide-TCL |
| Extraction Type: | | Injection Volume | 1 |
| GPC Factor : | 1.0 PH: N/A | | |

| | | | | |
|-------------------|-----------|-----------|---------------|---------------|
| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
| PO003024.D | 1 | 08/03/12 | 08/08/12 | PB64869 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|------------|-----------|-------|-----------|-----|-----|------------|-------|
|------------|-----------|-------|-----------|-----|-----|------------|-------|

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

E = Value Exceeds Calibration Range

P = Indicates >25% difference for detected concentrations between the two GC columns

Q = indicates LCS control criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

* = Values outside of QC limits

D = Dilution

S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.

Report of Analysis

| | | | |
|--------------------|-------------------------|-----------------|--------------|
| Client: | LIRO GROUP LTD. | Date Collected: | 08/02/12 |
| Project: | Travis Area SI Phase II | Date Received: | 08/02/12 |
| Client Sample ID: | SB03-0-15(COMP) | SDG No.: | d3662 |
| Lab Sample ID: | D3662-06 | Matrix: | SOIL |
| Analytical Method: | SW8270D | % Moisture: | 15 |
| Sample Wt/Vol: | 30.08 Units: g | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC-TCL BNA |
| Extraction Type : | SOXH | Decanted : | N |
| Injection Volume : | 1 | Level : | LOW |
| | GPC Factor : 1.0 | GPC Cleanup : | N PH : N/A |

| | | | | |
|-------------------|-----------|-----------|---------------|---------------|
| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
| BG006550.D | 1 | 08/03/12 | 08/08/12 | PB64865 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|----------------|-----------------------------|-------|-----------|-----|-----|------------|-------|
| TARGETS | | | | | | | |
| 100-52-7 | Benzaldehyde | 195 | U | 20 | 195 | 390 | ug/Kg |
| 108-95-2 | Phenol | 195 | U | 9 | 195 | 390 | ug/Kg |
| 111-44-4 | bis(2-Chloroethyl)ether | 195 | U | 19 | 195 | 390 | ug/Kg |
| 95-57-8 | 2-Chlorophenol | 195 | U | 21 | 195 | 390 | ug/Kg |
| 95-48-7 | 2-Methylphenol | 195 | U | 21 | 195 | 390 | ug/Kg |
| 108-60-1 | 2,2-oxybis(1-Chloropropane) | 195 | U | 16 | 195 | 390 | ug/Kg |
| 98-86-2 | Acetophenone | 195 | U | 12 | 195 | 390 | ug/Kg |
| 65794-96-9 | 3+4-Methylphenols | 195 | U | 20 | 195 | 390 | ug/Kg |
| 621-64-7 | N-Nitroso-di-n-propylamine | 195 | U | 20 | 195 | 390 | ug/Kg |
| 67-72-1 | Hexachloroethane | 195 | U | 17 | 195 | 390 | ug/Kg |
| 98-95-3 | Nitrobenzene | 195 | U | 15 | 195 | 390 | ug/Kg |
| 78-59-1 | Isophorone | 195 | U | 13 | 195 | 390 | ug/Kg |
| 88-75-5 | 2-Nitrophenol | 195 | U | 19 | 195 | 390 | ug/Kg |
| 105-67-9 | 2,4-Dimethylphenol | 195 | U | 22 | 195 | 390 | ug/Kg |
| 111-91-1 | bis(2-Chloroethoxy)methane | 195 | U | 23 | 195 | 390 | ug/Kg |
| 120-83-2 | 2,4-Dichlorophenol | 195 | U | 15 | 195 | 390 | ug/Kg |
| 91-20-3 | Naphthalene | 195 | U | 13 | 195 | 390 | ug/Kg |
| 106-47-8 | 4-Chloroaniline | 195 | U | 28 | 195 | 390 | ug/Kg |
| 87-68-3 | Hexachlorobutadiene | 195 | U | 14 | 195 | 390 | ug/Kg |
| 105-60-2 | Caprolactam | 195 | U | 18 | 195 | 390 | ug/Kg |
| 59-50-7 | 4-Chloro-3-methylphenol | 195 | U | 17 | 195 | 390 | ug/Kg |
| 91-57-6 | 2-Methylnaphthalene | 195 | U | 9.9 | 195 | 390 | ug/Kg |
| 77-47-4 | Hexachlorocyclopentadiene | 195 | U | 9.5 | 195 | 390 | ug/Kg |
| 88-06-2 | 2,4,6-Trichlorophenol | 195 | U | 12 | 195 | 390 | ug/Kg |
| 95-95-4 | 2,4,5-Trichlorophenol | 195 | U | 27 | 195 | 390 | ug/Kg |
| 92-52-4 | 1,1-Biphenyl | 195 | U | 15 | 195 | 390 | ug/Kg |
| 91-58-7 | 2-Chloronaphthalene | 195 | U | 8.9 | 195 | 390 | ug/Kg |
| 88-74-4 | 2-Nitroaniline | 195 | U | 17 | 195 | 390 | ug/Kg |
| 131-11-3 | Dimethylphthalate | 430 | | 11 | 195 | 390 | ug/Kg |
| 208-96-8 | Acenaphthylene | 195 | U | 9.9 | 195 | 390 | ug/Kg |
| 606-20-2 | 2,6-Dinitrotoluene | 195 | U | 16 | 195 | 390 | ug/Kg |

Report of Analysis

| | | | |
|--------------------|-------------------------|-----------------|--------------|
| Client: | LIRO GROUP LTD. | Date Collected: | 08/02/12 |
| Project: | Travis Area SI Phase II | Date Received: | 08/02/12 |
| Client Sample ID: | SB03-0-15(COMP) | SDG No.: | d3662 |
| Lab Sample ID: | D3662-06 | Matrix: | SOIL |
| Analytical Method: | SW8270D | % Moisture: | 15 |
| Sample Wt/Vol: | 30.08 Units: g | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC-TCL BNA |
| Extraction Type : | SOXH | Decanted : | N |
| Injection Volume : | 1 | Level : | LOW |
| | GPC Factor : 1.0 | GPC Cleanup : | N |
| | | PH : | N/A |

| | | | | |
|-------------------|-----------|-----------|---------------|---------------|
| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
| BG006550.D | 1 | 08/03/12 | 08/08/12 | PB64865 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|------------|----------------------------|-------|-----------|-----|-----|------------|-------|
| 99-09-2 | 3-Nitroaniline | 195 | U | 25 | 195 | 390 | ug/Kg |
| 83-32-9 | Acenaphthene | 195 | U | 11 | 195 | 390 | ug/Kg |
| 51-28-5 | 2,4-Dinitrophenol | 195 | U | 40 | 195 | 390 | ug/Kg |
| 100-02-7 | 4-Nitrophenol | 195 | U | 73 | 195 | 390 | ug/Kg |
| 132-64-9 | Dibenzofuran | 195 | U | 15 | 195 | 390 | ug/Kg |
| 121-14-2 | 2,4-Dinitrotoluene | 195 | U | 12 | 195 | 390 | ug/Kg |
| 84-66-2 | Diethylphthalate | 195 | U | 6.1 | 195 | 390 | ug/Kg |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 195 | U | 21 | 195 | 390 | ug/Kg |
| 86-73-7 | Fluorene | 195 | U | 15 | 195 | 390 | ug/Kg |
| 100-01-6 | 4-Nitroaniline | 195 | U | 51 | 195 | 390 | ug/Kg |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | 195 | U | 22 | 195 | 390 | ug/Kg |
| 86-30-6 | N-Nitrosodiphenylamine | 195 | U | 9.4 | 195 | 390 | ug/Kg |
| 101-55-3 | 4-Bromophenyl-phenylether | 195 | U | 7.6 | 195 | 390 | ug/Kg |
| 118-74-1 | Hexachlorobenzene | 195 | U | 16 | 195 | 390 | ug/Kg |
| 1912-24-9 | Atrazine | 195 | U | 21 | 195 | 390 | ug/Kg |
| 87-86-5 | Pentachlorophenol | 195 | U | 27 | 195 | 390 | ug/Kg |
| 85-01-8 | Phenanthrene | 195 | U | 11 | 195 | 390 | ug/Kg |
| 120-12-7 | Anthracene | 195 | U | 8 | 195 | 390 | ug/Kg |
| 86-74-8 | Carbazole | 195 | U | 8.6 | 195 | 390 | ug/Kg |
| 84-74-2 | Di-n-butylphthalate | 195 | U | 31 | 195 | 390 | ug/Kg |
| 206-44-0 | Fluoranthene | 195 | U | 7.9 | 195 | 390 | ug/Kg |
| 129-00-0 | Pyrene | 195 | U | 9.4 | 195 | 390 | ug/Kg |
| 85-68-7 | Butylbenzylphthalate | 195 | U | 19 | 195 | 390 | ug/Kg |
| 91-94-1 | 3,3-Dichlorobenzidine | 195 | U | 25 | 195 | 390 | ug/Kg |
| 56-55-3 | Benzo(a)anthracene | 195 | U | 19 | 195 | 390 | ug/Kg |
| 218-01-9 | Chrysene | 195 | U | 18 | 195 | 390 | ug/Kg |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | 195 | U | 14 | 195 | 390 | ug/Kg |
| 117-84-0 | Di-n-octyl phthalate | 195 | U | 4.5 | 195 | 390 | ug/Kg |
| 205-99-2 | Benzo(b)fluoranthene | 195 | U | 13 | 195 | 390 | ug/Kg |
| 207-08-9 | Benzo(k)fluoranthene | 195 | U | 18 | 195 | 390 | ug/Kg |
| 50-32-8 | Benzo(a)pyrene | 195 | U | 8.4 | 195 | 390 | ug/Kg |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 195 | U | 13 | 195 | 390 | ug/Kg |
| 53-70-3 | Dibenz(a,h)anthracene | 195 | U | 11 | 195 | 390 | ug/Kg |

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Report of Analysis

| | | | |
|--------------------|-------------------------|-----------------|-----------------|
| Client: | LIRO GROUP LTD. | Date Collected: | 08/02/12 |
| Project: | Travis Area SI Phase II | Date Received: | 08/02/12 |
| Client Sample ID: | SB03-0-15(COMP) | SDG No.: | d3662 |
| Lab Sample ID: | D3662-06 | Matrix: | SOIL |
| Analytical Method: | SW8270D | % Moisture: | 15 |
| Sample Wt/Vol: | 30.08 Units: g | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC-TCL BNA |
| Extraction Type : | SOXH Decanted : N | Level : | LOW |
| Injection Volume : | 1 GPC Factor : 1.0 | GPC Cleanup : | N PH : N/A |

| | | | | |
|-------------------|-----------|-----------|---------------|---------------|
| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
| BG006550.D | 1 | 08/03/12 | 08/08/12 | PB64865 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---------------------------|----------------------------|--------|-----------|----------|-----|------------|----------|
| 191-24-2 | Benzo(g,h,i)perylene | 195 | U | 16 | 195 | 390 | ug/Kg |
| 95-94-3 | 1,2,4,5-Tetrachlorobenzene | 195 | U | 15 | 195 | 390 | ug/Kg |
| 58-90-2 | 2,3,4,6-Tetrachlorophenol | 195 | U | 15 | 195 | 390 | ug/Kg |
| SURROGATES | | | | | | | |
| 367-12-4 | 2-Fluorophenol | 132 | | 28 - 127 | | 88% | SPK: 150 |
| 13127-88-3 | Phenol-d5 | 137 | | 34 - 127 | | 92% | SPK: 150 |
| 4165-60-0 | Nitrobenzene-d5 | 87.1 | | 31 - 132 | | 87% | SPK: 100 |
| 321-60-8 | 2-Fluorobiphenyl | 81.8 | | 39 - 123 | | 82% | SPK: 100 |
| 118-79-6 | 2,4,6-Tribromophenol | 118 | | 30 - 133 | | 79% | SPK: 150 |
| 1718-51-0 | Terphenyl-d14 | 79.3 | | 37 - 115 | | 79% | SPK: 100 |
| INTERNAL STANDARDS | | | | | | | |
| 3855-82-1 | 1,4-Dichlorobenzene-d4 | 98431 | | 8.72 | | | |
| 1146-65-2 | Naphthalene-d8 | 365122 | | 10.92 | | | |
| 15067-26-2 | Acenaphthene-d10 | 259243 | | 13.91 | | | |
| 1517-22-2 | Phenanthrene-d10 | 475547 | | 16.4 | | | |
| 1719-03-5 | Chrysene-d12 | 556115 | | 20.92 | | | |
| 1520-96-3 | Perylene-d12 | 528139 | | 24.84 | | | |

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

E = Value Exceeds Calibration Range

Q = indicates LCS control criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

* = Values outside of QC limits

D = Dilution

Report of Analysis

| | | | |
|--------------------|-------------------------|-----------------|----------|
| Client: | LIRO GROUP LTD. | Date Collected: | 08/02/12 |
| Project: | Travis Area SI Phase II | Date Received: | 08/02/12 |
| Client Sample ID: | SB02-9.5-10 | SDG No.: | d3662 |
| Lab Sample ID: | D3662-07 | Matrix: | SOIL |
| Analytical Method: | SW8260C | % Moisture: | 13 |
| Sample Wt/Vol: | 5 Units: g | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC-TCL |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| | | | | |
|-------------------|-----------|-----------|---------------|---------------|
| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
| VT004377.D | 1 | | 08/07/12 | VT080712 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|----------------|--------------------------------|-------|-----------|------|------|------------|-------|
| TARGETS | | | | | | | |
| 75-71-8 | Dichlorodifluoromethane | 2.85 | U | 0.75 | 2.85 | 5.7 | ug/Kg |
| 74-87-3 | Chloromethane | 2.85 | U | 0.99 | 2.85 | 5.7 | ug/Kg |
| 75-01-4 | Vinyl Chloride | 2.85 | U | 1.4 | 2.85 | 5.7 | ug/Kg |
| 74-83-9 | Bromomethane | 2.85 | U | 2.8 | 2.85 | 5.7 | ug/Kg |
| 75-00-3 | Chloroethane | 2.85 | U | 1.6 | 2.85 | 5.7 | ug/Kg |
| 75-69-4 | Trichlorofluoromethane | 2.85 | U | 1.5 | 2.85 | 5.7 | ug/Kg |
| 76-13-1 | 1,1,2-Trichlorotrifluoroethane | 2.85 | U | 1.5 | 2.85 | 5.7 | ug/Kg |
| 75-35-4 | 1,1-Dichloroethene | 2.85 | U | 1.7 | 2.85 | 5.7 | ug/Kg |
| 67-64-1 | Acetone | 8.4 | J | 3.5 | 14.5 | 29 | ug/Kg |
| 75-15-0 | Carbon Disulfide | 2.85 | U | 1.2 | 2.85 | 5.7 | ug/Kg |
| 1634-04-4 | Methyl tert-butyl Ether | 2.85 | U | 1.1 | 2.85 | 5.7 | ug/Kg |
| 79-20-9 | Methyl Acetate | 2.85 | U | 1.7 | 2.85 | 5.7 | ug/Kg |
| 75-09-2 | Methylene Chloride | 2.85 | U | 1.6 | 2.85 | 5.7 | ug/Kg |
| 156-60-5 | trans-1,2-Dichloroethene | 2.85 | U | 0.79 | 2.85 | 5.7 | ug/Kg |
| 75-34-3 | 1,1-Dichloroethane | 2.85 | U | 1.1 | 2.85 | 5.7 | ug/Kg |
| 110-82-7 | Cyclohexane | 2.85 | U | 1.2 | 2.85 | 5.7 | ug/Kg |
| 78-93-3 | 2-Butanone | 14.5 | U | 3.6 | 14.5 | 29 | ug/Kg |
| 56-23-5 | Carbon Tetrachloride | 2.85 | U | 1.1 | 2.85 | 5.7 | ug/Kg |
| 156-59-2 | cis-1,2-Dichloroethene | 2.85 | U | 1 | 2.85 | 5.7 | ug/Kg |
| 74-97-5 | Bromochloromethane | 2.85 | U | 0.91 | 2.85 | 5.7 | ug/Kg |
| 67-66-3 | Chloroform | 2.85 | U | 0.85 | 2.85 | 5.7 | ug/Kg |
| 71-55-6 | 1,1,1-Trichloroethane | 2.85 | U | 1 | 2.85 | 5.7 | ug/Kg |
| 108-87-2 | Methylcyclohexane | 2.85 | U | 1.2 | 2.85 | 5.7 | ug/Kg |
| 71-43-2 | Benzene | 2.85 | U | 0.44 | 2.85 | 5.7 | ug/Kg |
| 107-06-2 | 1,2-Dichloroethane | 2.85 | U | 0.74 | 2.85 | 5.7 | ug/Kg |
| 79-01-6 | Trichloroethene | 2.85 | U | 0.99 | 2.85 | 5.7 | ug/Kg |
| 78-87-5 | 1,2-Dichloropropane | 2.85 | U | 0.3 | 2.85 | 5.7 | ug/Kg |
| 75-27-4 | Bromodichloromethane | 2.85 | U | 0.71 | 2.85 | 5.7 | ug/Kg |
| 108-10-1 | 4-Methyl-2-Pentanone | 14.5 | U | 3.4 | 14.5 | 29 | ug/Kg |
| 108-88-3 | Toluene | 2.85 | U | 0.74 | 2.85 | 5.7 | ug/Kg |
| 10061-02-6 | t-1,3-Dichloropropene | 2.85 | U | 0.91 | 2.85 | 5.7 | ug/Kg |

Report of Analysis

| | | | |
|--------------------|-------------------------|-----------------|----------|
| Client: | LIRO GROUP LTD. | Date Collected: | 08/02/12 |
| Project: | Travis Area SI Phase II | Date Received: | 08/02/12 |
| Client Sample ID: | SB02-9.5-10 | SDG No.: | d3662 |
| Lab Sample ID: | D3662-07 | Matrix: | SOIL |
| Analytical Method: | SW8260C | % Moisture: | 13 |
| Sample Wt/Vol: | 5 Units: g | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC-TCL |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| | | | | |
|-------------------|-----------|-----------|---------------|---------------|
| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
| VT004377.D | 1 | | 08/07/12 | VT080712 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---------------------------|-----------------------------|---------|-----------|----------|------|------------|---------|
| 10061-01-5 | cis-1,3-Dichloropropene | 2.85 | U | 0.83 | 2.85 | 5.7 | ug/Kg |
| 79-00-5 | 1,1,2-Trichloroethane | 2.85 | U | 1 | 2.85 | 5.7 | ug/Kg |
| 591-78-6 | 2-Hexanone | 14.5 | U | 4.5 | 14.5 | 29 | ug/Kg |
| 124-48-1 | Dibromochloromethane | 2.85 | U | 0.62 | 2.85 | 5.7 | ug/Kg |
| 106-93-4 | 1,2-Dibromoethane | 2.85 | U | 0.74 | 2.85 | 5.7 | ug/Kg |
| 127-18-4 | Tetrachloroethene | 2.85 | U | 1.2 | 2.85 | 5.7 | ug/Kg |
| 108-90-7 | Chlorobenzene | 2.85 | U | 0.57 | 2.85 | 5.7 | ug/Kg |
| 100-41-4 | Ethyl Benzene | 2.85 | U | 0.71 | 2.85 | 5.7 | ug/Kg |
| 179601-23-1 | m/p-Xylenes | 5.5 | U | 0.83 | 5.5 | 11 | ug/Kg |
| 95-47-6 | o-Xylene | 2.85 | U | 0.78 | 2.85 | 5.7 | ug/Kg |
| 100-42-5 | Styrene | 2.85 | U | 0.52 | 2.85 | 5.7 | ug/Kg |
| 75-25-2 | Bromoform | 2.85 | U | 0.85 | 2.85 | 5.7 | ug/Kg |
| 98-82-8 | Isopropylbenzene | 2.85 | U | 0.55 | 2.85 | 5.7 | ug/Kg |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 2.85 | U | 0.53 | 2.85 | 5.7 | ug/Kg |
| 541-73-1 | 1,3-Dichlorobenzene | 2.85 | U | 0.43 | 2.85 | 5.7 | ug/Kg |
| 106-46-7 | 1,4-Dichlorobenzene | 2.85 | U | 0.47 | 2.85 | 5.7 | ug/Kg |
| 95-50-1 | 1,2-Dichlorobenzene | 2.85 | U | 0.71 | 2.85 | 5.7 | ug/Kg |
| 96-12-8 | 1,2-Dibromo-3-Chloropropane | 2.85 | U | 1 | 2.85 | 5.7 | ug/Kg |
| 120-82-1 | 1,2,4-Trichlorobenzene | 2.85 | U | 0.8 | 2.85 | 5.7 | ug/Kg |
| 87-61-6 | 1,2,3-Trichlorobenzene | 2.85 | U | 0.57 | 2.85 | 5.7 | ug/Kg |
| 123-91-1 | 1,4-Dioxane | 55 | U | 57 | 55 | 110 | ug/Kg |
| SURROGATES | | | | | | | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 53.4 | | 56 - 120 | | 107% | SPK: 50 |
| 1868-53-7 | Dibromofluoromethane | 49.5 | | 57 - 135 | | 99% | SPK: 50 |
| 2037-26-5 | Toluene-d8 | 49.1 | | 67 - 123 | | 98% | SPK: 50 |
| 460-00-4 | 4-Bromofluorobenzene | 51.4 | | 33 - 141 | | 103% | SPK: 50 |
| INTERNAL STANDARDS | | | | | | | |
| 363-72-4 | Pentafluorobenzene | 1783520 | 7.43 | | | | |
| 540-36-3 | 1,4-Difluorobenzene | 2326530 | 8.38 | | | | |
| 3114-55-4 | Chlorobenzene-d5 | 1968080 | 11.22 | | | | |
| 3855-82-1 | 1,4-Dichlorobenzene-d4 | 1177050 | 13.16 | | | | |

Report of Analysis

| | | | |
|--------------------|-------------------------|-----------------|----------|
| Client: | LIRO GROUP LTD. | Date Collected: | 08/02/12 |
| Project: | Travis Area SI Phase II | Date Received: | 08/02/12 |
| Client Sample ID: | SB02-9.5-10 | SDG No.: | d3662 |
| Lab Sample ID: | D3662-07 | Matrix: | SOIL |
| Analytical Method: | SW8260C | % Moisture: | 13 |
| Sample Wt/Vol: | 5 Units: g | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC-TCL |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| | | | | |
|-------------------|-----------|-----------|---------------|---------------|
| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
| VT004377.D | 1 | | 08/07/12 | VT080712 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|------------|-----------|-------|-----------|-----|-----|------------|-------|
|------------|-----------|-------|-----------|-----|-----|------------|-------|

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

E = Value Exceeds Calibration Range

Q = indicates LCS control criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

* = Values outside of QC limits

D = Dilution

Report of Analysis

| | | | | | | |
|--------------------|-------------------------|-----------------|----------|------------------|-----------|----|
| Client: | LIRO GROUP LTD. | Date Collected: | 08/02/12 | | | |
| Project: | Travis Area SI Phase II | Date Received: | 08/02/12 | | | |
| Client Sample ID: | SB02-0-25(COMP) | SDG No.: | D3662 | | | |
| Lab Sample ID: | D3662-08 | Matrix: | SOIL | | | |
| Analytical Method: | SW8151A | % Moisture: | 10 | Decanted: | | |
| Sample Wt/Vol: | 30.08 | Units: | g | Final Vol: | 10000 | uL |
| Soil Aliquot Vol: | | | uL | Test: | Herbicide | |
| Extraction Type: | | | | Injection Volume | 1 | |
| GPC Factor : | 1.0 | PH : | N/A | | | |

| | | | | |
|-------------------|-----------|-----------|---------------|---------------|
| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
| PE005505.D | 1 | 08/08/12 | 08/09/12 | PB64965 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|-------------------|-------------------|-------|-----------|----------|------|------------|----------|
| TARGETS | | | | | | | |
| 1918-00-9 | DICAMBA | 41.5 | U | 14.7 | 41.5 | 83 | ug/Kg |
| 120-36-5 | DICHLORPROP | 37 | U | 13.7 | 37 | 74 | ug/Kg |
| 94-75-7 | 2,4-D | 41.5 | U | 36.2 | 41.5 | 83 | ug/Kg |
| 93-72-1 | 2,4,5-TP (SILVEX) | 37 | U | 12.1 | 37 | 74 | ug/Kg |
| 93-76-5 | 2,4,5-T | 37 | U | 11.4 | 37 | 74 | ug/Kg |
| 94-82-6 | 2,4-DB | 37 | U | 32.8 | 37 | 74 | ug/Kg |
| 88-85-7 | DINOSEB | 37 | U | 27.1 | 37 | 74 | ug/Kg |
| SURROGATES | | | | | | | |
| 19719-28-9 | 2,4-DCAA | 253 | | 12 - 189 | | 51% | SPK: 500 |

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

E = Value Exceeds Calibration Range

P = Indicates >25% difference for detected concentrations between the two GC columns

Q = indicates LCS control criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

* = Values outside of QC limits

D = Dilution

S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.

Report of Analysis

| | | | |
|-------------------|-------------------------|-----------------|----------|
| Client: | LIRO GROUP LTD. | Date Collected: | 08/02/12 |
| Project: | Travis Area SI Phase II | Date Received: | 08/02/12 |
| Client Sample ID: | SB02-0-25(COMP) | SDG No.: | D3662 |
| Lab Sample ID: | D3662-08 | Matrix: | SOIL |
| Level (low/med): | low | % Solid: | 90 |

| Cas | Parameter | Conc. | Qua. | DF | MDL | LOD | LOQ / CRQL | Units | Prep Date | Date Ana. | Ana Met. |
|-----------|-----------|-------|------|----|-------|-------|------------|-------|-----------|-----------|----------|
| 7429-90-5 | Aluminum | 3980 | | 1 | 0.68 | 2.015 | 4.03 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7440-36-0 | Antimony | 1.005 | U | 1 | 0.45 | 1.005 | 2.01 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7440-38-2 | Arsenic | 10.5 | | 1 | 0.27 | 0.405 | 0.81 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7440-39-3 | Barium | 30.6 | | 1 | 0.32 | 2.015 | 4.03 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7440-41-7 | Beryllium | 0.42 | | 1 | 0.05 | 0.12 | 0.24 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7440-43-9 | Cadmium | 0.12 | U | 1 | 0.05 | 0.12 | 0.24 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7440-70-2 | Calcium | 266 | | 1 | 0.86 | 40.25 | 80.5 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7440-47-3 | Chromium | 10.3 | | 1 | 0.1 | 0.2 | 0.4 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7440-48-4 | Cobalt | 4.56 | | 1 | 0.46 | 0.605 | 1.21 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7440-50-8 | Copper | 14.6 | | 1 | 0.26 | 0.405 | 0.81 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7439-89-6 | Iron | 13800 | | 1 | 1.07 | 2.015 | 4.03 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7439-92-1 | Lead | 15.4 | | 1 | 0.1 | 0.24 | 0.48 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7439-95-4 | Magnesium | 870 | | 1 | 3.69 | 40.25 | 80.5 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7439-96-5 | Manganese | 121 | | 1 | 0.15 | 0.405 | 0.81 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7439-97-6 | Mercury | 0.048 | | 1 | 0.002 | 0.005 | 0.01 | mg/Kg | 08/03/12 | 08/06/12 | SW7471A |
| 7440-02-0 | Nickel | 7.17 | | 1 | 0.37 | 0.805 | 1.61 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7440-09-7 | Potassium | 495 | | 1 | 2.82 | 40.25 | 80.5 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7782-49-2 | Selenium | 0.405 | U | 1 | 0.33 | 0.405 | 0.81 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7440-22-4 | Silver | 0.2 | U | 1 | 0.12 | 0.2 | 0.4 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7440-23-5 | Sodium | 90.3 | | 1 | 2.03 | 40.25 | 80.5 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7440-28-0 | Thallium | 0.805 | U | 1 | 0.22 | 0.805 | 1.61 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7440-62-2 | Vanadium | 18.2 | | 1 | 0.48 | 0.805 | 1.61 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |
| 7440-66-6 | Zinc | 32.3 | | 1 | 0.56 | 0.805 | 1.61 | mg/Kg | 08/06/12 | 08/09/12 | SW6010B |

| | | | | |
|---------------|------------|-----------------|------------|--------|
| Color Before: | Brown | Clarity Before: | Texture: | Medium |
| Color After: | Yellow | Clarity After: | Artifacts: | No |
| Comments: | METALS-TAL | | | |

U = Not Detected
 LOQ = Limit of Quantitation
 MDL = Method Detection Limit
 LOD = Limit of Detection
 D = Dilution
 Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
 B = Analyte Found in Associated Method Blank
 * = indicates the duplicate analysis is not within control limits.
 E = Indicates the reported value is estimated because of the presence of interference.
 OR = Over Range

HAZ. - 136 Spiked sample recovery not within control limits



284 Sheffield Street, Mountainside NJ 07092 (908)-789-8900 Fax : 908 789 8922

Report of Analysis

| | | | | | | |
|--------------------|-------------------------|-----------------|----------|------------------|-------|----|
| Client: | LIRO GROUP LTD. | Date Collected: | 08/02/12 | | | |
| Project: | Travis Area SI Phase II | Date Received: | 08/02/12 | | | |
| Client Sample ID: | SB02-0-25(COMP) | SDG No.: | D3662 | | | |
| Lab Sample ID: | D3662-08 | Matrix: | SOIL | | | |
| Analytical Method: | SW8082A | % Moisture: | 10 | Decanted: | | |
| Sample Wt/Vol: | 30.12 | Units: | g | Final Vol: | 10000 | uL |
| Soil Aliquot Vol: | | | uL | Test: | PCB | |
| Extraction Type: | | | | Injection Volume | 1 | |
| GPC Factor : | 1.0 | PH: | N/A | | | |

| | | | | |
|-------------------|-----------|-----------|---------------|---------------|
| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
| PB002648.D | 1 | 08/03/12 | 08/09/12 | PB64868 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|-------------------|----------------------|-------|-----------|----------|-----|------------|---------|
| TARGETS | | | | | | | |
| 12674-11-2 | Aroclor-1016 | 9.5 | U | 3.8 | 9.5 | 19 | ug/Kg |
| 11104-28-2 | Aroclor-1221 | 9.5 | U | 3.8 | 9.5 | 19 | ug/Kg |
| 11141-16-5 | Aroclor-1232 | 9.5 | U | 8.3 | 9.5 | 19 | ug/Kg |
| 53469-21-9 | Aroclor-1242 | 9.5 | U | 3.8 | 9.5 | 19 | ug/Kg |
| 12672-29-6 | Aroclor-1248 | 9.5 | U | 7.3 | 9.5 | 19 | ug/Kg |
| 11097-69-1 | Aroclor-1254 | 9.5 | U | 1.6 | 9.5 | 19 | ug/Kg |
| 11096-82-5 | Aroclor-1260 | 9.5 | U | 4.5 | 9.5 | 19 | ug/Kg |
| SURROGATES | | | | | | | |
| 877-09-8 | Tetrachloro-m-xylene | 17.1 | | 10 - 166 | | 85% | SPK: 20 |
| 2051-24-3 | Decachlorobiphenyl | 16.3 | | 60 - 125 | | 81% | SPK: 20 |

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 MDL = Method Detection Limit
 LOD = Limit of Detection
 E = Value Exceeds Calibration Range
 P = Indicates >25% difference for detected concentrations between the two GC columns
 Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
 B = Analyte Found in Associated Method Blank
 N = Presumptive Evidence of a Compound
 * = Values outside of QC limits
 D = Dilution
 S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.

Report of Analysis

| | | | | | | |
|--------------------|-------------------------|-----------------|----------|------------------|---------------|----|
| Client: | LIRO GROUP LTD. | Date Collected: | 08/02/12 | | | |
| Project: | Travis Area SI Phase II | Date Received: | 08/02/12 | | | |
| Client Sample ID: | SB02-0-25(COMP) | SDG No.: | D3662 | | | |
| Lab Sample ID: | D3662-08 | Matrix: | SOIL | | | |
| Analytical Method: | SW8081B | % Moisture: | 10 | Decanted: | | |
| Sample Wt/Vol: | 30.12 | Units: | g | Final Vol: | 10000 | uL |
| Soil Aliquot Vol: | | | uL | Test: | Pesticide-TCL | |
| Extraction Type: | | | | Injection Volume | 1 | |
| GPC Factor : | 1.0 | PH : | N/A | | | |

| | | | | |
|-------------------|-----------|-----------|---------------|---------------|
| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
| PO003025.D | 1 | 08/03/12 | 08/08/12 | PB64869 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|-------------------|----------------------|-------|-----------|----------|------|------------|---------|
| TARGETS | | | | | | | |
| 319-84-6 | alpha-BHC | 0.95 | U | 0.14 | 0.95 | 1.9 | ug/Kg |
| 319-85-7 | beta-BHC | 0.95 | U | 0.2 | 0.95 | 1.9 | ug/Kg |
| 319-86-8 | delta-BHC | 0.95 | U | 0.11 | 0.95 | 1.9 | ug/Kg |
| 58-89-9 | gamma-BHC | 0.95 | U | 0.17 | 0.95 | 1.9 | ug/Kg |
| 76-44-8 | Heptachlor | 0.95 | U | 0.15 | 0.95 | 1.9 | ug/Kg |
| 309-00-2 | Aldrin | 0.95 | U | 0.11 | 0.95 | 1.9 | ug/Kg |
| 1024-57-3 | Heptachlor epoxide | 0.95 | U | 0.18 | 0.95 | 1.9 | ug/Kg |
| 959-98-8 | Endosulfan I | 0.95 | U | 0.17 | 0.95 | 1.9 | ug/Kg |
| 60-57-1 | Dieldrin | 0.95 | U | 0.14 | 0.95 | 1.9 | ug/Kg |
| 72-55-9 | 4,4-DDE | 0.95 | U | 0.22 | 0.95 | 1.9 | ug/Kg |
| 72-20-8 | Endrin | 0.95 | U | 0.2 | 0.95 | 1.9 | ug/Kg |
| 33213-65-9 | Endosulfan II | 0.95 | U | 0.15 | 0.95 | 1.9 | ug/Kg |
| 72-54-8 | 4,4-DDD | 0.95 | U | 0.19 | 0.95 | 1.9 | ug/Kg |
| 1031-07-8 | Endosulfan Sulfate | 0.95 | U | 0.17 | 0.95 | 1.9 | ug/Kg |
| 50-29-3 | 4,4-DDT | 0.95 | U | 0.15 | 0.95 | 1.9 | ug/Kg |
| 72-43-5 | Methoxychlor | 0.95 | U | 0.19 | 0.95 | 1.9 | ug/Kg |
| 53494-70-5 | Endrin ketone | 0.95 | U | 0.14 | 0.95 | 1.9 | ug/Kg |
| 7421-93-4 | Endrin aldehyde | 0.95 | U | 0.17 | 0.95 | 1.9 | ug/Kg |
| 5103-71-9 | alpha-Chlordane | 0.95 | U | 0.15 | 0.95 | 1.9 | ug/Kg |
| 5103-74-2 | gamma-Chlordane | 0.95 | U | 0.14 | 0.95 | 1.9 | ug/Kg |
| 8001-35-2 | Toxaphene | 9.5 | U | 3.8 | 9.5 | 19 | ug/Kg |
| SURROGATES | | | | | | | |
| 2051-24-3 | Decachlorobiphenyl | 21.7 | | 10 - 169 | | 109% | SPK: 20 |
| 877-09-8 | Tetrachloro-m-xylene | 21.8 | | 31 - 151 | | 109% | SPK: 20 |

Report of Analysis

| | | | | | | |
|--------------------|-------------------------|-----------------|----------|------------------|---------------|----|
| Client: | LIRO GROUP LTD. | Date Collected: | 08/02/12 | | | |
| Project: | Travis Area SI Phase II | Date Received: | 08/02/12 | | | |
| Client Sample ID: | SB02-0-25(COMP) | SDG No.: | D3662 | | | |
| Lab Sample ID: | D3662-08 | Matrix: | SOIL | | | |
| Analytical Method: | SW8081B | % Moisture: | 10 | Decanted: | | |
| Sample Wt/Vol: | 30.12 | Units: | g | Final Vol: | 10000 | uL |
| Soil Aliquot Vol: | | | uL | Test: | Pesticide-TCL | |
| Extraction Type: | | | | Injection Volume | 1 | |
| GPC Factor : | 1.0 | PH: | N/A | | | |

| | | | | |
|-------------------|-----------|-----------|---------------|---------------|
| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
| PO003025.D | 1 | 08/03/12 | 08/08/12 | PB64869 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|------------|-----------|-------|-----------|-----|-----|------------|-------|
|------------|-----------|-------|-----------|-----|-----|------------|-------|

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

E = Value Exceeds Calibration Range

P = Indicates >25% difference for detected concentrations between the two GC columns

Q = indicates LCS control criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

* = Values outside of QC limits

D = Dilution

S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.

Report of Analysis

| | | | |
|--------------------|-------------------------|-----------------|--------------|
| Client: | LIRO GROUP LTD. | Date Collected: | 08/02/12 |
| Project: | Travis Area SI Phase II | Date Received: | 08/02/12 |
| Client Sample ID: | SB02-0-25(COMP) | SDG No.: | d3662 |
| Lab Sample ID: | D3662-08 | Matrix: | SOIL |
| Analytical Method: | SW8270D | % Moisture: | 10 |
| Sample Wt/Vol: | 30.05 Units: g | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC-TCL BNA |
| Extraction Type : | SOXH | Decanted : | N |
| Injection Volume : | 1 | Level : | LOW |
| | GPC Factor : 1.0 | GPC Cleanup : | N |
| | | PH: | N/A |

| | | | | |
|-------------------|-----------|-----------|---------------|---------------|
| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
| BG006561.D | 1 | 08/03/12 | 08/08/12 | PB64865 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|----------------|-----------------------------|-------|-----------|-----|-----|------------|-------|
| TARGETS | | | | | | | |
| 100-52-7 | Benzaldehyde | 185 | U | 19 | 185 | 370 | ug/Kg |
| 108-95-2 | Phenol | 185 | U | 8.5 | 185 | 370 | ug/Kg |
| 111-44-4 | bis(2-Chloroethyl)ether | 185 | U | 18 | 185 | 370 | ug/Kg |
| 95-57-8 | 2-Chlorophenol | 185 | U | 20 | 185 | 370 | ug/Kg |
| 95-48-7 | 2-Methylphenol | 185 | U | 20 | 185 | 370 | ug/Kg |
| 108-60-1 | 2,2-oxybis(1-Chloropropane) | 185 | U | 15 | 185 | 370 | ug/Kg |
| 98-86-2 | Acetophenone | 185 | U | 11 | 185 | 370 | ug/Kg |
| 65794-96-9 | 3+4-Methylphenols | 185 | U | 19 | 185 | 370 | ug/Kg |
| 621-64-7 | N-Nitroso-di-n-propylamine | 185 | U | 19 | 185 | 370 | ug/Kg |
| 67-72-1 | Hexachloroethane | 185 | U | 17 | 185 | 370 | ug/Kg |
| 98-95-3 | Nitrobenzene | 185 | U | 14 | 185 | 370 | ug/Kg |
| 78-59-1 | Isophorone | 185 | U | 12 | 185 | 370 | ug/Kg |
| 88-75-5 | 2-Nitrophenol | 185 | U | 18 | 185 | 370 | ug/Kg |
| 105-67-9 | 2,4-Dimethylphenol | 185 | U | 21 | 185 | 370 | ug/Kg |
| 111-91-1 | bis(2-Chloroethoxy)methane | 185 | U | 21 | 185 | 370 | ug/Kg |
| 120-83-2 | 2,4-Dichlorophenol | 185 | U | 14 | 185 | 370 | ug/Kg |
| 91-20-3 | Naphthalene | 185 | U | 13 | 185 | 370 | ug/Kg |
| 106-47-8 | 4-Chloroaniline | 185 | U | 26 | 185 | 370 | ug/Kg |
| 87-68-3 | Hexachlorobutadiene | 185 | U | 13 | 185 | 370 | ug/Kg |
| 105-60-2 | Caprolactam | 185 | U | 17 | 185 | 370 | ug/Kg |
| 59-50-7 | 4-Chloro-3-methylphenol | 185 | U | 16 | 185 | 370 | ug/Kg |
| 91-57-6 | 2-Methylnaphthalene | 185 | U | 9.3 | 185 | 370 | ug/Kg |
| 77-47-4 | Hexachlorocyclopentadiene | 185 | U | 9 | 185 | 370 | ug/Kg |
| 88-06-2 | 2,4,6-Trichlorophenol | 185 | U | 11 | 185 | 370 | ug/Kg |
| 95-95-4 | 2,4,5-Trichlorophenol | 185 | U | 26 | 185 | 370 | ug/Kg |
| 92-52-4 | 1,1-Biphenyl | 185 | U | 14 | 185 | 370 | ug/Kg |
| 91-58-7 | 2-Chloronaphthalene | 185 | U | 8.4 | 185 | 370 | ug/Kg |
| 88-74-4 | 2-Nitroaniline | 185 | U | 16 | 185 | 370 | ug/Kg |
| 131-11-3 | Dimethylphthalate | 400 | | 10 | 185 | 370 | ug/Kg |
| 208-96-8 | Acenaphthylene | 185 | U | 9.3 | 185 | 370 | ug/Kg |
| 606-20-2 | 2,6-Dinitrotoluene | 185 | U | 15 | 185 | 370 | ug/Kg |

Report of Analysis

| | | | |
|--------------------|-------------------------|-----------------|--------------|
| Client: | LIRO GROUP LTD. | Date Collected: | 08/02/12 |
| Project: | Travis Area SI Phase II | Date Received: | 08/02/12 |
| Client Sample ID: | SB02-0-25(COMP) | SDG No.: | d3662 |
| Lab Sample ID: | D3662-08 | Matrix: | SOIL |
| Analytical Method: | SW8270D | % Moisture: | 10 |
| Sample Wt/Vol: | 30.05 Units: g | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC-TCL BNA |
| Extraction Type : | SOXH Decanted : N | Level : | LOW |
| Injection Volume : | 1 GPC Factor : 1.0 | GPC Cleanup : | N PH : N/A |

| | | | | |
|-------------------|-----------|-----------|---------------|---------------|
| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
| BG006561.D | 1 | 08/03/12 | 08/08/12 | PB64865 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|------------|----------------------------|-------|-----------|-----|-----|------------|-------|
| 99-09-2 | 3-Nitroaniline | 185 | U | 24 | 185 | 370 | ug/Kg |
| 83-32-9 | Acenaphthene | 185 | U | 10 | 185 | 370 | ug/Kg |
| 51-28-5 | 2,4-Dinitrophenol | 185 | U | 38 | 185 | 370 | ug/Kg |
| 100-02-7 | 4-Nitrophenol | 185 | U | 69 | 185 | 370 | ug/Kg |
| 132-64-9 | Dibenzofuran | 185 | U | 14 | 185 | 370 | ug/Kg |
| 121-14-2 | 2,4-Dinitrotoluene | 185 | U | 11 | 185 | 370 | ug/Kg |
| 84-66-2 | Diethylphthalate | 185 | U | 5.8 | 185 | 370 | ug/Kg |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 185 | U | 20 | 185 | 370 | ug/Kg |
| 86-73-7 | Fluorene | 185 | U | 14 | 185 | 370 | ug/Kg |
| 100-01-6 | 4-Nitroaniline | 185 | U | 48 | 185 | 370 | ug/Kg |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | 185 | U | 21 | 185 | 370 | ug/Kg |
| 86-30-6 | N-Nitrosodiphenylamine | 185 | U | 8.9 | 185 | 370 | ug/Kg |
| 101-55-3 | 4-Bromophenyl-phenylether | 185 | U | 7.2 | 185 | 370 | ug/Kg |
| 118-74-1 | Hexachlorobenzene | 185 | U | 15 | 185 | 370 | ug/Kg |
| 1912-24-9 | Atrazine | 185 | U | 20 | 185 | 370 | ug/Kg |
| 87-86-5 | Pentachlorophenol | 185 | U | 25 | 185 | 370 | ug/Kg |
| 85-01-8 | Phenanthrene | 185 | U | 10 | 185 | 370 | ug/Kg |
| 120-12-7 | Anthracene | 185 | U | 7.5 | 185 | 370 | ug/Kg |
| 86-74-8 | Carbazole | 185 | U | 8.1 | 185 | 370 | ug/Kg |
| 84-74-2 | Di-n-butylphthalate | 185 | U | 29 | 185 | 370 | ug/Kg |
| 206-44-0 | Fluoranthene | 185 | U | 7.4 | 185 | 370 | ug/Kg |
| 129-00-0 | Pyrene | 185 | U | 8.9 | 185 | 370 | ug/Kg |
| 85-68-7 | Butylbenzylphthalate | 185 | U | 18 | 185 | 370 | ug/Kg |
| 91-94-1 | 3,3-Dichlorobenzidine | 185 | U | 24 | 185 | 370 | ug/Kg |
| 56-55-3 | Benzo(a)anthracene | 185 | U | 18 | 185 | 370 | ug/Kg |
| 218-01-9 | Chrysene | 185 | U | 17 | 185 | 370 | ug/Kg |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | 185 | U | 13 | 185 | 370 | ug/Kg |
| 117-84-0 | Di-n-octyl phthalate | 185 | U | 4.2 | 185 | 370 | ug/Kg |
| 205-99-2 | Benzo(b)fluoranthene | 185 | U | 12 | 185 | 370 | ug/Kg |
| 207-08-9 | Benzo(k)fluoranthene | 185 | U | 17 | 185 | 370 | ug/Kg |
| 50-32-8 | Benzo(a)pyrene | 185 | U | 8 | 185 | 370 | ug/Kg |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 185 | U | 12 | 185 | 370 | ug/Kg |
| 53-70-3 | Dibenz(a,h)anthracene | 185 | U | 11 | 185 | 370 | ug/Kg |

Report of Analysis

| | | | |
|--------------------|-------------------------|-----------------|--------------|
| Client: | LIRO GROUP LTD. | Date Collected: | 08/02/12 |
| Project: | Travis Area SI Phase II | Date Received: | 08/02/12 |
| Client Sample ID: | SB02-0-25(COMP) | SDG No.: | d3662 |
| Lab Sample ID: | D3662-08 | Matrix: | SOIL |
| Analytical Method: | SW8270D | % Moisture: | 10 |
| Sample Wt/Vol: | 30.05 Units: g | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC-TCL BNA |
| Extraction Type : | SOXH | Decanted : | N |
| Injection Volume : | 1 | Level : | LOW |
| | GPC Factor : 1.0 | GPC Cleanup : | N PH: N/A |

| | | | | |
|-------------------|-----------|-----------|---------------|---------------|
| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
| BG006561.D | 1 | 08/03/12 | 08/08/12 | PB64865 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---------------------------|----------------------------|--------|-----------|----------|-----|------------|----------|
| 191-24-2 | Benzo(g,h,i)perylene | 185 | U | 15 | 185 | 370 | ug/Kg |
| 95-94-3 | 1,2,4,5-Tetrachlorobenzene | 185 | U | 15 | 185 | 370 | ug/Kg |
| 58-90-2 | 2,3,4,6-Tetrachlorophenol | 185 | U | 15 | 185 | 370 | ug/Kg |
| SURROGATES | | | | | | | |
| 367-12-4 | 2-Fluorophenol | 122 | | 28 - 127 | | 82% | SPK: 150 |
| 13127-88-3 | Phenol-d5 | 128 | | 34 - 127 | | 86% | SPK: 150 |
| 4165-60-0 | Nitrobenzene-d5 | 84 | | 31 - 132 | | 84% | SPK: 100 |
| 321-60-8 | 2-Fluorobiphenyl | 77.9 | | 39 - 123 | | 78% | SPK: 100 |
| 118-79-6 | 2,4,6-Tribromophenol | 109 | | 30 - 133 | | 73% | SPK: 150 |
| 1718-51-0 | Terphenyl-d14 | 78.4 | | 37 - 115 | | 78% | SPK: 100 |
| INTERNAL STANDARDS | | | | | | | |
| 3855-82-1 | 1,4-Dichlorobenzene-d4 | 105545 | | 8.72 | | | |
| 1146-65-2 | Naphthalene-d8 | 385979 | | 10.92 | | | |
| 15067-26-2 | Acenaphthene-d10 | 275829 | | 13.9 | | | |
| 1517-22-2 | Phenanthrene-d10 | 509866 | | 16.4 | | | |
| 1719-03-5 | Chrysene-d12 | 577998 | | 20.92 | | | |
| 1520-96-3 | Perylene-d12 | 543358 | | 24.84 | | | |

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

E = Value Exceeds Calibration Range

Q = indicates LCS control criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

* = Values outside of QC limits

D = Dilution



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Report of Analysis

| | | | |
|-------------------|-------------------------|-----------------|----------|
| Client: | LIRO GROUP LTD. | Date Collected: | 08/01/12 |
| Project: | Travis Area SI Phase II | Date Received: | 08/02/12 |
| Client Sample ID: | WC-03(SB05-SB06-SB07) | SDG No.: | D3662 |
| Lab Sample ID: | D3662-09 | Matrix: | SOIL |
| | | % Solid: | 89.4 |

| Parameter | Conc. | Qua. | DF | MDL | LOD | LOQ / CRQL | Units | Prep Date | Date Ana. | Ana Met. |
|---------------------|-------|------|----|------|------|------------|-------|-----------|-----------|----------|
| Corrosivity (as pH) | 7.43 | | 1 | 0 | 0 | 0 | pH | 08/03/12 | 08/03/12 | SW9045C |
| Ignitability | NO | | 1 | 0 | 0 | 0 | o C | 08/03/12 | 08/03/12 | 1030 |
| Reactive Cyanide | 0.05 | U | 1 | 0.05 | 0.05 | 0.05 | mg/Kg | 08/07/12 | 08/07/12 | 9012B |
| Reactive Sulfide | 14 | | 1 | 10 | 10 | 10 | mg/Kg | 08/07/12 | 08/07/12 | 9034 |

Comments:

U = Not Detected
 LOQ = Limit of Quantitation
 MDL = Method Detection Limit
 LOD = Limit of Detection
 D = Dilution
 Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
 B = Analyte Found in Associated Method Blank
 * = indicates the duplicate analysis is not within control limits.
 E = Indicates the reported value is estimated because of the presence of interference.
 OR = Over Range

HAZ - Spiked sample recovery not within control limits



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Report of Analysis

| | | | | | |
|--------------------|-------------------------|----------|------------------|-----------------------|-----------|
| Client: | LIRO GROUP LTD. | | Date Collected: | 08/01/12 | |
| Project: | Travis Area SI Phase II | | Date Received: | 08/02/12 | |
| Client Sample ID: | WC-03(SB05-SB06-SB07) | | SDG No.: | D3662 | |
| Lab Sample ID: | D3662-09 | | Matrix: | SOIL | |
| Analytical Method: | 8015B | | % Moisture: | 10.6 | Decanted: |
| Sample Wt/Vol: | 30.11 | Units: g | Final Vol: | 1 | mL |
| Soil Aliquot Vol: | | uL | Test: | Diesel Range Organics | |
| Extraction Type: | | | Injection Volume | | |
| GPC Factor : | | PH : | | | |

| | | | | |
|-------------------|-----------|-----------|---------------|---------------|
| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
| FD002448.D | 1 | 08/03/12 | 08/07/12 | PB64866 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|-------------------|-----------|-------|-----------|----------|-----|------------|---------|
| TARGETS | | | | | | | |
| DRO | DRO | 6761 | | 743 | 930 | 1860 | ug/kg |
| SURROGATES | | | | | | | |
| DRO SURR | DRO SURR | 17.4 | | 50 - 150 | | 87% | SPK: 20 |

U = Not Detected
 LOQ = Limit of Quantitation
 MDL = Method Detection Limit
 LOD = Limit of Detection
 E = Value Exceeds Calibration Range
 P = Indicates >25% difference for detected concentrations between the two GC columns
 Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
 B = Analyte Found in Associated Method Blank
 N = Presumptive Evidence of a Compound
 * = Values outside of QC limits
 D = Dilution
 S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.



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Report of Analysis

| | | | | |
|--------------------|-------------------------|------------------|-------------------------|-----------|
| Client: | LIRO GROUP LTD. | Date Collected: | 08/01/12 | |
| Project: | Travis Area SI Phase II | Date Received: | 08/02/12 | |
| Client Sample ID: | WC-03(SB05-SB06-SB07) | SDG No.: | D3662 | |
| Lab Sample ID: | D3662-09 | Matrix: | SOIL | |
| Analytical Method: | 8015B | % Moisture: | 10.6 | Decanted: |
| Sample Wt/Vol: | 5 Units: g | Final Vol: | 5 mL | |
| Soil Aliquot Vol: | uL | Test: | Gasoline Range Organics | |
| Extraction Type: | | Injection Volume | | |
| GPC Factor : | PH : | | | |

| | | | | |
|-------------------|-----------|-----------|---------------|---------------|
| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
| FB001807.D | 1 | | 08/08/12 | FB080812 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|-------------------|-----------|-------|-----------|----------|-----|------------|---------|
| TARGETS | | | | | | | |
| GRO | GRO | 25 | U | 13 | 25 | 50 | ug/kg |
| SURROGATES | | | | | | | |
| GRO SURR | GRO SURR | 16.7 | | 50 - 150 | | 83% | SPK: 20 |

U = Not Detected
 LOQ = Limit of Quantitation
 MDL = Method Detection Limit
 LOD = Limit of Detection
 E = Value Exceeds Calibration Range
 P = Indicates >25% difference for detected concentrations between the two GC columns
 Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
 B = Analyte Found in Associated Method Blank
 N = Presumptive Evidence of a Compound
 * = Values outside of QC limits
 D = Dilution
 S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.

Report of Analysis

| | | | | | |
|--------------------|-------------------------|----------|------------------|----------|-----------|
| Client: | LIRO GROUP LTD. | | Date Collected: | 08/01/12 | |
| Project: | Travis Area SI Phase II | | Date Received: | 08/02/12 | |
| Client Sample ID: | WC-03(SB05-SB06-SB07) | | SDG No.: | D3662 | |
| Lab Sample ID: | D3662-09 | | Matrix: | SOIL | |
| Analytical Method: | SW8082A | | % Moisture: | 11 | Decanted: |
| Sample Wt/Vol: | 30.09 | Units: g | Final Vol: | 10000 | uL |
| Soil Aliquot Vol: | | uL | Test: | PCB | |
| Extraction Type: | | | Injection Volume | 1 | |
| GPC Factor : | 1.0 | PH: N/A | | | |

| | | | | |
|-------------------|-----------|-----------|---------------|---------------|
| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
| PB002649.D | 1 | 08/03/12 | 08/09/12 | PB64868 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|-------------------|----------------------|-------|-----------|----------|-----|------------|---------|
| TARGETS | | | | | | | |
| 12674-11-2 | Aroclor-1016 | 9.5 | U | 3.9 | 9.5 | 19 | ug/Kg |
| 11104-28-2 | Aroclor-1221 | 9.5 | U | 3.8 | 9.5 | 19 | ug/Kg |
| 11141-16-5 | Aroclor-1232 | 9.5 | U | 8.4 | 9.5 | 19 | ug/Kg |
| 53469-21-9 | Aroclor-1242 | 9.5 | U | 3.8 | 9.5 | 19 | ug/Kg |
| 12672-29-6 | Aroclor-1248 | 9.5 | U | 7.4 | 9.5 | 19 | ug/Kg |
| 11097-69-1 | Aroclor-1254 | 9.5 | U | 1.7 | 9.5 | 19 | ug/Kg |
| 11096-82-5 | Aroclor-1260 | 9.5 | U | 4.6 | 9.5 | 19 | ug/Kg |
| SURROGATES | | | | | | | |
| 877-09-8 | Tetrachloro-m-xylene | 14.5 | | 10 - 166 | | 72% | SPK: 20 |
| 2051-24-3 | Decachlorobiphenyl | 11 | * | 60 - 125 | | 55% | SPK: 20 |

U = Not Detected
 LOQ = Limit of Quantitation
 MDL = Method Detection Limit
 LOD = Limit of Detection
 E = Value Exceeds Calibration Range
 P = Indicates >25% difference for detected concentrations between the two GC columns
 Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
 B = Analyte Found in Associated Method Blank
 N = Presumptive Evidence of a Compound
 * = Values outside of QC limits
 D = Dilution
 S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.

Report of Analysis

| | | | | | |
|--------------------|-------------------------|--------------|-----------------|---------------|--------|
| Client: | LIRO GROUP LTD. | | Date Collected: | 08/01/12 | |
| Project: | Travis Area SI Phase II | | Date Received: | 08/02/12 | |
| Client Sample ID: | WC-03(SB05-SB06-SB07) | | SDG No.: | D3662 | |
| Lab Sample ID: | D3662-09 | | Matrix: | TCLP | |
| Analytical Method: | SW8270D | | % Moisture: | 100 | |
| Sample Wt/Vol: | 100 | Units: mL | Final Vol: | 1000 | uL |
| Soil Aliquot Vol: | | uL | Test: | TCLP BNA | |
| Extraction Type : | SEPF | Decanted : | N | Level : | LOW |
| Injection Volume : | 1 | GPC Factor : | 1.0 | GPC Cleanup : | N PH : |

| | | | | |
|-------------------|-----------|-----------|---------------|---------------|
| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
| BG006527.D | 1 | 08/06/12 | 08/07/12 | PB64879 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---------------------------|------------------------|--------|-----------|----------|-----|------------|----------|
| TARGETS | | | | | | | |
| 110-86-1 | Pyridine | 50 | U | 20 | 50 | 100 | ug/L |
| 106-46-7 | 1,4-Dichlorobenzene | 50 | U | 2 | 50 | 100 | ug/L |
| 95-48-7 | 2-Methylphenol | 50 | U | 2.4 | 50 | 100 | ug/L |
| 65794-96-9 | 3+4-Methylphenols | 50 | U | 3.8 | 50 | 100 | ug/L |
| 67-72-1 | Hexachloroethane | 50 | U | 2.5 | 50 | 100 | ug/L |
| 98-95-3 | Nitrobenzene | 50 | U | 6.8 | 50 | 100 | ug/L |
| 87-68-3 | Hexachlorobutadiene | 50 | U | 2.5 | 50 | 100 | ug/L |
| 88-06-2 | 2,4,6-Trichlorophenol | 50 | U | 5.6 | 50 | 100 | ug/L |
| 95-95-4 | 2,4,5-Trichlorophenol | 50 | U | 4 | 50 | 100 | ug/L |
| 121-14-2 | 2,4-Dinitrotoluene | 50 | U | 10 | 50 | 100 | ug/L |
| 118-74-1 | Hexachlorobenzene | 50 | U | 1.8 | 50 | 100 | ug/L |
| 87-86-5 | Pentachlorophenol | 50 | U | 17 | 50 | 100 | ug/L |
| SURROGATES | | | | | | | |
| 367-12-4 | 2-Fluorophenol | 129 | | 10 - 130 | | 87% | SPK: 150 |
| 13127-88-3 | Phenol-d5 | 115 | | 10 - 130 | | 77% | SPK: 150 |
| 4165-60-0 | Nitrobenzene-d5 | 103 | | 36 - 131 | | 104% | SPK: 100 |
| 321-60-8 | 2-Fluorobiphenyl | 100 | | 39 - 131 | | 100% | SPK: 100 |
| 118-79-6 | 2,4,6-Tribromophenol | 142 | | 25 - 155 | | 95% | SPK: 150 |
| 1718-51-0 | Terphenyl-d14 | 99.7 | | 23 - 130 | | 100% | SPK: 100 |
| INTERNAL STANDARDS | | | | | | | |
| 3855-82-1 | 1,4-Dichlorobenzene-d4 | 114576 | 8.72 | | | | |
| 1146-65-2 | Naphthalene-d8 | 399754 | 10.91 | | | | |
| 15067-26-2 | Acenaphthene-d10 | 286760 | 13.91 | | | | |
| 1517-22-2 | Phenanthrene-d10 | 518884 | 16.4 | | | | |
| 1719-03-5 | Chrysene-d12 | 595909 | 20.92 | | | | |
| 1520-96-3 | Perylene-d12 | 555697 | 24.84 | | | | |



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Report of Analysis

| | | | | | |
|--------------------|-------------------------|--------------|-----------------|---------------|--------|
| Client: | LIRO GROUP LTD. | | Date Collected: | 08/01/12 | |
| Project: | Travis Area SI Phase II | | Date Received: | 08/02/12 | |
| Client Sample ID: | WC-03(SB05-SB06-SB07) | | SDG No.: | D3662 | |
| Lab Sample ID: | D3662-09 | | Matrix: | TCLP | |
| Analytical Method: | SW8270D | | % Moisture: | 100 | |
| Sample Wt/Vol: | 100 | Units: mL | Final Vol: | 1000 | uL |
| Soil Aliquot Vol: | | uL | Test: | TCLP BNA | |
| Extraction Type : | SEPF | Decanted : | N | Level : | LOW |
| Injection Volume : | 1 | GPC Factor : | 1.0 | GPC Cleanup : | N PH : |

| | | | | |
|-------------------|-----------|-----------|---------------|---------------|
| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
| BG006527.D | 1 | 08/06/12 | 08/07/12 | PB64879 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|------------|-----------|-------|-----------|-----|-----|------------|-------|
|------------|-----------|-------|-----------|-----|-----|------------|-------|

U = Not Detected
 LOQ = Limit of Quantitation
 MDL = Method Detection Limit
 LOD = Limit of Detection
 E = Value Exceeds Calibration Range
 Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
 B = Analyte Found in Associated Method Blank
 N = Presumptive Evidence of a Compound
 * = Values outside of QC limits
 D = Dilution



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Report of Analysis

| | | | | |
|--------------------|-------------------------|------------------|----------------|-----------|
| Client: | LIRO GROUP LTD. | Date Collected: | 08/01/12 | |
| Project: | Travis Area SI Phase II | Date Received: | 08/02/12 | |
| Client Sample ID: | WC-03(SB05-SB06-SB07) | SDG No.: | D3662 | |
| Lab Sample ID: | D3662-09 | Matrix: | TCLP | |
| Analytical Method: | SW8151A | % Moisture: | 100 | Decanted: |
| Sample Wt/Vol: | 100 Units: mL | Final Vol: | 10000 | uL |
| Soil Aliquot Vol: | uL | Test: | TCLP Herbicide | |
| Extraction Type: | | Injection Volume | 1 | |
| GPC Factor : | 1.0 | PH : | | |

| | | | | |
|-------------------|-----------|-----------|---------------|---------------|
| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
| PE005469.D | 1 | 08/06/12 | 08/07/12 | PB64880 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|-------------------|-------------------|-------|-----------|----------|-----|------------|----------|
| TARGETS | | | | | | | |
| 94-75-7 | 2,4-D | 10 | U | 3.48 | 10 | 20 | ug/L |
| 93-72-1 | 2,4,5-TP (SILVEX) | 10 | U | 1.51 | 10 | 20 | ug/L |
| SURROGATES | | | | | | | |
| 19719-28-9 | 2,4-DCAA | 290 | | 43 - 172 | | 58% | SPK: 500 |

U = Not Detected
 LOQ = Limit of Quantitation
 MDL = Method Detection Limit
 LOD = Limit of Detection
 E = Value Exceeds Calibration Range
 P = Indicates >25% difference for detected concentrations between the two GC columns
 Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
 B = Analyte Found in Associated Method Blank
 N = Presumptive Evidence of a Compound
 * = Values outside of QC limits
 D = Dilution
 S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.



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Report of Analysis

| | | | |
|-------------------|-------------------------|-----------------|----------|
| Client: | LIRO GROUP LTD. | Date Collected: | 08/01/12 |
| Project: | Travis Area SI Phase II | Date Received: | 08/02/12 |
| Client Sample ID: | WC-03(SB05-SB06-SB07) | SDG No.: | D3662 |
| Lab Sample ID: | D3662-09 | Matrix: | TCLP |
| Level (low/med): | low | % Solid: | 0 |

| Cas | Parameter | Conc. | Qua. | DF | MDL | LOD | LOQ / CRQL | Units | Prep Date | Date Ana. | Ana Met. |
|-----------|-----------|-------|------|----|-------|-----|------------|-------|-----------|-----------|----------|
| 7440-38-2 | Arsenic | 50 | UN | 1 | 42 | 50 | 100 | ug/L | 08/06/12 | 08/06/12 | 6010B |
| 7440-39-3 | Barium | 703 | * | 1 | 40 | 250 | 500 | ug/L | 08/06/12 | 08/06/12 | 6010B |
| 7440-43-9 | Cadmium | 15 | U | 1 | 5 | 15 | 30 | ug/L | 08/06/12 | 08/06/12 | 6010B |
| 7440-47-3 | Chromium | 25 | UN | 1 | 11 | 25 | 50 | ug/L | 08/06/12 | 08/06/12 | 6010B |
| 7439-92-1 | Lead | 30 | U | 1 | 26 | 30 | 60 | ug/L | 08/06/12 | 08/06/12 | 6010B |
| 7439-97-6 | Mercury | 1 | U | 1 | 0.915 | 1 | 2 | ug/L | 08/07/12 | 08/08/12 | SW7470A |
| 7782-49-2 | Selenium | 50 | U | 1 | 48 | 50 | 100 | ug/L | 08/06/12 | 08/06/12 | 6010B |
| 7440-22-4 | Silver | 25 | UN | 1 | 15 | 25 | 50 | ug/L | 08/06/12 | 08/06/12 | 6010B |

| | | | | |
|---------------|-----------|-----------------|------------|-------|
| Color Before: | Colorless | Clarity Before: | Texture: | CLEAR |
| Color After: | Colorless | Clarity After: | Artifacts: | CLEAR |
| Comments: | TCLP-FULL | | | |

U = Not Detected
 LOQ = Limit of Quantitation
 MDL = Method Detection Limit
 LOD = Limit of Detection
 D = Dilution
 Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
 B = Analyte Found in Associated Method Blank
 * = indicates the duplicate analysis is not within control limits.
 E = Indicates the reported value is estimated because of the presence of interference.
 OR = Over Range
 HAZ. -150 Spiked sample recovery not within control limits

Report of Analysis

| | | | | | | |
|--------------------|-------------------------|-----------------|----------|------------------|----------------|----|
| Client: | LIRO GROUP LTD. | Date Collected: | 08/01/12 | | | |
| Project: | Travis Area SI Phase II | Date Received: | 08/02/12 | | | |
| Client Sample ID: | WC-03(SB05-SB06-SB07) | SDG No.: | D3662 | | | |
| Lab Sample ID: | D3662-09 | Matrix: | TCLP | | | |
| Analytical Method: | SW8081B | % Moisture: | 100 | Decanted: | | |
| Sample Wt/Vol: | 100 | Units: | mL | Final Vol: | 10000 | uL |
| Soil Aliquot Vol: | | | uL | Test: | TCLP Pesticide | |
| Extraction Type: | | | | Injection Volume | 1 | |
| GPC Factor : | 1.0 | PH : | | | | |

| | | | | |
|-------------------|-----------|-----------|---------------|---------------|
| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
| PO002992.D | 1 | 08/06/12 | 08/07/12 | PB64881 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|-------------------|----------------------|-------|-----------|----------|------|------------|---------|
| TARGETS | | | | | | | |
| 58-89-9 | gamma-BHC | 0.25 | U | 0.055 | 0.25 | 0.5 | ug/L |
| 76-44-8 | Heptachlor | 0.25 | U | 0.069 | 0.25 | 0.5 | ug/L |
| 1024-57-3 | Heptachlor epoxide | 0.25 | U | 0.067 | 0.25 | 0.5 | ug/L |
| 72-20-8 | Endrin | 0.25 | U | 0.058 | 0.25 | 0.5 | ug/L |
| 72-43-5 | Methoxychlor | 0.25 | U | 0.042 | 0.25 | 0.5 | ug/L |
| 8001-35-2 | Toxaphene | 2.5 | U | 1 | 2.5 | 5 | ug/L |
| 57-74-9 | Chlordane | 2.5 | U | 1 | 2.5 | 5 | ug/L |
| SURROGATES | | | | | | | |
| 2051-24-3 | Decachlorobiphenyl | 17.8 | | 10 - 192 | | 89% | SPK: 20 |
| 877-09-8 | Tetrachloro-m-xylene | 22.8 | | 10 - 172 | | 114% | SPK: 20 |

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P = Indicates >25% difference for detected concentrations between the two GC columns

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J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

* = Values outside of QC limits

D = Dilution

S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.

Report of Analysis

| | | | |
|--------------------|-------------------------|-----------------|----------|
| Client: | LIRO GROUP LTD. | Date Collected: | 08/01/12 |
| Project: | Travis Area SI Phase II | Date Received: | 08/02/12 |
| Client Sample ID: | WC-03(SB05-SB06-SB07) | SDG No.: | D3662 |
| Lab Sample ID: | D3662-09 | Matrix: | TCLP |
| Analytical Method: | SW8260C | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | TCLP VOA |
| GC Column: | RTX-VMS ID: 0.18 | Level: | LOW |

| | | | | |
|-------------------|-----------|-----------|---------------|---------------|
| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
| VH048723.D | 5 | | 08/06/12 | VH080612 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---------------------------|------------------------|--------|-----------|----------|------|------------|---------|
| TARGETS | | | | | | | |
| 75-01-4 | Vinyl Chloride | 12.5 | U | 1.7 | 12.5 | 25 | ug/L |
| 75-35-4 | 1,1-Dichloroethene | 12.5 | U | 2.4 | 12.5 | 25 | ug/L |
| 78-93-3 | 2-Butanone | 60 | U | 6.6 | 60 | 120 | ug/L |
| 56-23-5 | Carbon Tetrachloride | 12.5 | U | 3.1 | 12.5 | 25 | ug/L |
| 67-66-3 | Chloroform | 12.5 | U | 1.7 | 12.5 | 25 | ug/L |
| 71-43-2 | Benzene | 12.5 | U | 1.6 | 12.5 | 25 | ug/L |
| 107-06-2 | 1,2-Dichloroethane | 12.5 | U | 2.4 | 12.5 | 25 | ug/L |
| 79-01-6 | Trichloroethene | 12.5 | U | 1.4 | 12.5 | 25 | ug/L |
| 127-18-4 | Tetrachloroethene | 12.5 | U | 1.4 | 12.5 | 25 | ug/L |
| 108-90-7 | Chlorobenzene | 12.5 | U | 2.4 | 12.5 | 25 | ug/L |
| SURROGATES | | | | | | | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 52.9 | | 61 - 141 | | 106% | SPK: 50 |
| 1868-53-7 | Dibromofluoromethane | 51 | | 69 - 133 | | 102% | SPK: 50 |
| 2037-26-5 | Toluene-d8 | 52.8 | | 65 - 126 | | 106% | SPK: 50 |
| 460-00-4 | 4-Bromofluorobenzene | 57.1 | | 58 - 135 | | 114% | SPK: 50 |
| INTERNAL STANDARDS | | | | | | | |
| 363-72-4 | Pentafluorobenzene | 383862 | 4.95 | | | | |
| 540-36-3 | 1,4-Difluorobenzene | 614033 | 5.67 | | | | |
| 3114-55-4 | Chlorobenzene-d5 | 649918 | 9.78 | | | | |
| 3855-82-1 | 1,4-Dichlorobenzene-d4 | 367796 | 12.52 | | | | |

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Q = indicates LCS control criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

* = Values outside of QC limits

D = Dilution

Report of Analysis

| | | | |
|-------------------|-------------------------|-----------------|----------|
| Client: | LIRO GROUP LTD. | Date Collected: | 08/01/12 |
| Project: | Travis Area SI Phase II | Date Received: | 08/02/12 |
| Client Sample ID: | WC-01(SB01-SB02) | SDG No.: | D3662 |
| Lab Sample ID: | D3662-10 | Matrix: | SOIL |
| | | % Solid: | 89.3 |

| Parameter | Conc. | Qua. | DF | MDL | LOD | LOQ / CRQL | Units | Prep Date | Date Ana. | Ana Met. |
|---------------------|-------|------|----|------|------|------------|-------|-----------|-----------|----------|
| Corrosivity (as pH) | 5.58 | | 1 | 0 | 0 | 0 | pH | 08/03/12 | 08/03/12 | SW9045C |
| Ignitability | NO | | 1 | 0 | 0 | 0 | o C | 08/03/12 | 08/03/12 | 1030 |
| Reactive Cyanide | 0.05 | U | 1 | 0.05 | 0.05 | 0.05 | mg/Kg | 08/07/12 | 08/07/12 | 9012B |
| Reactive Sulfide | 14 | | 1 | 10 | 10 | 10 | mg/Kg | 08/07/12 | 08/07/12 | 9034 |

Comments:

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 B = Analyte Found in Associated Method Blank
 * = indicates the duplicate analysis is not within control limits.
 E = Indicates the reported value is estimated because of the presence of interference.
 OR = Over Range
 HAZN = Spiked sample recovery not within control limits

Report of Analysis

| | | | |
|--------------------|-------------------------|------------------|---------------------------|
| Client: | LIRO GROUP LTD. | Date Collected: | 08/01/12 |
| Project: | Travis Area SI Phase II | Date Received: | 08/02/12 |
| Client Sample ID: | WC-01(SB01-SB02) | SDG No.: | D3662 |
| Lab Sample ID: | D3662-10 | Matrix: | SOIL |
| Analytical Method: | 8015B | % Moisture: | 10.7 Decanted: |
| Sample Wt/Vol: | 30.04 Units: g | Final Vol: | 1 mL |
| Soil Aliquot Vol: | uL | Test: | Diesel Range Organics |
| Extraction Type: | | Injection Volume | |
| GPC Factor : | PH : | | |

| | | | | |
|-------------------|-----------|-----------|---------------|---------------|
| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
| FD002449.D | 1 | 08/03/12 | 08/07/12 | PB64866 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|-------------------|-----------|-------|-----------|----------|-----|------------|---------|
| TARGETS | | | | | | | |
| DRO | DRO | 5629 | | 746 | 930 | 1860 | ug/kg |
| SURROGATES | | | | | | | |
| DRO SURR | DRO SURR | 16.6 | | 50 - 150 | | 83% | SPK: 20 |

U = Not Detected

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MDL = Method Detection Limit

LOD = Limit of Detection

E = Value Exceeds Calibration Range

P = Indicates >25% difference for detected concentrations between the two GC columns

Q = indicates LCS control criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

* = Values outside of QC limits

D = Dilution

S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.

Report of Analysis

| | | | | | | |
|--------------------|-------------------------|-----------------|----------|------------------|-------------------------|----|
| Client: | LIRO GROUP LTD. | Date Collected: | 08/01/12 | | | |
| Project: | Travis Area SI Phase II | Date Received: | 08/02/12 | | | |
| Client Sample ID: | WC-01(SB01-SB02) | SDG No.: | D3662 | | | |
| Lab Sample ID: | D3662-10 | Matrix: | SOIL | | | |
| Analytical Method: | 8015B | % Moisture: | 10.7 | Decanted: | | |
| Sample Wt/Vol: | 5 | Units: | g | Final Vol: | 5 | mL |
| Soil Aliquot Vol: | | | uL | Test: | Gasoline Range Organics | |
| Extraction Type: | | | | Injection Volume | | |
| GPC Factor : | | PH : | | | | |

| | | | | |
|-------------------|-----------|-----------|---------------|---------------|
| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
| FB001808.D | 1 | | 08/08/12 | FB080812 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|-------------------|-----------|-------|-----------|----------|-----|------------|---------|
| TARGETS | | | | | | | |
| GRO | GRO | 25 | U | 13 | 25 | 50 | ug/kg |
| SURROGATES | | | | | | | |
| GRO SURR | GRO SURR | 16.9 | | 50 - 150 | | 84% | SPK: 20 |

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LOD = Limit of Detection

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P = Indicates >25% difference for detected concentrations between the two GC columns

Q = indicates LCS control criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

* = Values outside of QC limits

D = Dilution

S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.

Report of Analysis

| | | | | | |
|--------------------|-------------------------|----------|------------------|----------|-----------|
| Client: | LIRO GROUP LTD. | | Date Collected: | 08/01/12 | |
| Project: | Travis Area SI Phase II | | Date Received: | 08/02/12 | |
| Client Sample ID: | WC-01(SB01-SB02) | | SDG No.: | D3662 | |
| Lab Sample ID: | D3662-10 | | Matrix: | SOIL | |
| Analytical Method: | SW8082A | | % Moisture: | 11 | Decanted: |
| Sample Wt/Vol: | 30.11 | Units: g | Final Vol: | 10000 | uL |
| Soil Aliquot Vol: | | uL | Test: | PCB | |
| Extraction Type: | | | Injection Volume | 1 | |
| GPC Factor : | 1.0 | PH: N/A | | | |

| | | | | |
|-------------------|-----------|-----------|---------------|---------------|
| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
| PB002650.D | 1 | 08/03/12 | 08/09/12 | PB64868 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|-------------------|----------------------|-------|-----------|----------|-----|------------|---------|
| TARGETS | | | | | | | |
| 12674-11-2 | Aroclor-1016 | 9.5 | U | 3.9 | 9.5 | 19 | ug/Kg |
| 11104-28-2 | Aroclor-1221 | 9.5 | U | 3.8 | 9.5 | 19 | ug/Kg |
| 11141-16-5 | Aroclor-1232 | 9.5 | U | 8.4 | 9.5 | 19 | ug/Kg |
| 53469-21-9 | Aroclor-1242 | 9.5 | U | 3.8 | 9.5 | 19 | ug/Kg |
| 12672-29-6 | Aroclor-1248 | 9.5 | U | 7.4 | 9.5 | 19 | ug/Kg |
| 11097-69-1 | Aroclor-1254 | 9.5 | U | 1.7 | 9.5 | 19 | ug/Kg |
| 11096-82-5 | Aroclor-1260 | 21 | | 4.6 | 9.5 | 19 | ug/Kg |
| SURROGATES | | | | | | | |
| 877-09-8 | Tetrachloro-m-xylene | 13.7 | | 10 - 166 | | 68% | SPK: 20 |
| 2051-24-3 | Decachlorobiphenyl | 12.9 | | 60 - 125 | | 64% | SPK: 20 |

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B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

* = Values outside of QC limits

D = Dilution

S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.

Report of Analysis

| | | | |
|--------------------|-------------------------|-----------------|----------|
| Client: | LIRO GROUP LTD. | Date Collected: | 08/01/12 |
| Project: | Travis Area SI Phase II | Date Received: | 08/02/12 |
| Client Sample ID: | WC-01(SB01-SB02) | SDG No.: | D3662 |
| Lab Sample ID: | D3662-10 | Matrix: | TCLP |
| Analytical Method: | SW8270D | % Moisture: | 100 |
| Sample Wt/Vol: | 100 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | TCLP BNA |
| Extraction Type : | SEPF | Decanted : | N |
| Injection Volume : | 1 | Level : | LOW |
| | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| | | | | |
|-------------------|-----------|-----------|---------------|---------------|
| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
| BF057990.D | 1 | 08/06/12 | 08/07/12 | PB64879 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---------------------------|------------------------|--------|-----------|----------|-----|------------|----------|
| TARGETS | | | | | | | |
| 110-86-1 | Pyridine | 50 | U | 20 | 50 | 100 | ug/L |
| 106-46-7 | 1,4-Dichlorobenzene | 50 | U | 2 | 50 | 100 | ug/L |
| 95-48-7 | 2-Methylphenol | 50 | U | 2.4 | 50 | 100 | ug/L |
| 65794-96-9 | 3+4-Methylphenols | 50 | U | 3.8 | 50 | 100 | ug/L |
| 67-72-1 | Hexachloroethane | 50 | U | 2.5 | 50 | 100 | ug/L |
| 98-95-3 | Nitrobenzene | 50 | U | 6.8 | 50 | 100 | ug/L |
| 87-68-3 | Hexachlorobutadiene | 50 | U | 2.5 | 50 | 100 | ug/L |
| 88-06-2 | 2,4,6-Trichlorophenol | 50 | U | 5.6 | 50 | 100 | ug/L |
| 95-95-4 | 2,4,5-Trichlorophenol | 50 | U | 4 | 50 | 100 | ug/L |
| 121-14-2 | 2,4-Dinitrotoluene | 50 | U | 10 | 50 | 100 | ug/L |
| 118-74-1 | Hexachlorobenzene | 50 | U | 1.8 | 50 | 100 | ug/L |
| 87-86-5 | Pentachlorophenol | 50 | U | 17 | 50 | 100 | ug/L |
| SURROGATES | | | | | | | |
| 367-12-4 | 2-Fluorophenol | 118 | | 10 - 130 | | 79% | SPK: 150 |
| 13127-88-3 | Phenol-d5 | 110 | | 10 - 130 | | 74% | SPK: 150 |
| 4165-60-0 | Nitrobenzene-d5 | 98.8 | | 36 - 131 | | 99% | SPK: 100 |
| 321-60-8 | 2-Fluorobiphenyl | 103 | | 39 - 131 | | 103% | SPK: 100 |
| 118-79-6 | 2,4,6-Tribromophenol | 137 | | 25 - 155 | | 91% | SPK: 150 |
| 1718-51-0 | Terphenyl-d14 | 107 | | 23 - 130 | | 107% | SPK: 100 |
| INTERNAL STANDARDS | | | | | | | |
| 3855-82-1 | 1,4-Dichlorobenzene-d4 | 117106 | 5.35 | | | | |
| 1146-65-2 | Naphthalene-d8 | 430618 | 6.73 | | | | |
| 15067-26-2 | Acenaphthene-d10 | 209799 | 8.57 | | | | |
| 1517-22-2 | Phenanthrene-d10 | 338591 | 10.56 | | | | |
| 1719-03-5 | Chrysene-d12 | 256153 | 14.65 | | | | |
| 1520-96-3 | Perylene-d12 | 223383 | 16.8 | | | | |



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Report of Analysis

| | | | | | |
|--------------------|-------------------------|--------------|-----------------|---------------|--------|
| Client: | LIRO GROUP LTD. | | Date Collected: | 08/01/12 | |
| Project: | Travis Area SI Phase II | | Date Received: | 08/02/12 | |
| Client Sample ID: | WC-01(SB01-SB02) | | SDG No.: | D3662 | |
| Lab Sample ID: | D3662-10 | | Matrix: | TCLP | |
| Analytical Method: | SW8270D | | % Moisture: | 100 | |
| Sample Wt/Vol: | 100 | Units: mL | Final Vol: | 1000 | uL |
| Soil Aliquot Vol: | | uL | Test: | TCLP BNA | |
| Extraction Type : | SEPF | Decanted : | N | Level : | LOW |
| Injection Volume : | 1 | GPC Factor : | 1.0 | GPC Cleanup : | N PH : |

| | | | | |
|-------------------|-----------|-----------|---------------|---------------|
| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
| BF057990.D | 1 | 08/06/12 | 08/07/12 | PB64879 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|------------|-----------|-------|-----------|-----|-----|------------|-------|
|------------|-----------|-------|-----------|-----|-----|------------|-------|

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 MDL = Method Detection Limit
 LOD = Limit of Detection
 E = Value Exceeds Calibration Range
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 B = Analyte Found in Associated Method Blank
 N = Presumptive Evidence of a Compound
 * = Values outside of QC limits
 D = Dilution



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Report of Analysis

| | | | |
|--------------------|-------------------------|------------------|----------------|
| Client: | LIRO GROUP LTD. | Date Collected: | 08/01/12 |
| Project: | Travis Area SI Phase II | Date Received: | 08/02/12 |
| Client Sample ID: | WC-01(SB01-SB02) | SDG No.: | D3662 |
| Lab Sample ID: | D3662-10 | Matrix: | TCLP |
| Analytical Method: | SW8151A | % Moisture: | 100 Decanted: |
| Sample Wt/Vol: | 100 Units: mL | Final Vol: | 10000 uL |
| Soil Aliquot Vol: | uL | Test: | TCLP Herbicide |
| Extraction Type: | | Injection Volume | 1 |
| GPC Factor : | 1.0 | PH : | |

| | | | | |
|-------------------|-----------|-----------|---------------|---------------|
| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
| PE005470.D | 1 | 08/06/12 | 08/07/12 | PB64880 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|-------------------|-------------------|-------|-----------|----------|-----|------------|----------|
| TARGETS | | | | | | | |
| 94-75-7 | 2,4-D | 10 | U | 3.48 | 10 | 20 | ug/L |
| 93-72-1 | 2,4,5-TP (SILVEX) | 10 | U | 1.51 | 10 | 20 | ug/L |
| SURROGATES | | | | | | | |
| 19719-28-9 | 2,4-DCAA | 276 | | 43 - 172 | | 55% | SPK: 500 |

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Report of Analysis

| | | | |
|-------------------|-------------------------|-----------------|----------|
| Client: | LIRO GROUP LTD. | Date Collected: | 08/01/12 |
| Project: | Travis Area SI Phase II | Date Received: | 08/02/12 |
| Client Sample ID: | WC-01(SB01-SB02) | SDG No.: | D3662 |
| Lab Sample ID: | D3662-10 | Matrix: | TCLP |
| Level (low/med): | low | % Solid: | 0 |

| Cas | Parameter | Conc. | Qua. | DF | MDL | LOD | LOQ / CRQL | Units | Prep Date | Date Ana. | Ana Met. |
|-----------|-----------|-------|------|----|-------|-----|------------|-------|-----------|-----------|----------|
| 7440-38-2 | Arsenic | 50 | UN | 1 | 42 | 50 | 100 | ug/L | 08/06/12 | 08/06/12 | 6010B |
| 7440-39-3 | Barium | 422 | J* | 1 | 40 | 250 | 500 | ug/L | 08/06/12 | 08/06/12 | 6010B |
| 7440-43-9 | Cadmium | 15 | U | 1 | 5 | 15 | 30 | ug/L | 08/06/12 | 08/06/12 | 6010B |
| 7440-47-3 | Chromium | 25 | UN | 1 | 11 | 25 | 50 | ug/L | 08/06/12 | 08/06/12 | 6010B |
| 7439-92-1 | Lead | 30 | U | 1 | 26 | 30 | 60 | ug/L | 08/06/12 | 08/06/12 | 6010B |
| 7439-97-6 | Mercury | 1 | U | 1 | 0.915 | 1 | 2 | ug/L | 08/07/12 | 08/08/12 | SW7470A |
| 7782-49-2 | Selenium | 50 | U | 1 | 48 | 50 | 100 | ug/L | 08/06/12 | 08/06/12 | 6010B |
| 7440-22-4 | Silver | 25 | UN | 1 | 15 | 25 | 50 | ug/L | 08/06/12 | 08/06/12 | 6010B |

Color Before: Colorless Clarity Before: Texture: CLEAR
 Color After: Colorless Clarity After: Artifacts: CLEAR
 Comments: TCLP-FULL

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 E = Indicates the reported value is estimated because of the presence of interference.
 OR = Over Range
 HAZ. - No Spiked sample recovery not within control limits



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Report of Analysis

| | | | |
|--------------------|-------------------------|------------------|----------------|
| Client: | LIRO GROUP LTD. | Date Collected: | 08/01/12 |
| Project: | Travis Area SI Phase II | Date Received: | 08/02/12 |
| Client Sample ID: | WC-01(SB01-SB02) | SDG No.: | D3662 |
| Lab Sample ID: | D3662-10 | Matrix: | TCLP |
| Analytical Method: | SW8081B | % Moisture: | 100 Decanted: |
| Sample Wt/Vol: | 100 Units: mL | Final Vol: | 10000 uL |
| Soil Aliquot Vol: | uL | Test: | TCLP Pesticide |
| Extraction Type: | | Injection Volume | 1 |
| GPC Factor : | 1.0 | PH : | |

| | | | | |
|-------------------|-----------|-----------|---------------|---------------|
| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
| PO002993.D | 1 | 08/06/12 | 08/07/12 | PB64881 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|-------------------|----------------------|-------|-----------|----------|------|------------|---------|
| TARGETS | | | | | | | |
| 58-89-9 | gamma-BHC | 0.25 | U | 0.055 | 0.25 | 0.5 | ug/L |
| 76-44-8 | Heptachlor | 0.25 | U | 0.069 | 0.25 | 0.5 | ug/L |
| 1024-57-3 | Heptachlor epoxide | 0.25 | U | 0.067 | 0.25 | 0.5 | ug/L |
| 72-20-8 | Endrin | 0.25 | U | 0.058 | 0.25 | 0.5 | ug/L |
| 72-43-5 | Methoxychlor | 0.25 | U | 0.042 | 0.25 | 0.5 | ug/L |
| 8001-35-2 | Toxaphene | 2.5 | U | 1 | 2.5 | 5 | ug/L |
| 57-74-9 | Chlordane | 2.5 | U | 1 | 2.5 | 5 | ug/L |
| SURROGATES | | | | | | | |
| 2051-24-3 | Decachlorobiphenyl | 17.1 | | 10 - 192 | | 85% | SPK: 20 |
| 877-09-8 | Tetrachloro-m-xylene | 22.6 | | 10 - 172 | | 113% | SPK: 20 |

U = Not Detected
 LOQ = Limit of Quantitation
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 LOD = Limit of Detection
 E = Value Exceeds Calibration Range
 P = Indicates >25% difference for detected concentrations between the two GC columns
 Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
 B = Analyte Found in Associated Method Blank
 N = Presumptive Evidence of a Compound
 * = Values outside of QC limits
 D = Dilution
 S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.

Report of Analysis

| | | | |
|--------------------|-------------------------|-----------------|----------|
| Client: | LIRO GROUP LTD. | Date Collected: | 08/01/12 |
| Project: | Travis Area SI Phase II | Date Received: | 08/02/12 |
| Client Sample ID: | WC-01(SB01-SB02) | SDG No.: | D3662 |
| Lab Sample ID: | D3662-10 | Matrix: | TCLP |
| Analytical Method: | SW8260C | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | TCLP VOA |
| GC Column: | RTX-VMS ID : 0.18 | Level : | LOW |

| | | | | |
|-------------------|-----------|-----------|---------------|---------------|
| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
| VH048724.D | 5 | | 08/06/12 | VH080612 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---------------------------|------------------------|--------|-----------|----------|------|------------|---------|
| TARGETS | | | | | | | |
| 75-01-4 | Vinyl Chloride | 12.5 | U | 1.7 | 12.5 | 25 | ug/L |
| 75-35-4 | 1,1-Dichloroethene | 12.5 | U | 2.4 | 12.5 | 25 | ug/L |
| 78-93-3 | 2-Butanone | 60 | U | 6.6 | 60 | 120 | ug/L |
| 56-23-5 | Carbon Tetrachloride | 12.5 | U | 3.1 | 12.5 | 25 | ug/L |
| 67-66-3 | Chloroform | 12.5 | U | 1.7 | 12.5 | 25 | ug/L |
| 71-43-2 | Benzene | 12.5 | U | 1.6 | 12.5 | 25 | ug/L |
| 107-06-2 | 1,2-Dichloroethane | 12.5 | U | 2.4 | 12.5 | 25 | ug/L |
| 79-01-6 | Trichloroethene | 12.5 | U | 1.4 | 12.5 | 25 | ug/L |
| 127-18-4 | Tetrachloroethene | 17 | J | 1.4 | 12.5 | 25 | ug/L |
| 108-90-7 | Chlorobenzene | 12.5 | U | 2.4 | 12.5 | 25 | ug/L |
| SURROGATES | | | | | | | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 53.9 | | 61 - 141 | | 108% | SPK: 50 |
| 1868-53-7 | Dibromofluoromethane | 52.9 | | 69 - 133 | | 106% | SPK: 50 |
| 2037-26-5 | Toluene-d8 | 53.4 | | 65 - 126 | | 107% | SPK: 50 |
| 460-00-4 | 4-Bromofluorobenzene | 56.1 | | 58 - 135 | | 112% | SPK: 50 |
| INTERNAL STANDARDS | | | | | | | |
| 363-72-4 | Pentafluorobenzene | 367350 | 4.95 | | | | |
| 540-36-3 | 1,4-Difluorobenzene | 587502 | 5.67 | | | | |
| 3114-55-4 | Chlorobenzene-d5 | 636351 | 9.79 | | | | |
| 3855-82-1 | 1,4-Dichlorobenzene-d4 | 334274 | 12.52 | | | | |

U = Not Detected

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B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

* = Values outside of QC limits

D = Dilution



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Report of Analysis

| | | | |
|-------------------|-------------------------|-----------------|----------|
| Client: | LIRO GROUP LTD. | Date Collected: | 08/01/12 |
| Project: | Travis Area SI Phase II | Date Received: | 08/02/12 |
| Client Sample ID: | WC-02(SB03-SB04) | SDG No.: | D3662 |
| Lab Sample ID: | D3662-11 | Matrix: | SOIL |
| | | % Solid: | 86 |

| Parameter | Conc. | Qua. | DF | MDL | LOD | LOQ / CRQL | Units | Prep Date | Date Ana. | Ana Met. |
|---------------------|-------|------|----|------|------|------------|-------|-----------|-----------|----------|
| Corrosivity (as pH) | 7.04 | | 1 | 0 | 0 | 0 | pH | 08/03/12 | 08/03/12 | SW9045C |
| Ignitability | NO | | 1 | 0 | 0 | 0 | o C | 08/03/12 | 08/03/12 | 1030 |
| Reactive Cyanide | 0.05 | U | 1 | 0.05 | 0.05 | 0.05 | mg/Kg | 08/07/12 | 08/07/12 | 9012B |
| Reactive Sulfide | 13 | | 1 | 10 | 10 | 10 | mg/Kg | 08/07/12 | 08/07/12 | 9034 |

Comments:

U = Not Detected
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 D = Dilution
 Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
 B = Analyte Found in Associated Method Blank
 * = indicates the duplicate analysis is not within control limits.
 E = Indicates the reported value is estimated because of the presence of interference.
 OR = Over Range
 HAZ = Spiked sample recovery not within control limits

Report of Analysis

| | | | |
|--------------------|-------------------------|------------------|---------------------------|
| Client: | LIRO GROUP LTD. | Date Collected: | 08/01/12 |
| Project: | Travis Area SI Phase II | Date Received: | 08/02/12 |
| Client Sample ID: | WC-02(SB03-SB04) | SDG No.: | D3662 |
| Lab Sample ID: | D3662-11 | Matrix: | SOIL |
| Analytical Method: | 8015B | % Moisture: | 14 Decanted: |
| Sample Wt/Vol: | 30.07 Units: g | Final Vol: | 1 mL |
| Soil Aliquot Vol: | uL | Test: | Diesel Range Organics |
| Extraction Type: | | Injection Volume | |
| GPC Factor : | | PH : | |

| | | | | |
|-------------------|-----------|-----------|---------------|---------------|
| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
| FD002450.D | 1 | 08/03/12 | 08/07/12 | PB64866 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|-------------------|-----------|-------|-----------|----------|-----|------------|---------|
| TARGETS | | | | | | | |
| DRO | DRO | 6303 | | 773 | 965 | 1930 | ug/kg |
| SURROGATES | | | | | | | |
| DRO SURR | DRO SURR | 16.7 | | 50 - 150 | | 83% | SPK: 20 |

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

E = Value Exceeds Calibration Range

P = Indicates >25% difference for detected concentrations between the two GC columns

Q = indicates LCS control criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

* = Values outside of QC limits

D = Dilution

S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.

Report of Analysis

| | | | |
|--------------------|-------------------------|------------------|-------------------------|
| Client: | LIRO GROUP LTD. | Date Collected: | 08/01/12 |
| Project: | Travis Area SI Phase II | Date Received: | 08/02/12 |
| Client Sample ID: | WC-02(SB03-SB04) | SDG No.: | D3662 |
| Lab Sample ID: | D3662-11 | Matrix: | SOIL |
| Analytical Method: | 8015B | % Moisture: | 14 Decanted: |
| Sample Wt/Vol: | 5 Units: g | Final Vol: | 5 mL |
| Soil Aliquot Vol: | uL | Test: | Gasoline Range Organics |
| Extraction Type: | | Injection Volume | |
| GPC Factor : | PH : | | |

| | | | | |
|-------------------|-----------|-----------|---------------|---------------|
| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
| FB001806.D | 5 | | 08/08/12 | FB080812 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|-------------------|-----------|-------|-----------|----------|-----|------------|---------|
| TARGETS | | | | | | | |
| GRO | GRO | 587 | | 70 | 131 | 262 | ug/kg |
| SURROGATES | | | | | | | |
| GRO SURR | GRO SURR | 13.4 | | 50 - 150 | | 67% | SPK: 20 |

U = Not Detected

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LOD = Limit of Detection

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P = Indicates >25% difference for detected concentrations between the two GC columns

Q = indicates LCS control criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

* = Values outside of QC limits

D = Dilution

S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.

Report of Analysis

| | | | | | |
|--------------------|-------------------------|----------|------------------|----------|-----------|
| Client: | LIRO GROUP LTD. | | Date Collected: | 08/01/12 | |
| Project: | Travis Area SI Phase II | | Date Received: | 08/02/12 | |
| Client Sample ID: | WC-02(SB03-SB04) | | SDG No.: | D3662 | |
| Lab Sample ID: | D3662-11 | | Matrix: | SOIL | |
| Analytical Method: | SW8082A | | % Moisture: | 14 | Decanted: |
| Sample Wt/Vol: | 30.06 | Units: g | Final Vol: | 10000 | uL |
| Soil Aliquot Vol: | | uL | Test: | PCB | |
| Extraction Type: | | | Injection Volume | 1 | |
| GPC Factor : | 1.0 | PH: N/A | | | |

| | | | | |
|-------------------|-----------|-----------|---------------|---------------|
| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
| PB002651.D | 1 | 08/03/12 | 08/09/12 | PB64868 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|-------------------|----------------------|-------|-----------|----------|-----|------------|---------|
| TARGETS | | | | | | | |
| 12674-11-2 | Aroclor-1016 | 10 | U | 4 | 10 | 20 | ug/Kg |
| 11104-28-2 | Aroclor-1221 | 10 | U | 3.9 | 10 | 20 | ug/Kg |
| 11141-16-5 | Aroclor-1232 | 10 | U | 8.7 | 10 | 20 | ug/Kg |
| 53469-21-9 | Aroclor-1242 | 10 | U | 3.9 | 10 | 20 | ug/Kg |
| 12672-29-6 | Aroclor-1248 | 10 | U | 7.6 | 10 | 20 | ug/Kg |
| 11097-69-1 | Aroclor-1254 | 10 | U | 1.7 | 10 | 20 | ug/Kg |
| 11096-82-5 | Aroclor-1260 | 10 | U | 4.8 | 10 | 20 | ug/Kg |
| SURROGATES | | | | | | | |
| 877-09-8 | Tetrachloro-m-xylene | 17.5 | | 10 - 166 | | 88% | SPK: 20 |
| 2051-24-3 | Decachlorobiphenyl | 15.4 | | 60 - 125 | | 77% | SPK: 20 |

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

E = Value Exceeds Calibration Range

P = Indicates >25% difference for detected concentrations between the two GC columns

Q = indicates LCS control criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

* = Values outside of QC limits

D = Dilution

S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.

Report of Analysis

| | | | |
|--------------------|-------------------------|-----------------|----------|
| Client: | LIRO GROUP LTD. | Date Collected: | 08/01/12 |
| Project: | Travis Area SI Phase II | Date Received: | 08/02/12 |
| Client Sample ID: | WC-02(SB03-SB04) | SDG No.: | D3662 |
| Lab Sample ID: | D3662-11 | Matrix: | TCLP |
| Analytical Method: | SW8270D | % Moisture: | 100 |
| Sample Wt/Vol: | 100 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | TCLP BNA |
| Extraction Type : | SEPF | Decanted : | N |
| Injection Volume : | 1 | Level : | LOW |
| | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| | | | | |
|-------------------|-----------|-----------|---------------|---------------|
| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
| BF057991.D | 1 | 08/06/12 | 08/07/12 | PB64879 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---------------------------|------------------------|--------|-----------|----------|-----|------------|----------|
| TARGETS | | | | | | | |
| 110-86-1 | Pyridine | 50 | U | 20 | 50 | 100 | ug/L |
| 106-46-7 | 1,4-Dichlorobenzene | 50 | U | 2 | 50 | 100 | ug/L |
| 95-48-7 | 2-Methylphenol | 50 | U | 2.4 | 50 | 100 | ug/L |
| 65794-96-9 | 3+4-Methylphenols | 50 | U | 3.8 | 50 | 100 | ug/L |
| 67-72-1 | Hexachloroethane | 50 | U | 2.5 | 50 | 100 | ug/L |
| 98-95-3 | Nitrobenzene | 50 | U | 6.8 | 50 | 100 | ug/L |
| 87-68-3 | Hexachlorobutadiene | 50 | U | 2.5 | 50 | 100 | ug/L |
| 88-06-2 | 2,4,6-Trichlorophenol | 50 | U | 5.6 | 50 | 100 | ug/L |
| 95-95-4 | 2,4,5-Trichlorophenol | 50 | U | 4 | 50 | 100 | ug/L |
| 121-14-2 | 2,4-Dinitrotoluene | 50 | U | 10 | 50 | 100 | ug/L |
| 118-74-1 | Hexachlorobenzene | 50 | U | 1.8 | 50 | 100 | ug/L |
| 87-86-5 | Pentachlorophenol | 50 | U | 17 | 50 | 100 | ug/L |
| SURROGATES | | | | | | | |
| 367-12-4 | 2-Fluorophenol | 116 | | 10 - 130 | | 77% | SPK: 150 |
| 13127-88-3 | Phenol-d5 | 104 | | 10 - 130 | | 70% | SPK: 150 |
| 4165-60-0 | Nitrobenzene-d5 | 98.2 | | 36 - 131 | | 98% | SPK: 100 |
| 321-60-8 | 2-Fluorobiphenyl | 102 | | 39 - 131 | | 102% | SPK: 100 |
| 118-79-6 | 2,4,6-Tribromophenol | 137 | | 25 - 155 | | 91% | SPK: 150 |
| 1718-51-0 | Terphenyl-d14 | 105 | | 23 - 130 | | 106% | SPK: 100 |
| INTERNAL STANDARDS | | | | | | | |
| 3855-82-1 | 1,4-Dichlorobenzene-d4 | 110023 | 5.35 | | | | |
| 1146-65-2 | Naphthalene-d8 | 407985 | 6.73 | | | | |
| 15067-26-2 | Acenaphthene-d10 | 200939 | 8.57 | | | | |
| 1517-22-2 | Phenanthrene-d10 | 326903 | 10.56 | | | | |
| 1719-03-5 | Chrysene-d12 | 256270 | 14.66 | | | | |
| 1520-96-3 | Perylene-d12 | 220804 | 16.8 | | | | |



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Report of Analysis

| | | | | | |
|--------------------|-------------------------|--------------|-----------------|---------------|--------|
| Client: | LIRO GROUP LTD. | | Date Collected: | 08/01/12 | |
| Project: | Travis Area SI Phase II | | Date Received: | 08/02/12 | |
| Client Sample ID: | WC-02(SB03-SB04) | | SDG No.: | D3662 | |
| Lab Sample ID: | D3662-11 | | Matrix: | TCLP | |
| Analytical Method: | SW8270D | | % Moisture: | 100 | |
| Sample Wt/Vol: | 100 | Units: mL | Final Vol: | 1000 | uL |
| Soil Aliquot Vol: | | uL | Test: | TCLP BNA | |
| Extraction Type : | SEPF | Decanted : | N | Level : | LOW |
| Injection Volume : | 1 | GPC Factor : | 1.0 | GPC Cleanup : | N PH : |

| | | | | |
|-------------------|-----------|-----------|---------------|---------------|
| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
| BF057991.D | 1 | 08/06/12 | 08/07/12 | PB64879 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|------------|-----------|-------|-----------|-----|-----|------------|-------|
|------------|-----------|-------|-----------|-----|-----|------------|-------|

U = Not Detected
 LOQ = Limit of Quantitation
 MDL = Method Detection Limit.
 LOD = Limit of Detection
 E = Value Exceeds Calibration Range
 Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
 B = Analyte Found in Associated Method Blank
 N = Presumptive Evidence of a Compound
 * = Values outside of QC limits
 D = Dilution



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Report of Analysis

| | | | |
|-------------------|-------------------------|-----------------|----------|
| Client: | LIRO GROUP LTD. | Date Collected: | 08/01/12 |
| Project: | Travis Area SI Phase II | Date Received: | 08/02/12 |
| Client Sample ID: | WC-02(SB03-SB04) | SDG No.: | D3662 |
| Lab Sample ID: | D3662-11 | Matrix: | TCLP |
| Level (low/med): | low | % Solid: | 0 |

| Cas | Parameter | Conc. | Qua. | DF | MDL | LOD | LOQ / CRQL | Units | Prep Date | Date Ana. | Ana Met. |
|-----------|-----------|-------|------|----|-------|-----|------------|-------|-----------|-----------|----------|
| 7440-38-2 | Arsenic | 50 | UN | 1 | 42 | 50 | 100 | ug/L | 08/06/12 | 08/06/12 | 6010B |
| 7440-39-3 | Barium | 301 | J* | 1 | 40 | 250 | 500 | ug/L | 08/06/12 | 08/06/12 | 6010B |
| 7440-43-9 | Cadmium | 15 | U | 1 | 5 | 15 | 30 | ug/L | 08/06/12 | 08/06/12 | 6010B |
| 7440-47-3 | Chromium | 25 | UN | 1 | 11 | 25 | 50 | ug/L | 08/06/12 | 08/06/12 | 6010B |
| 7439-92-1 | Lead | 30 | U | 1 | 26 | 30 | 60 | ug/L | 08/06/12 | 08/06/12 | 6010B |
| 7439-97-6 | Mercury | 1 | U | 1 | 0.915 | 1 | 2 | ug/L | 08/07/12 | 08/08/12 | SW7470A |
| 7782-49-2 | Selenium | 50 | U | 1 | 48 | 50 | 100 | ug/L | 08/06/12 | 08/06/12 | 6010B |
| 7440-22-4 | Silver | 25 | UN | 1 | 15 | 25 | 50 | ug/L | 08/06/12 | 08/06/12 | 6010B |

Color Before: Colorless Clarity Before: Texture: CLEAR
 Color After: Colorless Clarity After: Artifacts: CLEAR
 Comments: TCLP-FULL

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 LOD = Limit of Detection
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J = Estimated Value
 B = Analyte Found in Associated Method Blank
 * = indicates the duplicate analysis is not within control limits.
 E = Indicates the reported value is estimated because of the presence of interference.
 OR = Over Range
 HAZ. - N/A Spiked sample recovery not within control limits

Report of Analysis

| | | | | | | |
|--------------------|-------------------------|-----------------|----------|------------------|----------------|----|
| Client: | LIRO GROUP LTD. | Date Collected: | 08/01/12 | | | |
| Project: | Travis Area SI Phase II | Date Received: | 08/02/12 | | | |
| Client Sample ID: | WC-02(SB03-SB04) | SDG No.: | D3662 | | | |
| Lab Sample ID: | D3662-11 | Matrix: | TCLP | | | |
| Analytical Method: | SW8081B | % Moisture: | 100 | Decanted: | | |
| Sample Wt/Vol: | 100 | Units: | mL | Final Vol: | 10000 | uL |
| Soil Aliquot Vol: | | | uL | Test: | TCLP Pesticide | |
| Extraction Type: | | | | Injection Volume | 1 | |
| GPC Factor : | 1.0 | PH : | | | | |

| | | | | |
|-------------------|-----------|-----------|---------------|---------------|
| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
| PO002994.D | 1 | 08/06/12 | 08/07/12 | PB64881 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|-------------------|----------------------|-------|-----------|----------|------|------------|---------|
| TARGETS | | | | | | | |
| 58-89-9 | gamma-BHC | 0.25 | U | 0.055 | 0.25 | 0.5 | ug/L |
| 76-44-8 | Heptachlor | 0.25 | U | 0.069 | 0.25 | 0.5 | ug/L |
| 1024-57-3 | Heptachlor epoxide | 0.25 | U | 0.067 | 0.25 | 0.5 | ug/L |
| 72-20-8 | Endrin | 0.25 | U | 0.058 | 0.25 | 0.5 | ug/L |
| 72-43-5 | Methoxychlor | 0.25 | U | 0.042 | 0.25 | 0.5 | ug/L |
| 8001-35-2 | Toxaphene | 2.5 | U | 1 | 2.5 | 5 | ug/L |
| 57-74-9 | Chlordane | 2.5 | U | 1 | 2.5 | 5 | ug/L |
| SURROGATES | | | | | | | |
| 2051-24-3 | Decachlorobiphenyl | 17.3 | | 10 - 192 | | 86% | SPK: 20 |
| 877-09-8 | Tetrachloro-m-xylene | 20.5 | | 10 - 172 | | 102% | SPK: 20 |

U = Not Detected

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MDL = Method Detection Limit

LOD = Limit of Detection

E = Value Exceeds Calibration Range

P = Indicates >25% difference for detected concentrations between the two GC columns

Q = indicates LCS control criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

* = Values outside of QC limits

D = Dilution

S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.

Report of Analysis

| | | | |
|--------------------|-------------------------|-----------------|----------|
| Client: | LIRO GROUP LTD. | Date Collected: | 08/01/12 |
| Project: | Travis Area SI Phase II | Date Received: | 08/02/12 |
| Client Sample ID: | WC-02(SB03-SB04) | SDG No.: | D3662 |
| Lab Sample ID: | D3662-11 | Matrix: | TCLP |
| Analytical Method: | SW8260C | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | TCLP VOA |
| GC Column: | RTX-VMS ID: 0.18 | Level: | LOW |

| | | | | |
|-------------------|-----------|-----------|---------------|---------------|
| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
| VH048725.D | 5 | | 08/06/12 | VH080612 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---------------------------|------------------------|--------|-----------|----------|------|------------|---------|
| TARGETS | | | | | | | |
| 75-01-4 | Vinyl Chloride | 12.5 | U | 1.7 | 12.5 | 25 | ug/L |
| 75-35-4 | 1,1-Dichloroethene | 12.5 | U | 2.4 | 12.5 | 25 | ug/L |
| 78-93-3 | 2-Butanone | 60 | U | 6.6 | 60 | 120 | ug/L |
| 56-23-5 | Carbon Tetrachloride | 12.5 | U | 3.1 | 12.5 | 25 | ug/L |
| 67-66-3 | Chloroform | 12.5 | U | 1.7 | 12.5 | 25 | ug/L |
| 71-43-2 | Benzene | 12.5 | U | 1.6 | 12.5 | 25 | ug/L |
| 107-06-2 | 1,2-Dichloroethane | 12.5 | U | 2.4 | 12.5 | 25 | ug/L |
| 79-01-6 | Trichloroethene | 12.5 | U | 1.4 | 12.5 | 25 | ug/L |
| 127-18-4 | Tetrachloroethene | 12.5 | U | 1.4 | 12.5 | 25 | ug/L |
| 108-90-7 | Chlorobenzene | 12.5 | U | 2.4 | 12.5 | 25 | ug/L |
| SURROGATES | | | | | | | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 55.1 | | 61 - 141 | | 110% | SPK: 50 |
| 1868-53-7 | Dibromofluoromethane | 50.8 | | 69 - 133 | | 102% | SPK: 50 |
| 2037-26-5 | Toluene-d8 | 52.3 | | 65 - 126 | | 105% | SPK: 50 |
| 460-00-4 | 4-Bromofluorobenzene | 58.1 | | 58 - 135 | | 116% | SPK: 50 |
| INTERNAL STANDARDS | | | | | | | |
| 363-72-4 | Pentafluorobenzene | 347197 | 4.95 | | | | |
| 540-36-3 | 1,4-Difluorobenzene | 583439 | 5.66 | | | | |
| 3114-55-4 | Chlorobenzene-d5 | 617691 | 9.78 | | | | |
| 3855-82-1 | 1,4-Dichlorobenzene-d4 | 336601 | 12.52 | | | | |

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

E = Value Exceeds Calibration Range

Q = indicates LCS control criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

* = Values outside of QC limits

D = Dilution

BMP - PAGES

**SPECIFICATIONS FOR CONSTRUCTION OF
BEST MANAGEMENT PRACTICE (BMP) AND
MITIGATION AREA**

NOTICE

THE PAGES CONTAINED IN THIS SECTION ARE ISSUED FOR THE PURPOSE OF SPECIFYING THE REQUIREMENTS OF THE CONTRACT DOCUMENTS AND HEREBY MADE PART OF SAID CONTRACT DOCUMENTS.

NO TEXT ON THIS PAGE

STORMWATER BMP DESIGN IN THE TRAVIS AREA
STATEN ISLAND, NY

SPECIFICATIONS FOR

CONTRACT SER200226

Construction of Best Management Practice (BMP)

October 2014

Prepared for the NYC Department of Design and Construction

By Hazen and Sawyer, D.P.C.

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CONTRACT SER200226
CONSTRUCTION OF BEST MANAGEMENT PRACTICES

DIVISION VII

SPECIFIC PROVISIONS

7.01 LOCATION OF WORK

Work under this Contract is to be performed on Block 2776, Lots 12, 92 and 150 in the Travis Area of Staten Island. The site is on vacant Block 2776, Lot 12, which is being acquired by the City through a ULURP acquisition; and Block 2776, Lots 92 and 150, which are owned by the New York City Department of Parks and Recreation (DPR). The site is approximately located southwest of the intersection of Cannon Avenue and Meredith Avenue.

7.02 WORK INCLUDED

The work under this Contract includes the construction of Best Management Practice (BMP) for the Travis Area. 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 Sanitary Sewer Networks

This entails excavation of trenches and layout of storm sewer and sanitary pipelines. The specifications and plans for this work are included elsewhere in these Contract Documents, not in this document.

2. Best Management Practices (BMP) Construction

This will entail the construction of hydraulic features necessary to treat and convey stormwater runoff at the points where the storm sewer system discharges into the adjacent stream channel. Specifications and plans for this work are included in this document.

3. Site Restoration

The entire Project site will be restored upon project completion. The site restoration will include proper grading for permanent

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access and development of the BMP stormwater management facilities. Cleared areas will all be replanted with emphasis on the use of native plantings with the site layout designed to minimize the disturbance on the existing trees and plants. Boundaries will be established with the use of buffer areas where appropriate.

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 completed the designs for the storm sewer and sanitary components of the project. They will administer and inspect the Contractor's work with regard to the installation of the storm sewers and all other aspects of the project, including managing the overall project schedule, construction sequencing of the BMP construction. The Contractor will be responsible to obtain all permits in relation to sewer 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 BMP is to be constructed under this project.

3. New York City Department of Parks and Recreation (NYCDPR)

This City agency owns and will maintain the channel within Parks land. The NYCDPR along with the NYCDDC will be responsible for management of all construction within the Park's boundary.

4. New York State Department of Environmental Conservation (NYSDEC)

This State Agency has issued a freshwater wetland permit and 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.

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This engineering firm is the design consultant for all the work contained in these specifications. They are engaged by NYCDDC.

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 also serve as the Construction Monitor for the construction of the BMP and final site restoration. The individual or firm filling this position shall be responsible for overall oversight of the complete BMP installation. This individual or firm shall also focus on erosion control for the entire BMP site, and for overseeing all work in wetland areas and ensuring that the work adheres to permit requirements. The Restoration Specialist is responsible for compliance with the permits as they relate to BMP construction. The exact powers of the Restoration Specialist (Construction Monitor) are stipulated in the wetland permits.

C. Qualifications of Contractor/Subcontractor

1. The Contractor or its proposed subcontractor shall have performed at least three (3) projects similar in scope and type within the last five years that involved the restoration and/or creation of freshwater wetland systems.

To support the Contractor's contention that the Contractor or its proposed subcontractor is qualified to perform work involving the creation or restoration of freshwater wetlands the Contractor must provide the following information in a Statement of Qualifications within three (3) days upon request by the City:

Provide specific details on projects (i.e., location, size, cost, client, plant species, time of planting, etc.). 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,

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including preconstruction through completion. Include any required sign-offs from client and provide a list of all plants replaced on site.

2. 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.

3. 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 SPECIFICATIONS

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.

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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.

7.07 PERMITS REQUIRED

A. Permits To Be Acquired By Contractor

The Contractor is advised that the Department of Design and Construction 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), and the New York State Department of State (NYSDOS). No work shall commence until the above-mentioned permits have been obtained for this project. As the application is being processed, it shall be the Contractor's responsibility to obtain and update the said permits. No separate or additional payment shall be made to the Contractor for complying with the above requirements, 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. The Contractor shall become familiar with the following permits:

- U.S. Army Corps of Engineers Wetland Permit.
- DEC Freshwater Wetlands Permit pursuant to 6NYCRR Parts 622 and 633, Tidal Wetlands Permit pursuant to 6NYCRR Part 661, and water quality certification (Protection of Waters, Public Law 95-200) pursuant to the procedures of Section 401 certification for Federal Wetland Permit; and

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- New York City Planning Commission authorization for alterations within the Special South Richmond Development District as designated by the City Zoning Resolution. These include modification of topography, removal of trees larger than 6 inches in caliper, and alteration of Designated Open Space.
- New York State Department of Environmental Conservation Water Withdrawal Permit for water withdrawal systems with a withdrawal capacity of 100,000 gal/day or greater.

B. Permits To Be Acquired By NYCDDC

The Contractor shall become familiar with the following permit and approval which will be obtained by NYCDDC:

- New York City Planning Commission Waterfront Revitalization (Coastal Zone) Consistency Determination.

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, BMP as-builts, soundings, cross sections or other measurements as may be required by the Engineer for BMP 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 layout of the BMP site and activities not related to BMP 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.

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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.

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

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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.

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. Protection of Archeological Resources

In order to protect specific archaeological resources where there is a significant potential impact, the Contractor shall be required to conduct a Phase 1B study (Archaeological Testing) for areas of medium and high sensitivity prior to commencement of any construction activities in these areas, as directed by the Engineer.

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To perform this work, the Contractor shall obtain cost proposals from a minimum of three (3) qualified firms experienced in archeological testing.

Prior to the Contractor entering into an agreement with any Consultant(s) in order to satisfy these requirements, the Contractor shall first ascertain from the NYCDDC the related accumulated research and information already assembled on the subject. The Contractor shall forward this information to the prospective and selected consultant(s).

The Phase 1B Study shall be conducted according to the requirements of the New York City Landmarks Preservation Commission.

No separate payment shall be made for this work for performing 1B study; the cost thereof shall be included in the bid price for other items.

H. Sequence of Construction

All work shall be completed in accordance with the Contract Drawings, and upon approval of the Engineer. 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 Restoration Specialist for the limits of work before beginning any clearing. The Restoration Specialist shall identify all trees to receive tree guards and give approval for all trees identified for removal before removal operations begin.

Landscaping is not included in the suggested sequence of construction. The contractor must receive approval for all landscaping work from the Restoration Specialist prior to construction.

1. No construction for the BMP shall begin until all perimeter erosion control measures, including silt fencing, and construction limit fencing, have been installed as shown on the Contract Drawings. 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 from Cannon Avenue. The Contractor shall prevent the deposition of materials onto the public roadway. All materials deposited onto the public roadway shall be removed immediately.
3. Install approved dewatering measures to discharge to the downstream channel. A sediment trap including flow diversion pipe, portable sediment tank, or approved equal, shall be used to treat dewatering effluent prior to discharge. The contractor shall

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- receive approval from the Engineer prior to placement of the portable sediment tank, or approved equal.
4. Install sandbags, or other approved method. Top of sandbags shall be at minimum 1 LF above the mean higher high water line and as required by the Engineer to isolate the work area from tidal influence. The work area shall not contain standing water and all work below the mean high water line shall be conducted within the confines of sandbags, or other approved method. Construction materials including debris, sediments and fresh concrete, shall be prevented from entering the waterways.
 5. Perform site clearing and grubbing.
 6. Install the storm sewer from Cannon Avenue to the outlet (see sewer drawings for the 6'-6" W X 2'-6" H concrete storm sewer layout).
 7. Reinforced silt fencing shall be placed just downstream of the outlet stilling basin, as shown on Drawing C1, and/or as directed by the Field Engineer, prior to the installation and construction of the headwall and outlet stilling basin grading. Construct headwall and perform grading of outlet stilling basin. Remove reinforced silt fence just downstream of the outlet stilling basin after completion of the outlet stilling basin and headwall construction.
 8. Inspect the reinforced silt fence placed around the site, just upstream of the existing channel, prior to grading the channel.
 9. Excavate the site five feet below existing grade, or as directed by the Engineer, to remove phragmite rhizomes and root mass. Excavated material containing rhizomes and root mass from phragmites and other plants shall be removed from the site and disposed of at an approved disposal site.
 10. Install root barrier as shown on plans and as directed by the Engineer. The root barrier shall extend one inch above grade. Backfill site with approved fill material to the elevations shown.
 11. Perform grading of the channel to meet the existing channel. Remove the reinforced silt fencing parallel to the channel to complete grading to tie into the existing channel.
 12. Remove the sandbags and dewatering measures and restore the dewatering area, as necessary and as directed by the Engineer. All dewatered areas shall be restored to pre-construction conditions as approved by the Engineer.
 13. Once complete, perform site grading and restoration. Install permanent site stabilization measures, including erosion control mat, or equivalent, on sloped areas and as directed by the Engineer. Erosion control matting should cover all disturbed area in the high marsh, marine shrubland, and freshwater wetland zones. Seed all graded areas.
 14. Install the permanent maintenance access way.

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15. Once permanent stabilization and the permanent maintenance access way is complete, remove temporary perimeter erosion and sediment control measures. Stabilize any areas within temporary erosion and sediment control measures footprint.

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.

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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.
 - 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

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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.

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.

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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.
4. The Contractor shall only use cleaning methods approved by the Engineer.

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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 OF BMP

Travis BMP is located Block 2776 Lots 12, 92 and 150. It is located to the northwest of Cannon Avenue in the Travis neighborhood of Staten Island, New York. The BMP consists of the installation of an outlet stilling basin, stabilized channel and pocket wetland to treat stormwater runoff. This BMP will provide stormwater velocity attenuation and water quality improvements.

Specification Section

Specific Provisions

7.09 Licensed Surveyor

Structures and Misc. Equipment

7.101 Work Included
7.102 Dewatering
7.103 Concrete
7.104 Steel Reinforcement
7.105 Welding
7.107-B Rip Rap Stone/Angular Natural Field Stone
7.109 Geotextile Fabric
7.110 Sheeting and Bracing
7.117 Graffiti Resistant Coating

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7.129 Concrete Structures

Earthwork and Grading

7.300 Work Included
7.304-A Excavation
7.305 Crushed Stone
7.307-A Grading
7.308 Fill On-Site

Landscaping and Restoration

7.400 Work Included
7.401 Landscaping
7.403 Top Soil for Restored Area
7.404-A Restoration Specialist (Construction Monitor)
7.404-B Erosion and Sediment Control Licensed/Certified Professional
7.405-A Vector, Pest and Wildlife Control
7.407-A Erosion Control Mat - Straw
7.408-B Herbicide Application
7.413 Goose Exclusion Fence
7.414 BMP As-Built Plans
7.415 Vine and Invasive Plant Removal
7.421 Root Barrier

Erosion and Sedimentation Control Measures

7.500 Soil Erosion and Sedimentation Control Measures
7.501 Maintenance of Erosion Control Measures
7.502 Construction Limit Fence
7.503 Staked Hay Bales
7.504 Reinforced Silt Fence
7.505 Sand Bag
7.506 Sediment Trap with Filter
7.507 Sediment Filter
7.508 Sediment Basin
7.509A Stabilized Construction Entrance
7.510 Portable Sediment Tanks
7.511 Storm Drain – Inlet Protection Measures
7.512 Dirtbag
7.513 Surface Water Collector
7.514 Temporary Water Barrier
7.515 Jersey Barrier
7.516 Turbidity Curtain
7.517 Slope Stabilization Mat

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Perimeter Site Security/Access Control Measures

- 7.600 Work Included
- 7.603 Fixed and Removable Steel Pipe Bollards
- 7.606 Permanent Access Way
- 7.622 Forebay/Micropool Sediment Clean-out Indicator

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STRUCTURES AND EQUIPMENT

7.101 WORK INCLUDED

Under structures and equipment work, Contractor shall furnish all labor, materials and equipment and shall do all work as specified herein and as shown on the Contract Drawings, including all incidental and appurtenant work required for a complete job.

The work shall include items of work specified under the following sections:

| <u>Section No.</u> | <u>Title</u> |
|--------------------|---|
| 7.102 | Dewatering |
| 7.103 | Concrete |
| 7.104 | Steel Reinforcement |
| 7.105 | Welding |
| 7.107-B | Rip Rap Stone/Angular Natural Field Stone |
| 7.109 | Geotextile Fabric |
| 7.110 | Sheeting and Bracing |
| 7.117 | Graffiti Resistant Coating |
| 7.129 | Concrete Structures |

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7.102 DEWATERINGA. Description of Work

The Contractor shall furnish, install, operate and maintain dewatering equipment as required, for BMP work as specified herein. The dewatering equipment shall include, but not be limited to, the following equipment items:

1. Pumps
2. Piping
3. Accessories
4. Wells.

B. General Requirements

1. General Specifications - Work performed under this Section shall be in conformance with the Standard Sewer and Water Main Specifications.
2. Examination of the Sites - The Contractor shall take all steps that he considers necessary to familiarize himself with the surface and subsurface conditions at the site, and shall obtain the data that is required to analyze the water and soil conditions at the site.
3. Shop Drawings - The Contractor shall submit to the Engineer for approval shop drawings and any other material required to substantiate conformance with the requirements set forth in the specifications. Shop drawings shall include a detailed plan of operations.

C. Dewatering

1. General Information - The Contractor shall perform dewatering activities to insure that all construction is performed under dry conditions. If a well point system is proposed, the Contractor shall utilize a licensed well driller. The Contractor shall always drill down to sand or gravel layer when available and when it is below the lowest excavated invert.

The Contractor shall operate the dewatering pumps continuously, a day before and during construction until all associated work within the influence zone of the well point have been completed.

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2. Care and Disposal of Water - Care of water shall be in accordance with Section 15 - 15.25 of the Environmental Conservation Law.

Water from open cut and/or sheeted excavations, manholes, structures, trenches, or from whatever source, shall be disposed of strictly in accordance with methods approved by the Engineer.

The Contractor shall submit proposed dewatering methods to the New York State Department of Environmental Conservation for the required permits. If a well point dewatering system is proposed, the Contractor shall utilize a licensed well driller. Contractor shall contact NYSDEC a minimum of two (2) weeks in advance of dewatering system startup.

When required by the Engineer, such water shall be passed through a settling basin and tank of acceptable size and shape and equipped with an overflow. Each settling basin shall be cleaned as required and as ordered by the Engineer.

Sufficient water to flush all sewers and drains shall be provided by the Contractor when necessary. If any sewer, drain, catch basin, inlet or gutter, that receives dirty water attributable to the Site, should become filled or partially filled with sediment or debris, the Contractor shall promptly and satisfactorily remove such deposits.

D. Design Criteria

1. Provide dewatering system which will effectively reduce hydrostatic pressure and lower groundwater levels below excavation levels as necessary for safe and proper prosecution of the work and which will result in obtaining stable, substantially dry subgrade for prosecution of subsequent operations.
2. Design dewatering methods so that the effluent discharge from the sediment control measures (sump pit, sediment tank) does not impact surface water using the following protocol which was developed to monitor dewatering effluent discharge:

a. Monitoring of Dewatering Operations

Prior to the start of dewatering operations, a visual inspection of the installation of the sediment control measure(s) such as a dewatering sump pit and/or a portable sediment tank shall be made by the Engineer. Upon commencement of dewatering effluent discharge from the

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sediment control measures, at least three turbidity measurements of the effluent shall be conducted over a 15 minute-period using the following methodology. If the arithmetic mean of these three turbidity measurements is greater than the ambient turbidity level, all dewatering operations shall be discontinued until the Engineer is consulted regarding additional control measures.

b. Determination of Ambient Turbidity

Ambient turbidity levels of surface waters shall be determined using a Hanna Instruments HI 93703 Portable Microprocessor Turbidity Meter available from Hanna Instruments, Inc., Woonsocket, RI or Orbeco Hellige Portable Turbidity or LaMotte Portable Turbidimeter or equivalent approved by the Engineer. Ambient turbidity measurements shall be collected under dry weather conditions. Dry weather conditions are defined as no precipitation in the preceding 48 hours. A minimum of three turbidity measurements shall be collected using as follows:

- Water samples shall be collected a minimum of 20 feet upstream of the work area prior to commencement of any construction activity.
- Water samples shall be collected without disturbing stream bank or stream bed sediments.
- The turbidity measurements shall be conducted according to the instructions provided in the unit's Operational Guide which are summarized below.
- After the meter has been turned on, fill a clean cuvet up to one quarter inch from its rim with thoroughly agitated sample.
- Allow sufficient time for bubbles to escape before securing the cap.
- Wipe the outside of the cuvet thoroughly with a lint-free tissue.
- Place the cuvet into the cell of the meter.

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- Press the Read key and the LCD will display a blinking "SIP" (Sampling in Process). The turbidity value will appear after approximately 25 second.

The arithmetic means of the three dry weather upstream turbidity measurements shall be the ambient turbidity level. Turbidity shall be measured in Nephelometric Turbidity Units (NTUs).

E. Submittals

Submit the following for approval:

1. Working Drawings

- a. Type of dewatering system proposed, showing arrangement, location and depths of proposed system, complete description of equipment and materials to be used, procedure to be followed, standby equipment, standby power supply and proposed location(s) of points of discharge of water.
- b. Obtain approval from the Engineer and appropriate regulatory agencies prior to installation of system.

F. Job Conditions

1. Subsurface Conditions

- a. Subsurface investigations and groundwater level determinations shall be conducted by the Contractor prior to implementation as specified herein.

2. Responsibilities

- a. Select and install dewatering system to accomplish groundwater control as specified.
- b. Monitor quality of discharge from dewatering system to determine if soil particles are being removed by system.
- c. Measure to ascertain if movement is caused in adjacent areas by dewatering operations; take approved measures to minimize such movement.
- d. Take measures to prevent damage to property.

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- e. Repair as approved damage, disruption or interference resulting directly or indirectly from dewatering operations.
- f. Remove sediments from all intercepted groundwater or surface water as specified herein and approved by the Engineer and the jurisdictional agency concerned. Under no circumstances shall the Contractor directly discharge, without treatment, into the drainage channel or creek.

G. Sump Pit

The Contractor, at the direction of the Engineer shall provide a stone filled pit with perforated standpipe/nozzle wrapped with filter fabric in which intercepted groundwater is pumped to an approved location.

The size and shape of the sump pit will vary due to site conditions. The size of pump should be determined from manufacturer's specifications.

- 1. The standpipe shall be a perforated 12"-24" diameter corrugated metal or PVC pipe.
- 2. A base of 2" aggregate shall be placed in the pit to a depth of 12". After installing the standpipe, the pit surrounding the standpipe shall then be backfilled with 2" clean aggregate.
- 3. The standpipe shall extend 12"-18" above the lip of the pit.
- 4. The standpipe shall be wrapped with filter cloth before installation. If desired, 1/2" x 1/2" hardware cloth may be placed around the standpipe, prior to attaching the filter fabric. This will increase the rate of water seepage into the pipe.

H. Surface Drainage

- 1. Intercept and divert surface drainage away from BMP or other excavations, wells by use of dikes, ditches, swales, open stone lined channel, temporary diversion pipes which could be either on the surface or buried, sumps or other means. To properly install buried diversion pipe the contractor may be required to excavate.
- 2. Design surface drainage systems to prevent erosion on or off the site or unwanted water flow.
- 3. Remove surface drainage system when no longer required.

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4. Remove debris and restore site(s) to original conditions.

I. Drainage Of Excavated Areas

1. Provide and maintain ditches of adequate size to collect surface and subsurface water and seepage which may enter excavations and divert water into sump so that it can be drained or pumped into drainage channels as approved by the Engineer and the jurisdictional agency concerned.
2. Install settling basins or other approved apparatus as necessary to reduce amount of fine particles carried by water diverted away from excavation.
3. When no longer necessary, backfill and seal drainage ditches, sumps and settling basins with approved material.

J. Execution

1. Install dewatering system as specified and with the approval of the Engineer.
2. Demonstrate by approved methods that no soil particles are present in water after 12 hours of initial pumping or draining and additionally as directed.
3. Dispose of precipitation and subsurface water away and clear of the work area. Keep excavation dry.
4. Maintain continuous and complete effectiveness of the installation.
5. Maintain water level at such elevation that no damage to structure or plant material can occur because of excessive hydrostatic pressure. In any event, maintain water level two feet minimum below bottom of subgrade until sufficient concentrate work or backfilling or both has been completed to adequately offset uplift pressures.

K. Dewatering System Removal

1. Remove and dispose of all stone, filter fabric and piping that comprise curtain drains and/or sump pits used in dewatering in accordance with Federal, State and local regulations at a permitted site.

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2. Backfill remaining space as necessary to restore surface and subsurface to its original or proposed condition in accordance with the Engineer's approval.

L. No Separate Payment

Dewatering work shall be performed by the Contractor only as directed by the Engineer. The cost for all labor, materials, equipment, treatment systems, and permits required for the Dewatering shall be deemed included in the bid price for other Contract Items. No separate payment shall be made for Dewatering or Permits.

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7.103 CONCRETEA. Work Included

Description - The Contractor shall furnish, and place all structural and nonstructural concrete as indicated on the Contract Drawings and as specified herein. Nonstructural concrete does not include steel reinforcement and is used for stone embedment, sidewalks, pedestrian ramps, curbs, concrete cores, mud mats, cradles and fill concrete or as noted on the Contract Drawings.

B. General Requirements

1. General Specifications - The General Specification: 11-Concrete (Dated November 1991) of the Department of Environmental Protection (DEP) and Standard Sewer and Water Main Specifications of the Department of Environmental Protection (DEP) is declared to be part of this specification, the same as it is fully set forth elsewhere herein. Copies of this specification may be obtained from the Department. Concrete work shall conform to all requirements of that specification except as modified by this Detailed Specification.

2. Submittals

The Contractor shall submit to the Engineer for approval shop drawings and other materials required in accordance with the requirements set forth on the Contract Drawings and the Specifications in accordance with the Standard Sewer and Water Main Specifications. Submittals shall also include all material required under the "Submittals" section of the chapters of General Specification 11, Concrete, and any additional submittals hereinafter specified.

C. Detailed Requirements

The reference numbers in this Detailed Specification are keyed to the chapters and section numbers of General Specification 11; the first number(s) to the left of the first decimal designates the chapter and the subsequent numbers to the right of the first decimal designate the sections within the chapter. The Detailed Specifications herein shall take precedence over the Sewer and Water Main Specifications, July 2014.

1.4.1.6 The Engineer shall be responsible for all concrete inspections (including semi-controlled inspection).

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- 2.1 Coarse and Fine Aggregates for Concrete shall be well graded in accordance with 2.6.1.1. Maximum size of coarse aggregate shall be 3/4". All sieve sizes (1-1/2" to No. 200) shall be used in determining grading of both coarse and fine aggregates.
- 2.2.4 Contractor shall submit to the Engineer for approval a minimum of two (2) suppliers of aggregate he proposes to use.
- 2.2.5 Contractor shall furnish confirmation to the Engineer that he can obtain 100% of the needed aggregates from one area prior to approval to place concrete.
- 2.3 Maximum cementitious material factor shall be 680 lbs/cu. yd of concrete for 4000 psi concrete.

For concrete mixed with only Portland Cement, the total alkalis in the cement (calculated as the percentage of Na_2O plus 0.658 times the percentage of K_2O) shall not exceed 0.40%.

For concrete mixed with Portland Cement and an appropriate amount of fly ash, the total alkalis in the Portland Cement (calculated as the percentage of Na_2O plus 0.658 times the percentage of K_2O) shall not exceed 0.85%.

An approved mineral admixture Type F (Fly Ash) shall be substituted for cement in the ratio of 20% by weight

- 2.4 All concrete, unless noted otherwise on the Contract Drawings, shall be air entrained and contain a water reducing or high range water reducing admixture. For proportioning of air content and admixtures, see Chapter 3, Sections 3.5, 3.6 and 3.8.
- 3.3 All concrete shall be Class 40, 4000 psi based on 28 day compressive test. All concrete shall be proportioned and tested in accordance with Section 1.4.3 of the General Specifications 11 - Concrete, unless noted otherwise.
- 3.4 All concrete shall be normal weight. Lightweight Concrete shall not be used unless noted otherwise.
- 3.6 Slump:
1. Slump for all concrete shall be 3 +/- 1 inches, unless indicated otherwise.

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2. Where high range water reducing admixture is used, the specified water-cementitious material ratio shall be reduced by 0.02 and concrete shall be proportioned for no higher than 3-inch slump. The slump after addition of the high range water reducing admixture shall not exceed 8 inches when measured at the point of placement.
 3. A tolerance of up to 2 inch above the maximum indicated slump shall be allowed for one batch in any five consecutive batches tested provided that it can be demonstrated that the specified water-cementitious material ratio is not exceeded.
- 3.5.1.1 When the above tolerances are exceeded, the condition shall be immediately investigated and corrective action taken. Corrective action may include modification of the mix as required by the NYC Building Code. A report of the condition and the remedial action taken shall be filed with the Engineer designated for Controlled Inspection within 48 hours.
- 4.3.7.1 Form ties for all structures containing or resisting liquid pressure shall have water stops at mid-thickness of the wall.
- 5.3 Deformed billet steel bars shall comply with the requirements of ASTM A615, grade 60.
- 6.4 Expansion Joints
- 6.4.1 General Information - Expansion joints with joint fillers and joint sealants shall be constructed where shown and as indicated on the Contract Drawings.
- 6.4.2 Materials and Installation
- 6.4.2.1 Joint Fillers - Expansion joint filler shall conform to ASTM D1752, Type 1. The joint sealant shall be separated from the filler by a suitable bond breaker of polyethylene film or tape as recommended by the sealant manufacturer.
- 6.4.2.2 Joint Sealants
- a. A two component thiokol polysulfide base synthetic rubber sealant such as Pecora Synthacalk GC-2, Sonneborn-DeSoto Sonolastic 2-part, or approved equal shall be used in all expansion joints in concrete and

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masonry and wherever else specified or shown on the Contract Drawings.

It shall be furnished in pour grade or gun grade depending on installation requirements. Primers shall be used as called for by the manufacturer. The sealant shall be furnished in colors as directed by the Engineer.

- b. A two component pourable polyurethane sealant such as Pecora NR-300, Sonneborn-DeSoto Sonolastic Paving Joint Sealant SL-2, or approved equal shall be used in all concrete floors subject to heavy traffic and wherever else specified or shown on the Contract Drawings.

- 6.4.2.3 Installation of Joint Fillers and Sealants - Joint fillers and sealants shall be installed in accordance with manufacturer's recommended procedures and as shown on the Contract Drawings. Adhesive for holding sponge rubber joint filler to concrete shall be Scotchgrip Cement No. 1300 as manufactured by Minnesota Mining and Manufacturing Co, or W.R. Meadows, Inc., or approved equal.

Joint filler that will be exposed after removal of forms shall be cut and trimmed to ensure a neat appearance and shall completely fill the joint except for the space required for the sealant. The filler shall be held securely in place and no concrete shall be allowed to enter the joint or the space for the sealant and destroy the proper functions of the joint.

A bond breaker of polyethylene film shall be used between filler and sealant. The joint shall be thoroughly clean and free from dirt and debris before the primer and the sealant are applied. Where the finished joint will be visible, masking of the adjoining surfaces shall be carried out to avoid their discoloration.

The sealant shall be neatly tooled into place and its finished surface shall present a clean and even appearance.

6.5 Waterstops

6.5.1 Work Included

- 6.5.1.1 Description - The Contractor shall furnish and install all waterstops for expansion and construction joints as indicated on the Contract Drawing, specified herein or required for a complete installation.

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6.5.1.2 General Requirements

1. General Specifications - Waterstops shall be manufactured from virgin polyvinylchloride and shall meet or exceed all requirements set forth in the U.S. Corps of Engineers Specification CRD C572.
2. Samples - The Contractor shall submit to the Engineer one (1) sample of each type of PVC waterstop. Each sample is to include a splice.

- 6.5.2.1 General Information - Prior to installation, the Contractor shall submit layout drawings for approval, showing diagrammatically or otherwise the extent of the waterstop installations that are proposed to ensure that all construction and expansion joints will be watertight. The drawings shall include elevations, sections, etc. and all details to show that a continuous watertight installation shall be provided.

Construction joints made in other than positions shown on the Contract Drawings for the convenience of the Contractor are subject to the Engineer's approval and shall have water stops installed in these non-indicated construction joints at no additional cost to the City.

6.5.2.2 Materials and Installation

1. Materials - All waterstops shall be of polyvinylchloride extruded from an elastomeric plastic compound of which the basis resin shall be polyvinylchloride. The compound shall contain any additional resins, plasticizers, stabilizers or other materials needed to ensure qualities which will meet the requirements herein specified.

The required minimum physical characteristics for this material are per ASTM D-638:

| | | |
|---------------------|---|--------------------|
| Tensile strength | - | 1,750 psi |
| Ultimate elongation | - | not less than 280% |

No reclaimed PVC shall be used for the manufacture of the waterstops. The Contractor shall furnish certification that the proposed waterstops meet the above requirements.

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Waterstops for construction joints shall be flat ribbed type, 6 inches wide with a minimum thickness at any point of 3/8 inches.

Waterstops for expansion joints shall be ribbed with a center bulb, 9 inches wide with a minimum thickness at any point of 3/8 inches. Center bulb shall have an outside minimum diameter of 1 inch and an inside minimum diameter of 1/2 inch.

2. Installation - Waterstops shall be installed in the work so that they are embedded to an equal depth in concrete on both sides of the joint and the waterstops shall be kept free from oil, grease, mortar or other foreign matter. Waterstops shall be adequately secured against movement during the pouring of concrete. Forms adjacent to waterstops shall be rigidly constructed and braced to prevent the concrete from leaching through joints and the displacement of waterstops due to power vibrating of the concrete. Concrete adjacent to waterstops shall be placed in 12 inch lifts and power vibrated to prevent honeycombing, voids and separation of aggregates at the surfaces of concrete separation joints.
 - a. Splices - Splices at the intersection of runs of waterstops shall be made by heat sealing the adjacent surfaces in accordance with the manufacturer's recommendations using a thermostatically controlled electric source of heat. Only straight butt joint splices will be allowed in the field. At least three satisfactory field splices shall be made as samples on site. The Engineer may require tests on these splices by an approved laboratory, at the Contractor's expense, to certify the tensile strength of the joint. The strength attained shall be at least 80% of the unspliced material before any is used in the work.
 - b. Defective Work - Defective work, as determined by the Engineer, shall be remedied by cutting and rebuilding the concrete walls and slabs, replacing the waterstop assemblies or remedied by other methods as approved by the Engineer.
 - c. Responsibility - The final responsibility for constructing a watertight condition at expansion

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joints and construction joints remains with the Contractor as part of the work under this Contract.

6.6.2.1 The Contractor shall coordinate and/or provide for the installation of anchor bolts, pipes, sleeves, inserts, chases, recesses, and all other embedded items, required in the work.

6.6.5.3 The Contractor shall submit equipment pad layout drawings.

6.7 Precast Concrete

A. The Contractor shall furnish and install all precast items shown or specified in the Contract Documents, including all appurtenances necessary to make a complete installation. This section does not include prestressed or postensioned concrete.

B. Without limiting the generality of other requirements of these specifications all work hereunder shall conform to the applicable requirements of the referenced portions of the following documents, to the extent that the requirements therein are not in conflict with the provisions of this Section.

1. Precast Prestressed Concrete Institute Standard MNL -117.
2. ASTM C478 Specification for Precast Reinforced Concrete Manhole Sections.
3. ACI 318 Building Code Requirements for Reinforced Concrete.
4. ACI 350 R - Concrete Sanitary Engineering Structures.

C. Submittals

1. The Contractor shall submit shop drawings for all precast concrete items. Submitted drawings shall show all dimensions, location and type of lifting inserts, and details of reinforcement and the method of anchorage of surrounding work.

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2. For all precast items which are manufactured, the Contractor shall also submit a list of the design criteria used by the manufacturer.
 - a. For all precast items which are manufactured, and which have a clear dimension, in any direction, greater than or equal to 4'-0", the Contractor shall submit design calculations per criteria stated on contract drawings. The precast concrete calculations shall be stamped and signed by a Professional Engineer registered in the State of New York.
3. The Contractor shall submit approved ICBO reports for all lifting inserts, showing allowable design loads on the inserts.

D. Quality Assurance

1. Precast concrete units shall be made by an experienced manufacturer and shall be constructed as shown on the Drawings and specified herein and shall be free of defects, checks and cracks. Care shall be taken in the mixing of materials, casting, curing and shipping to avoid any of the above.
2. The Contractor shall notify the Engineer a minimum of 24 hours prior to casting and when the units have been fabricated and await the Engineer's consent prior to shipping to the site.
3. The Engineer may elect to examine the units at the casting yard or upon arrival of same at the site. The Engineer shall have the option of rejecting any or all of the precast work if it does not meet with requirements shown on the Drawings or specified herein. All rejected work shall be replaced at no additional cost to the City.

E. Products

1. The joint sealing compound shall be Quik-Seal, a preformed, cold applied, ready to use plastic joint sealing compound as supplied by Quikset Utility

BMP-40

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Vaults, Santa Ana, California; Ram-Nick by K.T. Snyder Company; or approved equal.

2. Mortar used between the sections of precast concrete manholes and vaults shall be as recommended by the manhole section manufacturer.
3. Non-shrink grout shall be used where grouting is required.

F. Design

1. The precast concrete units shall be designed for the dead load of the units plus a minimum superimposed horizontal Truck load of H20 for the spans shown on the Drawings unless shown or noted otherwise on Drawings.
2. Deflection shall not exceed 1/360 of span at design load.

G. Fabrication

1. All precast items shall be fabricated in accordance with PCI Manual for Quality Control for Plants and Production of Architectural Precast Concrete Product.

H. Installation

1. Required pads, plates and reinforcing bars shall be furnished for casting and anchorage in the adjoining work. The precast concrete units shall be installed with the units tight and at right angles to the supporting beams or walls. The units shall be aligned and leveled in accordance with the procedures recommended by the manufacturer. Units shall be grouted by a mixture of not less than one part cement to three parts fine sand, care being taken to see that joints are filled. Damp grout that may have seeped through shall be removed before it hardens.
2. All openings in the precast units shall be made by the Contractor and are the responsibility of the

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Contractor. Where details for an opening are not shown on the Drawings, the opening shall be made in accordance with the recommendation of the manufacturer.

- a. For precast planks, when an opening causes a loss in carrying capacity of the unit, the adjacent units shall be designed to carry the additional dead and superimposed load transferred from the unit with the opening. The Contractor shall provide saddle headers to transfer the load to adjacent members.
3. Damaged units shall be replaced at no additional cost to the City.

8.7.6 Connecting Concrete to Existing Structures

- A. Where new concrete work is to be made integral with existing concrete work, the Contractor shall proceed as follows and as shown or specified.
 1. Roughen surface of existing concrete by chipping.
 2. Cut existing concrete where required or as indicated on the contract drawings.
 3. Where it is necessary to expose existing reinforcement, the reinforcing rods shall be cleaned by wire brushing and new reinforcement shall be hooked into existing reinforcement and lapped, drilled into existing concrete and set with an approved adhesive, or welded as directed. Proper preheating shall be required prior to welding. Clearance around each bar shall be in accordance to ACI 318 requirements.
 4. Where expansion anchors are shown, holes shall be drilled in the existing concrete as indicated on the contract documents and to the minimum depths as recommended by manufacture so as to provide a minimum bond strength of 125% of yield.

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5. Waterstops to be set into existing concrete shall be as shown on the Contract Drawings.
 6. Thoroughly wash all surfaces and install waterstops and reinforcing steel as required.
 7. Apply bonding compound in strict conformance with the manufacturer's instructions.
 8. Apply new concrete in strict conformance with bonding compound manufacturer's recommendations.
- B. Where portions of existing concrete structures or masonry bulkheads are to be removed and where the remaining concrete is to be finished smooth, the Contractor shall do the following as a minimum:
1. Remove concrete or masonry to the depths shown on contract drawings or required by the Engineer.
 2. Cut off projecting reinforcement to a depth of at least 2 inches measured from the finished concrete surface. Where shown, reinforcement shall be bent across cut face and covered with new concrete.
 3. Thoroughly coat the roughened concrete surfaces by applying bonding compound in strict conformance with the manufacturer's instructions.
 4. Cement mortar shall be placed to a thickness slightly in excess of the finished surface and shall be steel-trowel-finished, flush with the adjacent surfaces.
 5. The color of new concrete in the exposed surfaces shall match the color of the existing adjoining concrete as closely as possible.
 6. Cement mortar shall consist of one part Portland cement and two parts of sand by volume.

Whenever new concrete is connected to existing concrete, the existing concrete shall be coated with bonding compound. Surface preparation, application and curing

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shall be done in strict accordance with the manufacturer's directions.

8.7.7 Cutting and Patching Opening for Pipe and Other Penetrations in Existing Concrete

- A. The Contractor shall cut the existing concrete within the limits required, expose the existing reinforcement, and perform the work in such manner to prevent damage to the existing adjacent concrete and/or equipment. Unless otherwise permitted, line drilling is required. The exposed reinforcement shall be cleaned by wire brushing, then cut and bent to permit the installation and finally bent around the new pipe or thimble. Additional reinforcement shall be provided as shown on the Contract Drawings. When reinforcing is required to be welded to structural members, the work shall be done by approved and licensed welders using size and length of beads shown on the Contract Drawings.
- B. Coating of the existing concrete shall be as previously specified under Section 8.7.6. Non-shrinking grout shall be used for setting wall casting, sleeves and wherever called for into existing concrete.
- C. Dowels and anchors shall be set with an approved epoxy adhesive in strict accordance with manufacturer requirements.
- D. Openings shall be provided with keyed joints meeting the Engineer's approval prior to coating and patching.
- E. Where such work will be visible in the completed work, the adjacent surfaces shall be made to match as closely as possible.

- 8.10.5 Non-Shrink Grout - Non-shrink, non-staining grout shall be "Euco N-S" by the Euclid Chemical Company, or "Masterflow 713" by Master Builders, or approved equal. Non-shrink grout shall be mixed and placed in strict accordance with the directions of the manufacturer.

Non-shrink grout shall be used for setting the structural items where as noted on the Contract Drawings.

8.12 Concrete Sealer

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Concrete sealer shall be a one (1) part polyurethane sealer and dustproofer, "Eucothane" as manufactured by the Euclid Chemical Company, or approved equal.

Concrete sealer shall be applied on all equipment pads.

8.13 Pigmented Admixture

This section describes Pigmented Admixture for coloring Portland cement mixtures.

It shall be certified by the manufacturer that the Pigmented Admixture shall comply with the requirements of ACI 212.3R.-10, Section 6.1., as water-reducing admixtures, and that their water reducing components have been tested for compliance with ASTM C-494 (Specification for Chemical Admixtures for Concrete). It shall be certified by the manufacturer that the Pigmented Admixture shall consist of pure synthetic mineral oxide only, and shall comply with ASTM Designation C979. It shall also be certified by the manufacturer that the Pigmented Admixture shall be single-component admixture, complying with both ASTM C494 and ASTM C979, not as a combination of two or more additives or admixtures.

The pigmented Admixture shall produce a color equal to the standards on file at the office of the New York City Department of Transportation, Bureau of Highways, Division of Roadway Engineering, 40 Worth Street, New York, NY 10013 and The Landmarks Commission, 225 Broadway, 23rd Floor, New York, NY 10007. The color shall be approved by the Engineer.

The Pigmented Admixture manufacturer shall certify that when used at the recommended dosage, the pigmented admixture has no effect on or increases the compressive strength of the concrete by 5-10% when compared with a control batch of the same mix design and slump but without the Pigmented Admixture. Testing shall be done at 28 days after depositing, and shall be measured in pounds per square inch. The test results shall be an average of at least three (3) cores of cylinders per test.

Calcium Chloride shall not be used in the composition of the admixture nor in the composition of the concrete.

The Pigmented Admixture shall be packaged by the manufacturer in incremental amounts by weight for a single

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cubic yard of concrete, with the designated dosage clearly marked on each package.

Air entraining agent complying with ASTM Designation C260 shall be used in combination with the Pigmented Admixture.

No other agents or admixtures shall be used with the Pigmented Admixture in the concrete, unless stated in writing by the manufacturer of the Pigmented Admixture to be of no consequence to the colorfastness of the concrete mixture.

The Pigmented Admixtures shall be mixed and delivered in accordance with ASTM Designation C 94.

The same type and brand of cement, source of sand and water/cement ration shall be maintained for each load of concrete used in the entire project.

The slump of the concrete shall remain consistent throughout the project at four inches. If held-back water is added at the job site, the concrete should be mixed at mixing speed for an additional five minutes after addition of the water and before depositing.

The Contractor shall furnish for approval and on site a concrete sample for each color specified using the Pigmented Admixture. The sample shall be at least 4' x 4' x 4" and shall be given the specified surface texture and cured with the methods specified for the concrete installation. The Contractor shall not order the admixture until the samples are approved by the Engineer. Once approved, the samples shall be used for assessing color conformance of pigmented concrete installed.

Water must not be sprinkled or otherwise added to the surface of the slab during finishing. Evaporation retardants may be fog-sprayed provided they are not detrimental to the finished color of the concrete.

8.13.1 Curing Membrane

If the concrete is pigmented as per this Section, the curing membrane shall be of the liquid-membrane forming type and shall be color-matched to the pigmented concrete. Additionally, the curing membrane shall be of a type recommended by the Pigmented Ad mixture manufacturer and shall conform to both ASTM C309 and all local, State, and Federal regulations concerning volatile organic compounds (VOC). Plastic sheeting,

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burlap, paper, or other unspecified material shall not be used as a curing membrane.

Prior to making any filed samples and the placing of any colored concrete, the Contractor, concrete supplier, engineer-in-charge, and/or city representative shall meet and discuss methods of handling the colored concrete.

8.13.2 Measurement and Payment

The quantity to be measured for payment under this Section shall be the total number of cubic yards of approved additional or requested concrete placed as directed by the Engineer.

The contract price per cubic yard of approved structural and nonstructural concrete shall be as indicated on the BID SCHEDULE OF PRICES, Item No. BMP-7.103-A (Non-Structural) and Item No. BMP-7.103 (Structural). The bid price shall constitute full compensation for all labor, materials, equipment and work incidental thereto, necessary to complete this item in accordance with the plans and specifications to the satisfaction of the Engineer.

10.4 Rubbed Finishes

The following shall be produced on concrete which has met the requirements of smooth form finish (Section 10.3.2).

10.4.1 Smooth Rubbed: Where this finish is required, it shall be applied no later than one day following form removal. No rubbing shall be done before the concrete is thoroughly hardened and the mortar used for patching is firmly set. A smooth, uniform surface shall be obtained by wetting the surface and rubbing it with a carborundum brick or other abrasive to eliminate irregularities until uniform color and texture are produced. Unless the nature of the irregularities requires it, the general surface of the concrete shall not be cut into. Corners and edges shall be slightly rounded by the use of the carborundum brick. Brush finishing or painting with grout or neat cement will not be permitted.

10.5.2 Smooth Rubbed Finish (Section 10.4.1) - for all other exterior surfaces and interior vertical surfaces.

10.5.3 Smooth Form Finish (Section 10.3.2) - for all other interior overhead surfaces exposed to public view and interior walls of tanks/culverts.

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10.5.4 Grout Cleaned Finish (Section 10.4.2) - for all exposed surfaces to be painted.

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7.104 STEEL REINFORCEMENTA. Description of Work

1. The Contractor shall furnish and install all reinforcing steel as indicated on the Contract Drawings and specified herein.

2. General Requirements

a. General Specifications - Steel reinforcement, electrically welded mesh and steel wire shall conform to the requirements of Chapter 5 - General Specification 11, - Concrete, November 1991 and the Standard Sewer and Water Main Specifications, July 2014.

Metal chairs, ties or wires shall not extend to the concrete surfaces. Approved form ties shall provide deep recesses which shall be carefully filled with grout after forms are stripped.

b. Shop Drawings - The Contractor shall submit to the Engineer for approval, shop drawings and other material required to substantiate conformance with the requirements set forth on the Contract Drawings and the Specifications. Shop drawings shall include, but not be limited to the requirements of General Specification 11 - Concrete.

Detailed placing and shop fabricating drawings, prepared in accordance with ACI 315 shall be furnished for all concrete reinforcement. These drawings shall be made to such a scale as to clearly show construction joint locations, openings, the arrangement, spacing and splicing of the bars. No materials shall be cut or fabricated until related drawings have been approved by the Engineer.

c. Submittals - The Contractor shall also submit the following:

- 1) Mill test certificates.
- 2) A description and sample of the reinforcing steel manufacturer's marking pattern.
- 3) Request to use mechanical couplers along with manufacturer's literature on mechanical couplers

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with instructions for installation, and certified test reports on the couplers capacity.

B. Execution

1. General Information - The Contractor shall install under this Section of the Detailed Specifications all steel reinforcement required for a complete installation for the structural work of this Contract. Bar sizes shall be as indicated on the Contract Drawings except as otherwise ordered or approved by the Engineer.
2. Materials and Installation - The steel reinforcement shall conform to the requirements as hereinbefore specified and to General Specification 11 – Concrete, Chapter 5 - Reinforcement. Reinforcing bars shall be deformed new billet steel bars conforming to ASTM A615, Grade 60. Wire mesh reinforcement shall conform to ASTM A185.
3. Welding - Wherever welding of reinforcing rods to other reinforcement or structural shapes is indicated, the welding of reinforcing steel shall conform to General Specification 11 – Concrete, Chapter 5.
4. Coiled Reinforcing – Shall not be permitted.
5. Mechanical Couplers – Hot-forged sleeve type couplers shall not be used.
6. Dowel Adhesive System - Where shown on the Drawings, reinforcing bars anchored into hardened concrete with a dowel adhesive system shall use a two-component adhesive mix which shall be injected with a static mixing nozzle following manufacturer's instructions. Thoroughly clean drill holes of all debris and drill dust with wire brush prior to installation of adhesive and reinforcing bar. The embedment depth of the bar shall be per manufacturer's recommendations, so as to provide a minimum allowable bond strength that is equal to 125 percent of the yield strength of the bar, unless noted otherwise on the Drawings. Engineer's approval is required for use of this system in locations other than those shown on the Drawings.
7. Delivery, Storage and Handling
 - a. All reinforcing shall be neatly bundled and tagged for placement when delivered to the job site. Bundles shall be properly identified for coordination with mill test reports.

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- b. Reinforcing steel shall be stored above ground on platforms or other supports and shall be protected from the weather at all times by suitable covering. It shall be stored in an orderly manner and plainly marked to facilitate identification.
- c. Reinforcing steel shall at all times be protected from conditions conducive to corrosion until concrete is placed around it.

8. Placing

- a. Reinforcing steel shall be accurately positioned as shown on the Drawings and shall be supported and wired together to prevent displacement, using annealed iron wire ties or suitable clips at intersections. All reinforcing steel shall be supported by concrete, plastic or metal supports, spacers or metal hangers which are strong and rigid enough to prevent any displacement of the reinforcing steel. Where concrete is to be placed on the ground, supporting concrete blocks (or dobies) shall be used in sufficient numbers to support the reinforcing bars without settlement. In no case shall concrete block supports be continuous.
- b. The portions of all accessories in contact with the formwork shall be made of plastic or steel coated with a 1/8 inch minimum thickness of plastic which extends at least 1/2 inch from the concrete surface. Plastic shall be gray in color.
- c. Tie wires shall be bent away from the forms in order to provide the specified concrete coverage.
- d. Reinforcing bars additional to those shown on the Drawings, which may be found necessary or desirable by the Contractor for the purpose of securing reinforcing in position, shall be provided by the Contractor at no additional cost to the City.
- e. Reinforcing placing, spacing, and protection tolerances shall be within the limits specified in ACI 318 except where in conflict with the Building Code, unless otherwise specified.

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- f. Reinforcing bars may be moved within one bar diameter as necessary to avoid interference with other concrete reinforcing, conduits, or embedded items. If bars are moved more than one bar diameter, or enough to exceed placing tolerances, the resulting arrangement of bars shall be as acceptable to the Engineer.
- g. Welded wire fabric shall be supported on slab bolsters spaced not less than 30 inches on centers, extending continuously across the entire width of the reinforcing mat and supporting the reinforcing mat in the plane shown on the Drawings.
- h. Bars with kinks or bends not shown on the Drawings shall not be used.

9. Splicing

- a. The length of lap for reinforcing bars, unless otherwise shown on the Drawings shall be in accordance with ACI 318 for a class B splice.
- b. Laps of welded wire fabric shall be in accordance with ACI 318. Adjoining sheets shall be securely tied together with No. 14 tie wire, one tie for each 2 running feet. Wires shall be staggered and tied in such a manner that they cannot slip.
- c. Mechanical splices shall be used only where shown on the drawings or when approved by the Engineer.
- d. Couplers which are located at a joint face shall be a type which can be set either flush or recessed from the face as shown on the Drawings. The couplers shall be sealed during concrete placement to completely eliminate concrete or cement paste from entering. After the concrete is placed, couplers intended for future connections shall be plugged and sealed to prevent any contact with water or other corrosive materials. Threaded couplers shall be plugged with plastic plugs which have an O-ring seal.

C. No Separate Payment

No separate payment shall be made for this work of this specification. All costs shall be included in the various Contract Items of this Contract.

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7.105

WELDINGA. Description of Work

1. The Contractor shall perform all welding as indicated on the Contract Drawings and as specified herein.

B. General Requirements - All welding shall be in accordance with specified standards as modified or supplemented by these Specifications. No welding shall be done when the base-metal temperature is lower than 32 degrees Fahrenheit. The subcontractor shall be responsible for the quality of the welding and shall set up and record procedures for welding all metals included in the work, Welding shall not be started until procedure, welders, and welding operators have been qualified by tests and copies of all records and reports submitted for approval. Costs of such testing shall be borne by the Contractor. Each weld shown or indicated on the Contract Drawings shall be made as specified on the approved procedure specifications provided to cover each type of weld. Welding of any special steel shall adhere, without deviation, to the written instructions of the steel manufacturer.

1. Welded Construction - Welded construction shall be used only where indicated on the Contract Drawings and approved shop drawings. The AWS Specification D1.1 (latest edition) Structural Welding Code or AWS D1.4 (latest edition) Structural Welding Code - Reinforcing Steel, as applicable and other requirements of this Section shall apply to the welded joints. Unless otherwise specified, welding shall be by automatic submerged arc or semi-automatic submerged arc,
2. Test Specimens - Test specimens shall be prepared by the Contractor for each type of welded joint as designated in paragraph entitled Procedure Qualification. Destructive tests of specimens for procedure and welder qualifications shall be conducted in accordance with AWS D1.1, Section 4, Qualifications, and the requirements specified herein.
3. Groove Welds - All groove welds shall be 100 percent complete penetration welds as defined in AWS D1.1 or shown in 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.

C. Welding Procedure

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1. General Information - Welding procedures and procedure qualification tests shall be required for all welding covered by this specification to demonstrate that the combination of process, material, and technique produces the desired welds. These procedures, when qualified, become the welding procedure specification which must be followed in making weldments on materials within ranges shown in the Contract Drawings (and Specifications), and provide a means of assuring reproducible results and quality control. Procedure specifications and procedure qualification test results shall be kept by the Contractor and shall be available for examination by the Engineer. Five copies of the procedure specifications and test results shall be submitted for approval. Welding procedure specifications and tests shall be individually identified or completed on the shop details and erection drawings. Welding shall not be performed on any contract item before approval of procedure specification and qualification testing by the Engineer.
 - a. Welding Procedure Specification - A separate Procedure Specification shall be prepared for each type of weld which varies in accordance with the definition of essential changes as listed in AWS D1.1, Section 5.
 - b. Procedure Qualification - Each type of weld made by a specific process shall be qualified by tests as specified in AWS D1.1 or as specified herein for reinforcing steel.
 - c. Procedure Specification Requalification - When an essential variable, as specified in AWS D1.1, is changed, the procedure must be requalified.
 - d. Dissimilar Steels - Where dissimilar steels are welded together, the procedure shall be the same as for the lower-strength steel.
 - e. Groove Welds - All groove welds shall be 100 percent complete penetration welds as defined in AWS D1.1 or shown in 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.
 - f. Welded Studs - Gun welded studs shall conform with the requirements of AWS D1.1, Section 7.

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- g. Electrodes - Electrodes for structural steel welding shall conform with AWS D1.1, Section 4, as applicable.

D. Performance Certification Of Welders And Welding Operators

1. General Information - Each welder and welding operator assigned to work on this Contract shall be certified in conformance with AWS D1.1, the requirements of this Specification. Welders shall be New York City certified, and all welding shall be done in conformity with the New York City Building Code.
- a. Welder's Certificates - Upon completion of the applicable qualification tests, each welder and welding operator shall be provided with a certificate by the Contractor. The certificate shall state the type of welding and positions for which he is qualified, the code under which he is qualified, and the firm or individual certifying the qualification tests. The certificate shall be kept on file at the job site by the Contractor and shall be made available for examination and approval by the Engineer. The certificate will remain in effect except when requalification of the welder or welding operator is required as specified in AWS D1.1 and the requirements of this Specification.
- b. Welder's Identification - The Contractor shall assign each welder identifying number, letter, or symbol which shall be used by the welder to identify all welds made by him. For identification, the welder shall lightly stamp his symbol adjacent to the weld by means of a metal stamp.
- c. Welder's Record - The Contractor shall maintain a record of all welders and welding operators employed on the Contract showing the date and results of tests and the identification mark assigned to each welder. These records shall be certified by the Contractor and made accessible to authorized personnel. Copies of the record shall be furnished to the Engineer.
- d. Technique - Technique shall conform to AWS Specification D1.1, Section 4, entitled Technique, and the requirements of this Specification.

E. Supervision

All shop and field welding shall be under the immediate supervision of a representative of a standard testing agency or an approved inspection

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agency reporting directly to, and under the control of, the Department of Design and Construction. The Contractor shall submit the name of such agency to the Commissioner for approval before starting work. The costs of all welding inspections and tests shall be borne by the Contractor.

F. Inspection and Tests During Construction

The Engineer will make periodic checks of each welder to determine that welds are being made as specified in the approved procedure specifications. Welding speed may be estimated. All welds will receive 100 percent visual inspection by the Engineer to determine weld size and profile, surface cracks, overlap, and undercut. The Engineer reserves the right to perform any test on any weld, including liquid penetrant, magnetic particle, radiographic, and ultrasonic.

G. Acceptance Requirements

1. Welds, other than stud welds, are acceptable if inspection indicates conformance within the following limitations:
 - a. Cracks - All welding exhibiting any cracks, either in the weld metal or the parent metal, will be rejected.
 - b. Undercut - Undercut shall not be more than 1/32 inch deep.
 - c. Convexity or Reinforcement - Convexity or reinforcement of a weld face shall not exceed the limits shown in AWS D1.1, and there shall be no overlap.
 - d. Fusion - Incomplete fusion or lack of penetration will not be allowed.
 - e. Small Inclusions - Slag inclusions, porosity, and other fusion defects less than 1/16 inch in greatest dimension will be allowed if well dispersed and the sum of the greatest dimensions in any linear inch of welded joint does not exceed 3/8 inch.
 - f. Large Inclusions - Slag inclusions, porosity, and other fusion defects 1/16 inch or larger in greatest dimension will be allowed providing such defects do not exceed the limits specified in AWS D1.1.

H. Repair of Defective Welds

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1. In lieu of rejection of an entire piece or member containing welding which is unsatisfactory or which indicates inferior workmanship, the corrective measures listed hereunder may be permitted by the Engineer whose specific approval shall be obtained for making each correction. Corrective measures shall be made at the Contractor's expense and to the satisfaction of the Engineer and/or an acceptable independent testing lab
2. Defective or Unsound Welds or Base Metal - Defective or unsound welds or base metal shall be corrected either by removing and replacing the entire welds, or as follows:
 - a. Convexity and Overlap - Excessive convexity and overlap, defined in paragraph Acceptance Requirements, shall be reduced by removal of excess weld metal.
 - b. Concavity - Any concavity of weld, crater, undersize welds, undercutting; clean and deposit additional weld metal.
 - c. Discontinuities - Excessive weld porosity, slag, inclusions, defined in the paragraph entitled Acceptance Requirements, and incomplete fusion: remove defective portions and reweld.
 - d. Cracks - Cracks in weld or base metal: remove crack throughout its length, including sound weld metal 2 inches beyond each end of the crack; follow by the required rewelding.
3. Removal - The removal of weld metal or portions of the base metal shall be done by chipping, grinding, oxygen cutting, oxygen gouging, or air carbon-arc and in such a manner that the remaining weld metal or base metal is not nicked or undercut. Defective portions of the weld shall be removed without substantial removal of the base metal.
4. Additional Metal - Additional weld metal shall be deposited using an electrode smaller than that used for making the original weld, and not more than 5/32 inch diameter. The surface shall be cleaned thoroughly before welding.
5. Inaccessibility - Where work performed subsequent to the making of a deficient weld has rendered the weld inaccessible or has caused new conditions which would make the correction of the deficiency dangerous or ineffectual, the original conditions shall be

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restored by removing the welds or members, or both, before making the corrections, or the deficiency shall be compensated for by additional work done according to an approved revised design.

6. Caulking - Caulking of welds shall not be permitted.
7. Improper Fit - Improperly fitted parts may be cut apart and rewelded. Members distorted by welding shall be straightened by mechanical means or by carefully supervised application of a limited amount of localized heat. The temperature of heated areas shall not exceed 1,200 degrees F (a dull red color). Temperature shall be carefully measured with temperature indicating crayons during the heating operation. Parts to be heated for straightening shall be substantially free of stress and from external forces, except those stresses resulting from mechanical means used in conjunction with the application of heat.
8. Peening - No peening shall be done on the root or surface layers of a weld. Peening of intermediate weld layers may be used only if authorized by the Engineer and directed by him. Care shall be exercised to prevent overpeening which may cause overlapping, scaling, cracking, flaking, or excessive cold working of weld and base metal.

I. No Separate Payment

No separate payment shall be made for this work of the specification. All costs shall be included in the various Contract Items of this Contract.

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7.106 OUTLET STILLING BASIN

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7.107-B RIP-RAP STONE /ANGULAR NATURAL FIELD STONE

A. Description of Work

Under this item, the Contractor shall perform all work necessary to install rip-rap stone or angular natural field stone where directed by the Engineer, to protect the soil surface from erosive forces and/or improve the stability of soil slopes as well as water feature bottoms that are subject to seepage or have poor soil structure.

In general, rip-rap stone shall be utilized for both temporary and permanent constructed features such as erosion control features, channel side slopes and bottoms, grade sills, slope drains, grade stabilization structures, storm drains, and cut and fill slopes subject to seepage, erosion or weathering, particularly where conditions prohibit the establishment of vegetation.

Angular natural field stone shall be utilized to stabilize, reinforce or restore naturally occurring features as well as features that are intended to appear natural, such as stream side slopes, banks and bottoms, wetlands, shorelines subject to erosion, culvert inlets and outlets, outlet stilling basins and natural upland side slopes.

Rip-rap stone may be substituted with angular natural field stone as directed by the Engineer. The Contractor may use field stones excavated in the project site, contingent upon the approval of the Engineer.

B. Materials Used

Rip-Rap Stones/Angular Natural Field Stones

Stones shall be a well-graded mixture with 50% by weight larger than the specified design size. The diameter of the largest stone size in such a mixture shall be 1.5 times the d50 size with smaller sizes grading down to 1 inch. The stone size installed shall be as directed by the Engineer and as shown on the Contract Drawings.

The minimum layer thickness shall be 1.5 times the maximum stone diameter, but in no case less than 6 inches or as specified on the Contract Drawings.

Stones for rip-rap shall be hard, durable quarry materials. Stones used for natural field stones shall be hard, durable field materials and shall be dark in coloration. They shall be angular and not subject to breaking down when exposed to water or weathering. The specific gravity shall be at least 2.5.

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Stones shall be free of decomposed stone, clay rock dust and other objectionable material. Existing stone walls and broken concrete or recycled stone shall not be used as stones. Broken concrete is not acceptable.

C. Construction Methods

Subgrade Preparation

Prepare the subgrade for stones to the required lines and grades shown on the plans. Compact any fill required in the subgrade to a density approximating that of the undisturbed material or overfill depressions with stones. Remove brush, trees, stumps and other objectionable material. Cut the subgrade sufficiently deep so that the finished grade of the stones will be at the elevation of the surrounding area. Channels shall be excavated sufficiently to allow placement of the stones in a manner such that the finished inside dimensions and grade of the stones meet design specifications.

Rip-Rap/Angular Natural Field Stone Placement

Placement of the stones shall follow immediately after placement of the filter. Place stones so that it forms a dense, well-graded mass of stone with a minimum of voids. The desired distribution of stones throughout the mass shall be obtained by selective loading at the quarry and controlled dumping during final placement. Place stones to its full thickness in one operation. Do not place stones by dumping through chutes or other methods that cause segregation of stone sizes. Be careful not to dislodge the underlying base or filter when placing the stones.

The toe of the stones shall be keyed into a stable foundation at its base as shown on the Contract Drawings. The toe shall be excavated to a depth of 2.0 feet. The design thickness of the stones shall extend a minimum of 3 feet horizontally from the slope. The finished slope shall be free of pockets of some stone or clusters of large stones. Hand placing will be required to achieve proper distribution of stone sizes to produce a relatively smooth, uniform surface. The finished grade of the stones shall blend with the surrounding area.

D. Measurement and Payment

The quantity to be measured for payment under this Section shall be the total number of cubic yards of approved stones, measured in stockpiles, containers and/or vehicles and placed as directed by the Engineer.

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The contract price per cubic yard of approved stone material placed shall be as indicated on the BID SCHEDULE OF PRICES Item No. BMP-7.107-B. The bid price shall constitute full compensation for all labor, materials, equipment and work incidental thereto, necessary to furnish, place and incorporate and all other work incidental thereto, in accordance with the plans and specifications to the satisfaction of the Engineer.

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7.108A ALUMINUM GRATING

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7.109 GEOTEXTILE FABRIC

A. Description of Work

Under this item, the Contractor shall furnish all equipment and perform all work necessary to place geotextile fabric as indicated in the Contract Drawings and specifications and as directed by the Engineer.

B. Construction Methods

The geotextile fabric shall be Enkadrain 9120 or equivalent with the following specifications:

| <u>Property</u> | <u>Test Method</u> | <u>Unit</u> | <u>Specification</u> |
|-----------------|-----------------------------|-------------|----------------------|
| Material | Non-woven geotextile fabric | | |
| Unit Weight | ASTM D1777 | oz/sq. yd | 4.3 (min) |
| Flow Rate | Falling Head Test | gpm/sq. ft. | 120 (min) |
| Puncture | ASTM D751 | lbs. | 60 (min) |
| Thickness | | in. | 0.8 (min) |

C. No Separate Payment

The cost for all labor, materials and equipment required to place the Geotextile Fabric used within bedding of the concrete structures shall be deemed included in the price bid under detailed specifications for concrete structures Section 7.129.

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7.110 SHEETING AND BRACING

A. Description of Work - The Contractor shall furnish and install sheeting together with all bracings as required for excavations in accordance with the provisions contained herein.

B. General Requirements

1. Shop Drawings - The Contractor shall submit to the Engineer for approval, shop drawings and other material required to substantiate conformance with the requirements set forth on the Contract Drawings and these Specifications.
2. Calculations - The Contractor shall submit to the Engineer for approval design calculations of his proposed sheeting and bracing plan. Such calculations shall incorporate all applicable loads as per the New York City Building Code and shall be signed and sealed by a New York State licensed professional engineer. The Contractor shall include with the calculations his detailed plan of operation as regards to the installation of the sheeting, method of excavation and removal of sheeting for the review by the Engineer.
3. The Contractor shall have at least three (3) projects similar in scope and type within the last five years in driving sheet piles.
4. The Contractor shall be responsible for the adequacy of all sheeting and bracing and for all damage resulting from sheeting and bracing failure or from placing, maintaining and removing it.

C. Construction Sheeting

1. General - Sheeting required by the Contractor for sheeting excavations, etc. shall be designed and submitted by the Contractor for the Engineer's review. Sheeting shall be removed at the conclusion of construction unless otherwise indicated or approved by the Engineer. Sheeting shall be either steel or wood sheeting as specified herein below.
2. Steel Sheeting - Sheeting shall conform to the requirements of ASTM A328. Sheet piles shall be new and shall be of the continuous interlock type of the section, length and weight shown on the Contract Drawings.
3. Structural steel and other accessories such as walers, braces, tie-rod assemblies, plates and similar members used with sheet piling shall conform to ASTM A36.

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4. Fastening - Bolts, nuts and washers shall conform to the requirements of ASTM A325 or A307. Connections shall be provided by the Contractor in accordance with AISC Specification for the Design, Fabrication and Erection of Structural Steel. Connections shall be subject to the Engineer's approval. Welding shall conform to the requirements of Detailed Specification 7.106, Welding.
5. Wood Sheeting - Timber of wood sheeting shall be Douglas Fir standard grade or Southern Yellow Pine No. 25R with extreme fiber unit bending stress not less than 1200 psi. All lagging shall be full size lumber (undressed), and shall be sound, free from shakes, large knots, and other defects which might impair its strength. Used timber may be furnished if equal in strength to that of corresponding new timber. Where conditions require tight sheeting to prevent loss of ground, tongue and groove wood sheeting shall be used.
6. Sheeting to be Left in Place - Construction sheeting to be left in place shall be indicated on the drawings. The Contractor shall cut off piling 2 ft. below ground surface or to the grades shown on the Contract Drawings.
7. Bracing and Anchorage - Bracing and anchorage shall be shown on the shop drawings.
8. Installation - The Contractor shall examine the areas and conditions under which steel sheet piling is to be installed. The Contractor shall notify the Engineer in writing of conditions detrimental to the proper and timely completion of the work. The Contractor shall not proceed with work until unsatisfactory conditions have been corrected in a manner acceptable to the Engineer.

D. No Separate Payment

The quantity to be measured for payment under this Section shall be the total number of square feet supplied and installed in accordance with the plans and specifications and direction of the Engineer.

All costs for the installation of sheeting and bracing performed in conjunction with the construction and installation of concrete structures will be included under the unit bid price for Concrete Structures Section 7.129.

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7.111 VALVES

NO TEXT ON THIS PAGE

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7.112

STONE PIERS FOR PEDESTRIAN/VEHICLE ENTRANCE

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7.113 MISCELLANEOUS PIPING

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7.114 STEEL WEIR PLATES

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7.115

HOODS

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7.116

ALUMINUM SLIDE GATE

NO TEXT ON THIS PAGE

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7.117 GRAFFITI RESISTANT COATINGA. Description of Work

Under this Item, the Contractor shall furnish and apply Graffiti Resistant Coating to exterior stone, concrete, wood or other surfaces in accordance with OSHA guidelines, manufacturer's recommendations and the plans, specifications and directions of the Engineer.

B. General

The Contractor shall apply Graffiti Resistant Coatings as follows:

1. For previously painted masonry, concrete (vertical surfaces) and bethabara wood (both painted and unpainted), metal surfaces (both painted and unpainted), apply Graffiti Solution System (G.S.S.) manufactured by American Polymer Corporation, ARMAGLAZE, 9000 manufactured by Aquarius Coating, Inc., or approved equal
2. For new and unpainted masonry and concrete, the Contractor shall apply Professional Water Sealant & Anti-Graffiti, manufactured by Professional Products of Kansas, Inc., Blok-Guard & Graffiti Control Ultra manufactured by Prosoco, Inc., or approved equal.

C. Quality Assurance

Graffiti Resistant Coating shall be applied only by an approved installer per installation instructions who shall be trained by the manufacturer of each respective product and shall be certified by the manufacturers as qualified to install materials specified for this project. Only qualified Contractors or Subcontractors and their trades persons, meeting the above requirements shall be deemed approved. Submit a copy of current SSPC Certificate if applicable.

D. Product Delivery, Storage and Handling

1. The Contractor shall deliver materials in sufficient quantity to allow for continuity of work. Protect all materials and equipment during transit, delivery, storage and handling to prevent damage and deterioration.
2. Avoid fire; open flame and sparks. Container contents, even when empty, may ignite explosively when exposed to heat, welding, cutting torch, pilot lights and other flames and ignition sources at locations distant from the material storage and handling point.

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3. Avoid inhalation, ingestion, skin contact, and eye contact.
4. Protect shrubs, plants and grass during application. Avoid wind drift which may injure passersby or damage vehicles and adjacent properties.
5. For additional cautions, human health data and protective equipment to be used (including respiratory) refer to Material Safety Data Sheets.
6. Containers shall be kept closed when not in use.
7. Dispose of excess waste materials and empty containers in accordance with all local, state and federal regulations. Empty containers as may be classified as hazardous; they retain product residues such as vapor, liquid or solid. Do not transfer contents into other containers for storage.

E. Products

1. "G.S.S" Coatings. Note: This coating shall be applied to surfaces listed under "General" heading of this Specification (i.e. previously painted masonry, concrete and wood surfaces and metal surfaces both painted and unpainted).
 - a. G.S.S. Barrier Standard: Sealer product; standard undercoat - not high solids version. This Standard version shall be used with Clear overcoat. Barrier shall be applied over painted porous surfaces (not metal)¹
 - b. G.S.S. Barrier High Solids: Shall be used with Pigmented top coat. The high solids version is not recommended for use with clear top coating. High solids barrier consists of a one component, acrylic copolymer coating (see Manufacturer's Product Guide for more information).
 - c. G.S.S. 10 Clear Coating (Low VOC): Anti-graffiti product; overcoat G.S.S. 10 consists of a polymer composition; two (2) component resin and catalyst system. It is a non-sacrificial permanent coating with flat/matte finish. G.S.S. 10 Part A is premeasured to use for Part B.
 - d. G.S.S. Pigmented Coating: Anti-graffiti product; top coat. Two (2) component polyurethane, non-sacrificial,

¹For steel and aluminum surfaces, in lieu of G.S.S.-Barrier, use a water-borne urethane primer such as Bond-Plex, manufactured by Sherwin-Williams Company; or approved equal.

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protective coating. Color shall be selected from either the manufacturer's standard color guide or Sherwin-William Industrial and Marine Coatings, System 4000 color chart or approved equal. Finish shall be flat/matte (not gloss) unless otherwise noted. (pigmented coating shall be used in lieu of clear coating when previously painted substrate is not uniform in color and requires concealing with an opaque top coat.)

2. P.W.S. Coatings: Note: This coating shall be applied to surfaces listed under "General" heading above (i.e. new and unpainted masonry and unpainted concrete).

F. Execution

1. Surface Preparation

- a. Surfaces shall be thoroughly dry, cleaned and free of dust, surface dirt, oil, grease and other contaminants that might prevent penetration of the coatings. Newly constructed surfaces, repointed surfaces and concrete shall be cured for at least 28 days before application. Glossy, glazed and slick troweled surfaces should be lightly etched or abraded before application of coatings. Surface defects, voids, joints or cracks must be properly sealed or filled, allowing any patching compounds to be completely cured before application. Cleaning may be accomplished by high pressure washing, sand blasting or chemical cleaning. When chemicals are used, they should be removed by high pressure water cleaning before application of the sealant. Use of raw acids shall not be permitted. Allow cleaned surfaces to dry completely. A test must always be made prior to application using the same cleaning and application procedures as to be used on the project. This test area shall remain available to be inspected by the Engineer.

G. Application Procedures

1. General product application must not be initiated during inclement weather, or when precipitation appears imminent. Application should be completed at least four (4) hours before precipitation begins.
2. For the G.S.S. Type Coating Systems consisting of both undercoat and topcoat, refer to manufacturer's Application Guide along with information specified herein.

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- a. G.S.S. Barrier Undercoat sealer shall only be applied when temperature is between 50°F and 95°F. The surface to receive Barrier shall be visibly dry and relative humidity shall be such that condensation does not form on the surface during application.
- b. Apply two (2) coats of Standard Barrier Undercoat (3 to 4 mils total) over all previously painted masonry and wood surfaces using either brush, roller or spray. Ensure that the coatings are applied evenly and built up sufficiently to create a protective layer over the underlying surface and to eliminate any future "shadowing" or "ghosting" which would appear after the graffiti removal if the surface is not adequately sealed and coated. Barrier shall be applied creating a pinhole-free surface. Allow 1 to 2 hours between coatings. Avoid over-application of Barrier coating to avoid pooling or puddling which can result in permanent whiting. Application of Barrier in direct sunlight can also result in permanent whiting.
- c. G.S.S. 10 Overcoats shall be applied over G.S.S. Barrier undercoat. Prior to installation of overcoats, the barrier coats shall be allowed a minimum of 12 hours drying time. Moisture shall not be permitted on undercoating prior to application of G.S.S. 10 coating. G.S.S. 10 shall be activated by mixing parts A and B. These two portions have been premeasured at a precise ratio. The Contractor shall not mix at any other ratio and shall not add thinner or water. Part B shall be poured into Part A container. While mixing together, stir well with a lifting motion to ensure that the two parts are well balanced. If the coating must be thinned for application purposes, thin with MEK only and only after Parts A and B have been mixed together. The coating may be applied by brush, roller or spray. Apply two (2) coats of G.S.S. 10 of 1 to 2 mils thickness each coat. Allow one (1) to two (2) hours before applying the second coat. If using roller, direct the roller upwards from bottom toward top maintaining a wet wedge.
- d. Coverage rates will vary depending upon porosity of the surface and method of application. Once activated, the coating has a pot life of approximately 4 to 6 hours under normal conditions (80°F or less). The lid shall not be left off the container unnecessarily.

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H. For the Professional Water Sealant (P.W.S) Type Cleaning System, refer to Manufacturer's Application Guide along with information specified herein.

1. P.W.S shall be applied only when temperature is between 60°F and 80°F and relative humidity is 50%. Under these ideal weather conditions, the coating will dry to the touch in approximately twenty-five (25) minutes. At lower temperatures, drying time will be longer.
2. The coating shall be applied over all new and unpainted masonry, concrete and wood surfaces using a two (2) coat application process, with a drying time of not more than two and one-half (2-1/2) hours between applications.

Curing time will vary depending upon the temperature and humidity conditions. The second coat shall require six (6) to eight (8) hours to develop full graffiti protection.

3. On vertical applications, P.W.S. shall be applied with a low pressure airless sprayer at an angle to allow the sealant to run down the face rather than to penetrate deep into the voids of the substrate. On porous and rough stone surfaces, it shall be necessary to apply a mist coat before flood coating.
4. On horizontal surfaces, such as wooden bench slats, P.W.S. shall be applied by brooming, brushing, rolling or using airless spray equipment. The coating shall not be permitted to puddle or pond. Over-application may cause surface to become slippery when wet. Excess sealant shall be wiped up immediately.
5. For low pressure spray application, the setting shall be about 40 psi to avoid atomization of the material. Spray equipment shall be fitted with stainless steel or brass fittings and gaskets suitable for solvent solution. A fan spray tip of 50E with flow rate of approximately 4/10 of a gallon per minute is recommended. Coatings shall be applied in a saturating spray application from the top down. Apply sufficient material to create a six (6) inch to eight (8) inch rundown below the contact point. Allow the first application to penetrate the masonry surface until dry to the touch. If a second application is required, less material will be needed.
6. For brush application, brushes should be nylon or other synthetic material resistant to solvent solution. When applying Professional Water Sealant with a brush, apply sufficient material to thoroughly saturate the surface. Avoid excessive overlapping. Take care of

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brush out runs and drips, and to avoid buildup of Professional Water Sealant.

7. Container shall be kept tightly sealed until ready to use. Stir thoroughly before use. Product shall not be diluted or altered in any way. Coverage rates will vary depending upon surface porosity and texture. Once opened, Professional Water Sealant must be used within 24 hours.

I. Clean-Up Instructions

Clean application equipment immediately after each use. For G.S.S products, avoid having the G.S.S. 10 coating set up on or inside application equipment, by cleaning frequently with any of the following solvents (do not use solvents other than listed): xylene, lacquer thinner, MEK or n-butyl acetate. If coating has begun to set up and cannot be cleaned with the above, G.S.S. Erasol shall be used for cleaning. All drips and over spray shall be cleaned while still wet. For spraying equipment, cleaning with MEK every one (1) to two (2) hours is recommended. Since G.S.S 10 adheres permanently to surfaces, including human skin, spills shall be cleaned immediately. For P.W.S. products, clean equipment with mineral spirits or paint thinner.

J. Cure Time Required Prior To Remover Use

For G.S.S. products, full curing time required before graffiti can be removed from newly applied protective coating is seven (7) days at ambient temperatures. Curing period is longer during cooler temperatures. A test patch shall be performed during cooler temperatures to determine whether the G.S.S. 10 top coat has cured sufficiently to remove graffiti with Erasol Remover product. Apply a small amount of Erasol Remover product on a clean spot of the coated surface and let it stand for 24 hours undisturbed. When the coating appears to have softened, it has not fully cured. When the coating remains hard, then Erasol may be used to remove graffiti.

K. Graffiti Removal

1. For permissible materials to be used in removing any graffiti which may accumulate during construction contract duration, the Contractor shall refer to listing found under Section 7.116.12 (Extra Materials).
2. For graffiti removal procedures, see manufacturer's literature and instructions. Use of chemicals which are not included in manufacturer's list of components for remover system may damage

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or remove the protective coating, thereby necessitating the reapplication of sealant/coating systems.

3. Use of remover products which are not part of the complete system (i.e. not manufactured by the same companies as protective coatings) will void the 10 year manufacturer's warranties/guarantees.

L. Submittals

1. The Contractor shall submit manufacturer's technical data sheets, vapor transmission testing results and applicable OSHA regulations for storage, handling and application of both the Graffiti Resistant Coatings and Graffiti Remover products to the Engineer for approval.
2. The Contractor shall submit manufacturer's product guarantee/warranty for a period of ten (10) years from the date of purchase, stating that the coatings will allow for the removal of all types of paint and other graffiti materials when same manufacturer's removal product has been used subject to listing of manufacturer's limitations which shall be included with the submittal. Manufacturer and/or its Certified Applicator shall remove the graffiti and recoat the surface at their own expense. The G.C. Contractor shall provide, sealed in plastic, a statement of the warranty with the name, telephone number and address of the manufacturer of the product to be contacted in the event that product fails. G.C. shall forward one (1) copy of the warranty to the following at the time of final acceptance:

DEP Staten Island Bluebelt Field Office
182 Joline Avenue
Staten Island, New York 10307
718-984-0489
718-984-4430 (fax)

3. The Contractor shall submit written certification from the respective manufacturers of coatings, certifying that installers have been properly trained and are currently approved by the manufacturers to install the specified graffiti resistant coatings. Provide copy of certification to the Engineer prior to start of Contract work.

M. No Separate Payment

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No separate payment shall be made for graffiti resistant coating for Concrete Structures. All costs shall be included in the unit cost of the Concrete Structures item, specification section 7.129

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7.118A

BEEHIVE GRATES

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7.119

LADDERS

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TRASH RACK

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7.121 MANHOLES, CHAMBERS & CATCHBASINS

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7.122 MANHOLE STEPS

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7.123

ASPHALT PAVING FOR PATH

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7.124 TIMBER STOP LOG

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7.125A ACCESS HATCHES

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7.126A GRANITE CASCADES

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7.127 TEMPORARY ASPHALT PAVEMENT

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7.128 ASPHALT PAVING

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7.129 CONCRETE STRUCTURESA. Work Included

The Contractor shall investigate, install, test and place in satisfactory operation all Concrete Structures as shown on the Contract Drawings and specified herein. Concrete Structures include but are not limited to headwalls, retaining walls, perimeter walls, weir walls, hydraulic flow splitters, hydraulic riser boxes, culverts, sewers, chambers, catch basins, manholes, sand filters, pedestrian bridges and stone piers.

B. General Requirements

1. General Specifications-The General Specification: 11-Concrete (Dated November 1991) Department of Environmental Protection (DEP) is declared to be part of this specification, the same as it fully set forth elsewhere herein. Copies of this specification may be obtained from the Department. Concrete work shall conform to all requirements of that specification except as modified by the applicable sections of this Detailed Specification.

2. Refer to Sect 7.103.C: Detail Requirements as contained within this contract specification.

3. Geotechnical Investigation

A geotechnical review shall be performed by the contractor prior to construction. The geotechnical review shall include an analysis of the boring data provided herein. The geotechnical review shall include, but not be limited to, bearing capacity and bearing elevation, soil properties, recommendations on foundation type, and subgrade preparation recommendations. Scour shall be considered in the foundation recommendations. See contract drawings for additional geotechnical review requirements. The geotechnical review shall be signed and sealed by an Engineer licensed in the state of New York. The geotechnical review shall be submitted by the Contractor to the Engineer. The Contractor may be required to revise the design in order to comply with the recommendations made by the Geotechnical Engineer. All modifications are to be submitted to the Engineer for review.

4. Submittals

The Contract shall submit to the Engineer for approval shop drawings and other materials required to substantiate conformance to the requirements set forth on the Contract Drawings and the

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Specifications in accordance with the Standard Sewer and Water Main Specifications. Submittals shall also include all material required under the “Submittals” section of the chapters of General Specification 11, Concrete, and any additional submittals hereinafter specified.

C. Measurement and Payment

The quantity to be measured for payment under this Section shall be the total number of Concrete Structures installed as directed by the Engineer.

The Contract price for each Concrete Structures shall be as indicated on the Bid Schedule of Prices Item No. BMP-7.129-1. The bid price shall include all work and equipment necessary to complete this item in accordance with the plans and specifications and to the satisfaction of the Engineer. The Concrete Structures unit price shall include but not be limited to geotechnical investigation, concrete, reinforcement, excavation, backfilling, crushed stone, geotextile, sheeting and bracing, stone facing, hatches, manhole covers, grating, railings, piping, hoods, valves, weir plates, ladders, steps, trash racks and bronze plaque. The unit price shall also include removal of all existing structure and debris found at the proposed new structure location.

D. Concrete Structures Summary

| <u>Item</u> | <u>Description</u> |
|-------------|--------------------|
| BMP-7.129-1 | Headwall |

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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.

| <u>Section Number</u> | <u>Title</u> |
|-----------------------|---------------|
| 7.304-A | Excavation |
| 7.305 | Crushed Stone |
| 7.307-A | Grading |
| 7.308 | Fill On-Site |

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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–A EXCAVATIONA. Description of Work

The Contractor shall furnish all labor, materials, equipment and services necessary to perform all excavation 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 Specifications.
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 Standard Sewer and Water Main Specifications.

C. Excavation

1. General Information –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 NYCDEP Standard Sewer and Water Main Specifications, except as otherwise specified herein. Excavation shall include removing boulders of size less than one-half cubic yard. Excavation shall also include the removal of existing buried pipelines, the plugging of those remaining sections of the pipelines and the plugging of all existing buried pipelines to be abandoned but not removed.

The limits of excavation shown on the drawings are the payline and 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 performing the excavation to the levels and surfaces indicated.

2. Excavated Materials - The Contractor shall dispose offsite all excess and unsuitable materials. Boulders and stones deemed suitable for reuse shall be stockpiled on-site at a location determined by the Engineer.

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3. Hazardous and Non-Hazardous Waste – Prior to starting the work, the contractor shall perform soil sampling as detailed in Section 7.317-Soil Sampling and Disposal. Sampling and subsequent removal of contaminated soils shall be paid for under that item.

4. Care of Water - 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 care for water during construction, including a coordinated sequence of operation for the entire project. Approval by the Engineer will not relieve the Contractor of his responsibility for the safety of the work, existing structures and adjacent property.

5. Stockpiling - Topsoil that has been excavated and approved for use on-site is to be stockpiled separate from subsoil. Topsoil shall be excavated to a depth of 18" or as directed by the Engineer. Location of stockpiling shall be approved by the site Engineer. If the Engineer deems necessary, subsoils shall be separated and stockpiled according to soil horizons.

D. Measurement and Payment

The quantity to be measured for payment under the pay item Excavation shall be the total number of cubic yards, measured in containers and vehicles, and the quantity to be paid for will be 75% of the yardage determined by such measurements.

The contract price per cubic yard of material excavated and disposed of off-site shall be indicated on the BID SCHEDULE OF PRICES Items No. BMP-7.304-A. The bid price shall constitute full compensation for all 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.

All costs for excavation performed in conjunction with the construction and installation of concrete structures will be included under the unit bid price for Concrete Structures Section 7.129.

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7.305 CRUSHED STONE

A. Description of Work

The Contractor shall provide and install Crushed Stone bedding as indicated on the Contract Drawings and as specified herein.

B. Materials

Crushed stone used shall conform to the following gradation and shall be compacted to 98 percent density as determined by ASTM D698.

| <u>Sieve Size</u> | <u>Percentage of Dry Weight Passing Designated Sieve Size</u> |
|-------------------|---|
| 1" | 100 |
| 1/2" | 90-100 |
| 1/4" | 0-15 |

C. Construction Methods

Crushed stone shall be installed as per the Contract plans and to the satisfaction of the Engineer.

D. No Separate Payment

No separate payment shall be made for crushed stone used as bedding for Concrete Structures. All costs shall be included in the unit cost of the Concrete Structures item, specification section 7.129.

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7.306

TREE REMOVAL AND DISPOSAL

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7.307-A GRADINGA. 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 Specifications.
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 Standard Sewer and Water Main 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 Specifications.D. Compaction

1. BMP Areas – Compaction shall not be done in BMP 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.
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.

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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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7.308

FILL ON-SITEA. Description of Work

This work shall consist of providing and placing approved fill material where required throughout the project area only. The Contractor may use approved fill material excavated from sewer and foundation trenches and stockpiled excavated soils within BMP project limits as long as it meets the approved definition. Reuse of onsite excavated material requires that the material be screened prior to placement as fill. The approved fill material shall be provided, placed, spread, compacted and fine graded to the elevations, lines, grades and cross-sections indicated on the drawings as directed by the Engineer.

B. Definition

Approved fill is hereby defined as clean earth, consisting of a mixture of silt and clay. Fill material shall have a liquid limit less than or equal to 40 and a plasticity index less than or equal to 20, as determined by ASTM D4318. This mixture must be free of any roots, trees, tree stumps, leaves or other organic matter. Furthermore, this material must also be free of any metal, bricks, debris, masonry (i.e. construction debris), stones over one and one-half (1-1/2) inches in diameter and deleterious material. In addition, the fill shall have a gradation such that 100% (by weight) passes a 3" sieve, 50-100% passes a #10 sieve, 20-90% passes a #60 sieve, and 0-20% passes a #200 sieve.

Fill used in planted areas shall be clean earth, consisting of a mixture of silt, clay, and sand. No custom ("select fill") fill shall be used in area which are to be planted.

C. Measurement and Payment

The quantity to be measured for payment under this Section shall be the total number of cubic yards of approved fill, measured in containers or vehicles, provided and placed as indicated on the Contract Drawings and as directed by the Engineer.

The contract price per cubic yard of approved fill material placed shall be as indicated on the BID SCHEDULE OF PRICES Item No. BMP-7.308. The bid price shall constitute full compensation for all 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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No separate payment shall be made for fill used to backfill structures. All costs shall be included in the unit cost of the Concrete Structures item, specification section 7.129.

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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 |
| 7.403 | Top Soil for Restored Area |
| 7.404-A | Restoration Specialist (Construction Monitor) |
| 7.404-B | Erosion and Sediment Control Licensed/Certified Professional |
| 7.405-A | Vector, Pest and Wildlife Control |
| 7.407-A | Erosion Control Mat - Straw |
| 7.408-B | Herbicide Application |
| 7.413 | Goose Exclusion Fence |
| 7.414 | BMP As-Built Plans |
| 7.415 | Vine and Invasive Plant Removal |
| 7.421 | Root Barrier |

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7.401 LANDSCAPINGA. 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 Requirements1. 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, 2nd 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.

All seed and original stock material for herbaceous plants shall have been collected from locally adapted ecotypes

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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 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 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

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Plants or A Comparative Flora of Staten Island, 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 Staten Island stock or within 250-mile radius of Staten Island.
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 DETAILED SPECIFICATIONS FOR TOPSOIL FOR RESTORED AREA.
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.

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- 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 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.
 - b. Demonstrated capacity to accomplish the work in the required time including qualification of experienced foreman and key personnel.

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- 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.

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-

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- 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 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.

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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.

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.
- 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.

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- 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.
 - 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.

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- 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 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.

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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.
 - 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.

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- 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 two (2) 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 two (2) 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 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.F. 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.

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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 site stripping 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 amounts of fertilizer into planting holes shall be supplied and used by the Contractor.

3. Mycorrhizal Inoculants

- a. Mycorrhizal inoculants shall be used in all tree and shrub planting operations in all areas receiving topsoil from off-site sources, or stripped topsoil stockpiled in excess of one year.
- b. The inoculants for trees and shrubs shall be "Mycor Tree Saver" by Plant Health Care, Inc., Rhizanova Tree Transplant, by Becker Underwood, Inc.; "DIEHARD" by Horticultural Alliance, or approved equal. The inoculants shall contain fresh, live and viable spores of both endo

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(VAM) and ecto (Pt) mycorrhizal fungi. All inoculants shall be delivered in sealed containers or packages of the Vendor, listing the weight, content, date of packaging and name of Vendor.

- c. The inoculants for herbaceous plants and grasses shall be Mycor Plant Saver by Plant Health Care, Inc., "DIEHARD" by Horticultural Alliance' "mycorrhiza ROOTS Soluble' by Lebanon Turf, or approved equal. The inoculants shall contain fresh, live and viable spores of both endo (VAM) and ecto (Pt) mycorrhizal fungi. All inoculants shall be delivered in sealed containers or packages of the Vendor, listing the weight, content, date of packaging and name of Vendor.
- d. The inoculants shall be stored in unopened containers in a cool, dry location. All containers must be inspected by the Engineer prior to opening. Any inoculants dated eighteen (18) months or more prior to the date of intended use shall not be used. Any inoculant that has been in a wet condition shall not be used. Any inoculant rejected by the Engineer shall be removed from the site.
- e. For trees and shrubs, the Contractor shall incorporate the inoculant into the top eight inches (8") of the topsoil mix used in the planting operations described in Section 7.403 and as per the manufacturer's instructions. The amount of inoculant used at each plant shall be based on the plant's size - see manufacturer's instructions. For herbaceous plants, the Contractor shall place the inoculant into each planting hole as per manufacturer's application rate and project plans.
- f. The Contractor shall not apply fungicide to any areas receiving inoculant for a minimum of two weeks following the planting operations.

4. 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.).

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- 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 be accepted. No damaged or diseased plants will be accepted.

- e. All deciduous trees shall be well-branched and furnished to the ground. There shall be no abrasion of the bark, no fresh cuts of limbs over 1-1/4" which have not completely calloused over. A heavy fibrous root system is essential. Refer to Plant Schedules on the Contract Drawings for further specifications.

- f. All evergreen trees shall be heavy, symmetrical plants well-furnished to the ground. They may be multiple-stemmed. All evergreen trees must be free from winter injury. A heavy fibrous root system is essential.

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- g. Trees 4" caliper or less shall be calipered six inches above ground. Trees greater than 4" caliper shall be calipered one foot above ground.
- h. All trees to be tagged on north side of tree for proper orientation when planting.

5. 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 13" 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.

6. Compost

Compost having the general properties of humus shall contain organic matter with no admixture of refuse or material toxic to plant growth and shall be completely decomposed and free from deleterious materials such as a glass, paper, plastics, metals, etc. Compost shall be from Long Island Compost, Islip, NY "Earthlife", by Casella Organics, or "Nature's Choice Compost" by Nature's Choice Corp., Union, NJ, or approved equal.

7. Materials for Anchoring, Staking, Guying, Wrapping

- a. Stakes. The Contractor shall provide straight, sound cedar stakes, 2 x 2-1/2 inch diameter (50 x 50 mm or 63 mm diameter) in size.

In natural areas, where wind-disturbance is unlikely Engineer will determine if stakes are necessary. If it is determined that staking is required, a modified staking system shall be used. The modified stakes shall be shorter than conventional stakes, and shall protrude 18 inches above the finished grade. Stakes shall be anchored and fastened in the same manner as in conventional staking.

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- b. Tree guys. The Contractor shall provide guys of 3/4" woven polypropylene fabric, such as "Arbor-Tie" or approved equal. Each end shall be coiled tightly, with enough slack left in guy so as to allow slight movement of tree trunk. Guying shall be performed under the direct supervision of the Engineer.
- c. Wrapping Material. The Contractor shall use standard nursery tree wrapping paper, or burlap manufactured for wrapping tree trunks. Burlap shall be made of jute. Twine for tying shall be lightly tarred sisal (lath) yarn.

8. Topsoil Mix

The topsoil mix shall be a mixture of one part compost, and two parts of topsoil. Topsoil mixed on-site must be tested by Contractor and have pH of 5.5 - 6.5. Ericaceous plantings may require a lower pH. Where site conditions such as heavy clay soils exist, the Engineer shall determine a mix incorporating a percentage of the existing soils.

9. 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. Areas requiring temporary stabilization after August shall be seeded with certified "Aroostook" winter rye.

10. Permanent Seed Mixture

Seed mixture shall be as specified in the Contract Drawings unless otherwise directed by the Engineer.

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| MARITIME SHRUBLAND SEED MIX | | |
|------------------------------------|-----------------------------|----------------|
| SCIENTIFIC NAME | COMMON NAME | PERCENT |
| PANICUM VIRGATUM | SWITCH GRASS | 20% |
| SCHIZACHYRIUM SCOPARIUM | LITTLE BLUESTEM | 20% |
| DANTHONIA SPICATA | POVERTY GRASS | 20% |
| SORGHASTRUM NUTANS | INDIAN GRASS | 10% |
| CAREX PENNSYLVANICA | PENNSYLVANIA SEDGE | 10% |
| SOLIDAGO RUGOSA | ROUGH-LEAVED GOLDENROD | 5% |
| ASTER UMBELLATUS | FLAT-TOP WHITE ASTER | 5% |
| JUNCUS GREENEI | GREENE'S RUSH | 5% |
| CHRYSOPSIS FALCATE | ATLANTIC GOLDENROD ASTER | 5% |

| FRESHWATER WETLAND WITH SALT RESISTANCE SEED MIX | | |
|---|-------------------------------|----------------|
| SCIENTIFIC NAME | COMMON NAME | PERCENT |
| PANICUM VIRGATUM | SWITCHGRASS | 20% |
| JUNCUS GERARDII | BLACK GRASS | 20% |
| EUTHAMIA GRAMINIFOLIA | GASS LEAVED GOLDENROD | 20% |
| SYMPHYOTRICHUM TENUIFOLIUM | PERENNIAL SALT MARSH ASTER | 20% |
| SOLIDAGO SEMPERVIRENS | SEASIDE GOLDENROD | 20% |

| EMERGENT WETLAND SEED MIX | | |
|-----------------------------------|-------------------------|----------------|
| SCIENTIFIC NAME | COMMON NAME | PERCENT |
| CAREX SCOPARIA | BROOM SEDGE | 20% |
| JUNCUS EFFUSUS | SOFT RUSH | 20% |
| BIDENS CERNUA | NODDING BUR MARIGOLD | 20% |
| SCHOENOPLECTUS ACUTUS | HARD STEMMED BULRUSH | 20% |
| SCHOENOPLECTUS TABERNAEMONTANI | SOFT STEMMED BULRUSH | 20% |

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11. Erosion Control Mat

The erosion control fabric utilized at BMPs and shown on the Contract Drawings shall conform to Detailed Specification 7.407-A Erosion Control Mat.

I. ExecutionInstallation/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 with suitable local fill to (maximum) four (4) inches below the finished surface, topsoiled, fine graded, prepared for planting and landscaped.
 - b. Subgrade shall be kept free of masonry, concrete, metal waste materials, and debris.
 - c. Remove stones over 1-1/2 inches in any dimension, as well as sticks, rubbish and other extraneous matter.
 - d. No topsoil mix is to be placed until the subgrade is approved by the Engineer.
 - e. For planting beds, spread topsoil mix to minimum depth required to meet lines, grades and elevations shown on the Contract Drawings, after light rolling and natural settlement.
 - f. The planting beds and pits shall be worked up well, and shall be free of other vegetation and large clods of soil.
 - g. Apply fertilizer at rate specified in Contract Drawings during planting and seeding operations. Do not use fertilizer for wetland plants or in excessively wet areas.

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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. 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.

 2. Loosen subsoil/subgrade to a depth of six (6) inches prior to topsoil placement so that the topsoil and subsoil layers don't mix. Loosen subsoil 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.

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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. Apply topsoil, utilizing small equipment that does not compact soil.
7. Plant Beds: All plant material shall be planted in existing on-site and/or locally available topsoil, except for shallow plantings installed within the specified four-inch (minimum) topsoil layer.
8. 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.
9. 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.
10. Topsoil mix shall be lightly tamped around the base of all plants and trees. Avoid compacting the soil. As clay soils are particularly prone to compaction, especially if worked when wet, transplant into clay soils when they are not saturated to the greatest extent possible. Do not leave plants exposed to sun

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or wind prior to planting. Take special care to avoid desiccation of fibrous-rooted plants.

11. 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.

b. Planting Trees and Shrubs.

1. Trees and shrubs shall be planted before herbaceous plants to avoid trampling of the smaller material. The Contractor shall properly sequence plant delivery to achieve this progression.
2. Balled and burlapped. The roots of balled and burlapped plants shall, if not immediately planted after digging and inspection, be adequately protected by topsoil until planted in their final location. Handle balled plants so that the ball will not be loosened. After the soil has been thoroughly firmed under and around the ball, cut the burlap away from the upper half of the ball and adjust remaining burlap to prevent the formation of air pockets; when directed by the Engineer remove the burlap entirely. Firm the soil at 6" to 8" intervals and thoroughly settle with water. Remove all wire baskets from root balls, unless otherwise directed by the Engineer. Install mulch around trees and shrubs immediately after installation.
3. Container. Cut containers on 2 sides with an approved can cutter and remove plant from container. Set container grown stock as specified. If container grown plant is root-bound or can be easily pulled from container, plant shall be rejected. Place plant on a cushion of planting soil mixture and carefully work soil mix around roots by hand and puddle with water until the soil mix layers are completely saturated.
4. Tube stock. Plants shall be removed from tube entirely and without damage. Plugs shall have solid soil/root masses with the soil in place. Roots must

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appear clean and white in coloration. If plug is root-bound or can be easily pulled from tube, plant shall be rejected. Plug shall be installed in hole perpendicular with root collar and even with the surrounding grades. Plant to be firmed in to remove air pockets, then watered to full saturation.

5. Mix granular 12-14 month slow release Osmocote into the top two inches (2") of soil backfill at the rates indicated on the Contract Drawings. Apply Mycorrhizal inoculants directly to the root ball. The top of the root ball/container soil shall be level with the substrate surface. Excess substrate shall be distributed around the planting sites. No saucers shall be constructed around the planting sites with the excess substrate.
6. Mulch pits, trenches and all planted areas. Provide not less than a three (3) inch thick layer of mulch and work into top of soil and finish level with adjacent finish grades. Do not place mulch within six (6) to eight (8) inches of tree trunks, nor should the base of shrubs and other plants be covered by mulch. No separate payment shall be made for mulching planted areas.
7. Prune, thin out and shape trees in accordance with standard horticultural practice. Prune trees to retain required height and spread. Unless otherwise directed by the Engineer, do not cut tree leaders, and remove only injured or dead branches from flowering trees, if any. Prune plant material to retain natural character.
8. Trees shall be placed with the tags facing North. Placing the trees in the same orientation to the North as they were grown in the nursery shall serve to limit bark sun scald.
9. Guy and stake street trees immediately after planting, as required by the Engineer. Trees planted as part of a natural area restoration must use modified staking system if deemed necessary. Stakes shall be removed after one complete growing season.

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10. Stake all trees within 20 feet of a surface water feature, so that they will not be washed away in time of flood.

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 Mixture

1. A temporary seed mixture shall be used to stabilize stockpiles and portions of the site where construction activities have temporarily or permanently 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. Seed mixture – 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.

3. If temporary seeding is not made within 24 hours of construction/disturbance, the soil must be scarified prior to seeding.

4. Method of seeding – seed shall be evenly applied with broadcast seeder, drill or cultipack seeder.

5. 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. Binder shall be a cellulose or non-asphaltic emulsion, natural gum binder blended with gelling or hardening agents. A wood fiber mulch shall also be added to the binder for improved stability. Terra-tack, as manufactured by Reinco, Inc., Hydrobond by JRM Chemical, Inc, Dustout by DustoutUS, or equivalent as approved by the engineer, shall be used. 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.

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6. 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 Mixture

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 planted 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. Apply seed at the rate(s) specified on the Contract Drawings.
7. 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, seeding may be done if watering will be provided.
8. Method of Seeding – Seed shall be broadcast by hand or mechanically using a drop-hopper. The seed shall then be sown to depths of 0-0.25" using an ATV pulling a weighted drag of the same width as the ATV, with bolts inserted every 4-6" along its width in order to open up furrows in the soil of up to 0.25" in depth. The ATV should drag the seeded area a minimum of four (4) times.
9. 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.
10. Seeded areas shall be covered with ECS-1B single net straw

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biodegradable rolled erosion control product furnished by East Coast Erosion Blankets, 443 Bricker Road, Berryville, PA 19056, (800) 582-4005 or approved equal. 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. Hay is not acceptable due to its high weed content.

11. 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.
12. 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

Trees, shrubs and herbaceous 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. Wetland Plantings:

1. Installation

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. Plant material scheduled for planting in coconut fiber logs shall also be rooted and potted in coconut fibers, and not in potting soil. This requirement shall serve to safeguard against plants floating out of coconut fiber logs due to the washing away of potting soil.

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- a. At the elevations described and shown on the plans, the areas shall be fine graded, prepared for planting and landscaped.
 - b. Subgrade shall be kept free of waste material and debris. Subgrade shall be compacted prior to topsoil application at the Engineer's direction.
 - c. Remove stones over 1-1/2 inches in any dimension, as well as sticks, rubbish and other extraneous matter.
 - d. The planting areas shall be worked up well, and shall be free of other vegetation and large clods of soil.
 - e. Install erosion control mat.
 - f. Apply fertilizer at rate specified in Contract Drawings during planting and seeding operations.
2. Erosion Control Blankets
- a. Center a blanket in the bottom of the wetland area and anchor the erosion control blankets in a minimum 8" x 8" slot using five evenly spaced staples. Unroll blankets carefully in the direction of water flow, being careful to place blankets loosely and in full contact with the soil.
 - b. Overlap blanket edges approximately 4" with downstream edges over upstream edges.
 - c. Staple blankets using approximately 3 staples per square yard.
 - d. Overlap blanket ends 6" in a minimum 8" x 8" check slot, upper blanket over lower blanket and staple using five evenly spaced staples.
 - e. Cut excess blanket with scissors and anchor at the entrance to the weir/micro pool in a minimum 8" x 8" check slot with five evenly spaced staples.
 - f. Blanket shall not float or bubble anywhere after wetland is inundated with water.
3. Planting Operations

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- a. Layout: All plants shall be laid out in random and naturalistic arrangements, as specified in the Contract Drawings unless otherwise directed by the Engineer. 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.
- b. When planting containerized wetland plants, care shall be taken so as not to set the plants in water where there is in excess of 3" - 4" of water between the top of plant and the water surface. When planting dormant wetland plants, care shall be taken so as not to set the plants in water where there is in excess of 12" - 14" of water between the top of plant and the water surface.
- c. When planting containerized or tube wetland plants, care shall be taken so to set the plants in the water regime noted on the Contract Drawings plant schedule.
- d. 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 solid ground in the center of the area.
- e. Obstructions Below Ground: remove any rock, rubble, masonry, concrete, metal, stones over one inch in diameter or other underground obstructions to the depth necessary to permit proper planting.
- f. Disposal: Remove and dispose of all excess excavations and unsuitable materials. Dispose in accordance with all local laws and regulations at Contractor's cost.
- g. The storm sewers tributary to BMPs should not be put into service for 6 to 8 weeks after completion of the associated wetland plantings. This will permit the wetland plantings to establish themselves.

O. 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-C1 through BMP-7.401-J. The price bid shall be a separate unit price per tree, shrub

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and herbaceous plant (plug) 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, discing, 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

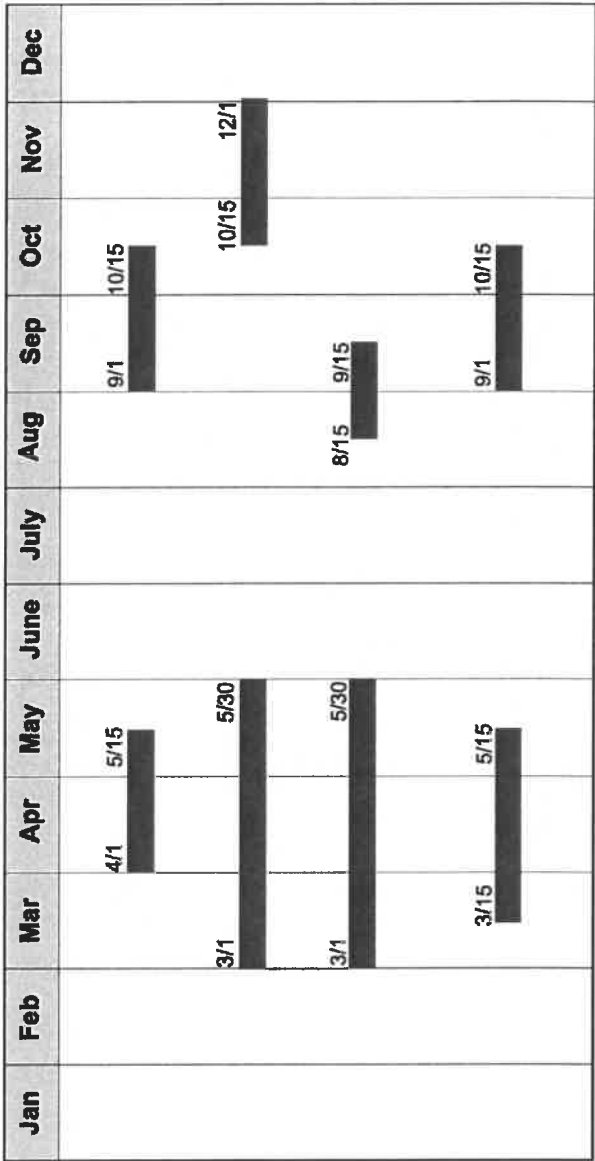
| <u>Item</u> | <u>Description</u> |
|--------------|-----------------------------|
| BMP-7.401-C1 | Canopy Trees whips - 1'- 4' |
| BMP-7.401-H | Shrubs |
| BMP-7.401-I | Seeding |
| BMP-7.401-J | Herbaceous Plants (Plugs) |

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**Division VII - Detailed Specifications - Contract
Landscaping and Restoration Work**
Terrestrial and Wetland Zone
Planting, Transplanting and Seeding Schedule



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7.403 TOPSOIL FOR RESTORED AREAA. Description of Work

Under this item, the Contractor shall prepare topsoil areas and shall furnish, place and incorporate topsoil in accordance with the plans and specifications or as directed by the Engineer.

The Contractor shall be liable for any damage to property caused by topsoiling operations and all areas of construction disturbed shall be restored to their original condition to the satisfaction of the Engineer.

B. Material

Material shall consist of natural loam topsoil, free from subsoil. It shall be removed to a maximum depth of one (1) foot, or until subsoil is encountered. Topsoil shall be of uniform quality, friable, free from hard clods, stiff clay, hard pan, partially disintegrated stone, stones larger than one (1) inch diameter, 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 topsoil material.

All topsoil shall be tested by a New York State Cooperative Extension office or by an approved analytical laboratory with 3 years documented history of soil testing for state, city or county projects.

Topsoil from site stripping shall be tested prior to stripping. Soil test shall be performed per five (5) acres and at the extremes of elevations. After site topsoil has been stripped, stockpiled, and amended per soil test results, the stockpiled topsoil shall be tested again. For imported and stockpiled topsoil, soil tests shall be required and shall serve as a representative analysis for every 200 cubic yards of material utilized.

Topsoil shall comply with the following requirements: No topsoil shall be delivered in a frozen or muddy condition.

1. Organic Content: Topsoil shall contain a minimum four (4) percent organic matter and a maximum of fifteen (15) percent organic matter determined by loss, on ignition, of moisture-free samples dried in accordance with the current method of the Association of Official Agricultural Chemists. The acidity range shall be pH 5.5 to pH 6.5 inclusive.

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2. Nutrient Content: Magnesium, nitrogen, potassium, phosphorus levels, and soluble salts.

| <u>Range</u> | | | <u>Nutrient</u> |
|--------------|---|---------|-----------------|
| 4 | – | 8 (PPM) | Phosphorus (P) |
| 66 | – | 100 | Magnesium (Mg) |
| 115 | – | 164 | Potassium (K) |
| 0.36 | - | 0.75 | Boron (B) |
| 0 | – | 49 | Iron (Fe) |
| 0.5 | – | 1.0 | Zinc (Zn) |
| 85 | – | 120 | Nitrogen (N) |

Soluble salts shall be less than 2.5 millimhos.

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. Sieve Analysis: (By Wash Test, ASTM Designation C117)

The mechanical analysis of the soil shall be as follows:

Passing 2" sieve 100%
 Passing 1" sieve 95% to 100%
 Passing #4 sieve 90% to 100%
 Passing #100 sieve 30 % to 60%

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

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samples are to be taken by the Engineer and delivered to the laboratory. The price bid shall include inspection and laboratory charges. No topsoil shall be delivered until the approval of samples by the Engineer, but such approval shall not constitute final acceptance. The Engineer reserves 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 Buoyous 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. Preparation of Topsoil Areas

Before any topsoil is placed, the subgrade shall be graded to a smooth, uniform surface, parallel to and below finished grade, the depths of which are shown on the plans or as directed by the Engineer. The subgrade surface shall be compacted with an approved roller weighing approximately five hundred (500) pounds. Hollows, depressions and gullies shall be filled with acceptable material free from stones over one (1) inch in diameter, cinders, rubbish and other unsuitable material. Fill which is four (4) inches or more in depth shall be compacted to the satisfaction of the Engineer.

All bumps, mounds, and ridges shall be cut down to subgrade elevations as shown in the Contract Drawings. All areas of the subgrade that are not in a friable condition shall be loosened to a depth of twelve (12) inches as directed by the Engineer. All surplus material and debris shall be removed and disposed of as directed by the Engineer.

D. Spreading

Topsoil for upland areas shall be spread and compacted to the overall depth of that which exists within the restoration area or to three (3) inches, whichever is greater. Topsoil for wetland areas shall be spread and compacted to the overall depth of that which exists within the wetland area or to four (4) inches, whichever is greater. The contractor shall use the lightest equipment appropriate to spread and compact the topsoil. Topsoil shall not be handled when, in the opinion of the Engineer, it is too wet.

Topsoil for backfilling planting pits and planting beds shall be mixed with compost having the general properties of humus in the following proportions:

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Two (2) parts of topsoil to one (1) part of compost. They shall be thoroughly mixed by placing the compost evenly over the topsoil piles and turning the piles at least three (3) times or until thoroughly mixed to the satisfaction of the Engineer.

Topsoil mixed on-site must be tested by the Contractor and have a pH of 5.5-6.5.

The finish grade shall not be excessively compacted. Finish grade to 12" below soil surface shall be loose, friable soil and not excessively compacted to the satisfaction of the Restoration Specialist. Maximum acceptable compaction is to 83% of the standard (AASHTO) Proctor maximum dry density. Conversely, soil shall not be so loose that there is potential for extensive settlement, slumping, soil erosion, or excessive drainage. On-site compaction tests, if required, shall be a standard test such as Nuclear Density Meter, or Sand Cone, or Balloon Density performed at contractor expense. After finish grading, and prior to installation of any erosion control fabric, planting, seeding, the Restoration Specialist shall inspect extent of soil compaction. Restoration Specialist shall re-inspect extent of compaction after completion of all site work. If required, Contractor will be required to loosen top 12" of soil to the satisfaction of the Restoration Specialist.

E. Mycorrhizal Inoculants

All trees and shrubs planted in areas receiving topsoil from off-site sources or on-site topsoil stored more than one (1) year shall be inoculated with Mycorrhizal.

F. 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

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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 compost, and all other work incidental thereto, in accordance with the plans and specifications to the satisfaction of the Engineer.

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7.404-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 culvert construction and 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 and tidal wetland permits 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, siltation fences, staked straw bales, 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.

D. Restoration Supervision

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The Restoration Specialist shall supervise all aspects of the work 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 work area.

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 DDC 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.

G. Monitoring Reports

The Restoration Specialist shall prepare and submit a Monitoring Report to the Engineer following the completion of all planting and associated

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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 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 restoration projects.

H. As-Built Plans and Information

The Contractor shall be responsible for providing to the Restoration Specialist an as-built survey of all areas as an electronic file. The Restoration Specialist shall verify the Contractor's information and include his/her landscape information and any other additional planting or natural features.

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

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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 the New York City Department of Design and Construction (NYCDDC) 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 the Contractor's in-place erosion and sediment control devices, including, but not limited to, Turbidity Curtain, Reinforced Silt fence, Stake Straw Bales, Stabilized Construction Entrance, Storm Drain Inlet Protection Measure, Portable Sediment Tanks, and site dewatering measures, 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 the 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, the 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;
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 that are disturbed at the time of the inspection and areas that have been stabilized (temporary and/or final) since the last inspection;

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10. Corrective actions that must be taken to install, repair, replace or maintain erosion and sediment control practices; and to correct deficiencies identified with the construction of post-construction stormwater management practices;
11. Digital photographs, with date stamp, that clearly show the condition of all practices that have been identified as needing corrective actions. The Qualified Inspector shall attach paper color copies of the digital photographs to the inspection report. He shall also take digital photographs with date stamp, that clearly show the conditions of the practice(s) after the corrective actions has been completed;
12. Within one business day of the completion of an inspection, the Qualified Inspector 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
13. 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 in the site logbook that the SWPPP was prepared in accordance with the requirements of the permit and it meets all federal, state and local erosion and sediment control requirements.

In addition, the Contractor and Subcontractors shall identify at least one Trained Contractor who is an employee of the company that will be responsible for a day to day implementation of the SWPPP. The name and telephone number of this person should be listed in the SWPPP. 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. Stormwater controls must be

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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 fencing) 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.

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

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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 CONTROLA. Description of Work

When, in the course of construction, the Engineer deems it necessary, the Contractor shall make arrangements to immediately implement a Vector and Pest Control Program at the construction site. All work is to be performed by a Licensed Applicator, and shall comply with all NYC and NYS Department of Health requirements for Vector and Pest Control and the methods outlined below. The work shall also include the control of mosquito larvae. The work shall be performed on a periodic basis as determined by the Engineer.

The Contractor shall also make arrangements to hire a Wildlife Control Agent, licensed by the NYSDEC, for live capture and removal of muskrats and any other wildlife if the Engineer deems it necessary. The wildlife, which shall include pond life such as fish, frogs, and turtles shall be removed before full-scale construction begins. The wildlife shall be relocated off-site and upstream.

It is anticipated that once construction commences, the resident water fowl will leave the existing wetland areas. However, if the waterfowl do not leave on their own following the commencement of work in the wetland areas, the Wildlife Control Agent shall make recommendations for their removal, and shall relocate the waterfowl to another water body on Staten Island.

All work in this item shall be supervised by the Restoration Specialist.

B. Material

1. Rodent Control - Rodent control shall be done in accordance with the applicable sections of New York City Department of Transportation Standard Highway Specification 7.88 Rodent and Waterbug Pest Control.
2. Mosquito Control – As directed by the Engineer or Restoration Specialist, the licensed application shall treat stagnant water for mosquito larvae with products approved by the New York City Department of Health. These include Vectolex, Altosid, Vectobac, and Aquabac. Products used shall consist of the naturally occurring bacteria, *Bacillus thuringiensis*.
3. Wildlife Control – The effort to live capture and remove pond life such as muskrats, fish, frogs and turtles shall be undertaken by a Wildlife Control Agent, licensed by NYSDEC, employing various

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materials such as seines for catching fish, traps for live capture of turtles and muskrats, and possible use of electric shock to also capture fish.

C. Method

Application of rodent control shall be per the applicable section of New York City Department of Transportation Standard Highway Specification 7.88 Rodent and Waterbug Pest Control.

Application of insecticide shall be as per the manufacturer's recommended procedures and shall be in compliance with all applicable rules and regulations and at the direction of the Engineer.

The Applicator shall be responsible for collecting and disposing of all trapped and poisoned rats found in live-traps and tamper-proof boxes, and for the removal of all live-traps and tamper-proof boxes at the end of the work. The Applicator shall be responsible for posting and maintaining signs announcing the baiting and spraying of a particular location.

The Wildlife Control Agent licensed by NYSDEC, who will be responsible for the live-capture and removal of pond life shall use various techniques to accomplish his/her task. As the water in the pond is slowly drawn down, life will be concentrated in the center of the pond. A geofabric may need to be rolled over the muck to make the center of the pond accessible. The fish shall be caught with a seine (net), electric shock or other approved method, and shall be scooped into buckets. Traps shall be used for turtles. Buckets containing wildlife shall be kept shaded, and wildlife shall be relocated to off-site and upstream release sites immediately so that there is no need to use aerators.

D. Measurement and Payment

The quantity to be measured for payment under this section shall be the total number of hours necessary for completion of Vector, Pest and Wildlife Control.

The contract price per unit for Vector, Pest and Wildlife Control shall be indicated on the BID SCHEDULE OF PRICES Item No. BMP-7.405-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 Engineer.

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7.406

WOOD CHIPS

NO TEXT ON THIS PAGE

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7.407–A EROSION CONTROL MAT - STRAW

A. 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 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 ² 298.4 g/m ² |
| 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 | 10.00 oz/yd ² |
| Thickness | ASTM D6525 | .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 ² |
| Slope | | 3:1 or flatter |

The Erosion Control Mat shall be ECS-1B manufactured by East Coast Erosion Blankets, Bernville, PA, 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.

C. Method

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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-B HERBICIDE APPLICATION

A. Description of Work

Under this item, the Contractor shall apply herbicide to persistent weeds and weedy growth in accordance with the plans and specifications and as directed by the Engineer.

B. Quality Assurance

The Herbicide Applicator must possess a valid NYSDEC Type 5A - Aquatic Vegetation Pesticide Applicator Certification License and personnel training records.

Submit instructions for herbicide application, including materials safety data sheets.

C. Materials and Construction Methods

The work will eradicate invasive, non-native plants in upland and wetland areas using Glyphosate for eradication of all plants except Oriental Bittersweet, which will be treated with Garlon 4. All chemicals to be applied using backpack and hand held sprayers and individual stem wipe applications. Herbicides application to open water/marshlands is prohibited.

In Wetlands, the Contractor shall spray Rodeo Herbicide or approved equal onto specified weedy growth only, as directed by the Engineer, between May and September.

The Applicator shall spray to wet--not to the point of runoff. Care must be taken to properly calibrate the tank nozzle so as to direct herbicide spray only onto the undesirable plants and obtain complete coverage of leaves and stems. Avoid spray drift onto desirable plants and minimize spray contact with soil. It is recommended to spray when plants are not under water stress. Only flat pan nozzles shall be used when using a spray applicator.

In areas where invasive plants are tightly intermixed with native plants, the applicator shall use the individual wipe or injection method to prevent the accidental treatment of desirable plant material. Marking dyes shall be added to the herbicide at the request of the engineer to prevent the accidental treatment of desirable plant material.

Apply on a warm sunny day (75 degrees to 90 degrees preferred). Do not spray if wind speed exceeds 5 mph or if weather conditions would

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decrease the effectiveness of the herbicide or increase the intended target area. Do not apply or allow herbicide spray into surrounding waterbodies. Do not exceed the rates indicated on product labels.

A non-ionic surfactant that is labeled for use with herbicides shall be added to the herbicide to help penetrate targeted plants for increased control. Surfactant must contain 50% or more active ingredient.

When using water from on-site hydrants, remove all suspended particles that may reduce the effectiveness of the herbicide prior to adding the water to the mixing tank.

All treated areas shall be temporarily posted with signs indicating that the area has been treated with herbicide. Signs shall be clearly posted in areas where the public may come into contact with the plant material.

The Contractor shall return to the site after ten (10) days and remove any dead vegetation that may interfere with planting of new material. If a second application is deemed necessary, a minimum of 10 days is required before installing any new plant material. Planting may proceed when the site is deemed acceptable to the Engineer.

The plant species to be eradicated shall primarily include, but not be limited to, the following and shall include additional species at the direction of the engineer:

Japanese Knotweed (*Polygonum cuspidatum*)
Mutiflora Rose (*Rosa mutiflora*)
Purple Loosestrife (*Lythrum salicaria*)
Oriental Bittersweet (*Celastrus orbiculatus*)
Black Locust (*Robinia pseudoacacia*)
Japanese Honeysuckle (*Lonicera japonica*)
Common Reed (*Phragmites australis*)
Mile-A-Minute Vine (*Polygonum perfoliatum*)
Mugwort (*Artemisia vulgaris*)
Common Ragweed (*Ambrosia artemisifolia*)
Giant Ragweed (*Ambrosia trifida*)
English Ivy (*Hedera helix*)
Japanese Stiltgrass (*Microstegium vimineum*)
Porcelain Berry (*Ampelopsis brevipedunculata*)
Burning Bush (*Euonymus alatus*)
Russian Olive (*Elaeagnus angustifolia*)
Giant Hogweed (*Heracleum mantegazzianum*)
Tree of Heaven (*Ailanthus altissima*)
White Mulberry (*Morus alba*)

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D. Measurement and Payment

The quantity to be measured for payment under this section shall be the total number of crewdays (shifts) necessary for completion of Herbicide Application. A crewday (shift) is defined as one period from 8AM – 4PM, including lunch and breaks. The crew shall consist of two workers.

The contract price per unit for Herbicide Application shall be as indicated on the BID SCHEDULE OF PRICES Item No. BMP-7.408-B. 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 Engineer.

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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 FENCEA. Description

Under this Item, the Contractor shall furnish, install, maintain and remove a temporary Goose Fence as a protective measure against plant herbivore, according to the Plans and Specifications and the direction of the Engineer.

The fence shall be a minimum of five (5) feet high above existing grade and the posts shall be a non-tropical hardwood. The fence shall completely enclose all planted areas so as to prevent geese from entering any newly planted site.

The Contractor shall repair the fence as often as is necessary throughout the guarantee and maintenance period. The Contractor shall remove the entire fence at the end of the maintenance period, or as directed by the Engineer. Removal of fence is included under this Item, no additional payment will be made for this work.

B. Submittals and Materials

The Contractor must submit the following samples or the manufacturer's catalog cuts for approval ten (10) days before beginning work:

1. Non-tropical hardwood stakes (untreated).
2. Black Bi-oriented Utility Fence (TENAXUS, Goose D-Fence, Memphis Net & Twine Co., Inc., Industrial Netting or approved equal). The fencing shall meet the following specifications:
 - a. Material: High density UV stabilized polyethylene plastic resin
 - b. Height/length: 48" x 50"
 - c. Weight per roll: 20 lbs
 - d. Nominal mesh opening: 1"
 - e. Tensile strength (range): 2000 - 2310psi
 - f. Elongation at Break (%): 660%
 - g. 1/4" twine or string

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- h. 1" metallic mylar
- i. 1-1/2" galvanized roofing nails.
- j. 2" galvanized staples.
- k. 14" Nylon cable ties.

C. Execution

The goose fence shall be installed by skilled laborers with proper tools and equipment for an aquatic environment within 1 day of completing each 50' section of planting. Layout location of stakes according to the Contract Drawings. The Contractor shall drive stakes so that they are level and 1' (min.) from the edge of proposed coir logs or wetland plugs. All broken or splintered stakes shall be removed and replaced with new ones.

Install black bi-oriented utility fencing making sure that there is no space between the existing grade and the bottom of the fence. Fasten safety fence to stake by using 1-1/2" roofing nails. Close all gaps so that adjacent pieces of fence abut tightly together.

Attach twine or string to stakes as shown on the Contract Drawings. String shall be pulled taught to reduce sagging. The string must alternate in and out of fence netting for increased stability of fence. Tie 10" strip of metallic (mylar) flagging along string every four feet. Work in one direction only. The Contractor shall be responsible for removing the fence at the end of the guarantee period for the wetland plants, or at the direction of the Engineer.

D. Measurement and Payment

The quantity to be measured for payment under this Section shall be the total number of linear feet of fence furnished, installed, maintained and accepted in accordance with the Plans and Specifications and the directions of the Engineer.

The contract price per linear foot for Goose Exclusion Fence shall be as indicated on the BID SCHEDULE OF PRICES, Item No. BMP-7.413. The unit price per linear foot shall include all labor, materials, equipment and work incidental expenses necessary or required to complete the work in accordance with the plans and specifications and to the satisfaction of the Engineer.

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7.414 BMP AS-BUILT PLANSA. Description of Work

Under this item the Contractor is to provide all labor, materials, tools and equipment necessary to complete the work described below in complete accordance with the Contract Documents and the direction of the Engineer.

B. BMP As-Built Plans and Information

The Contractor shall be responsible for providing a survey of final topographical features with contour lines every one (1) foot of elevation at a scale of 1" = 20'. The survey shall include all adjoining property lines. The survey shall indicate and clearly label all new reconstructed/rehabilitated structural features which include but are not limited to the following:

- Tipping elevation of water at weir structure;
- Inlet and outlet elevation of low flow pipe;
- Inlet and outlet elevations of drain pipe;
- Permanent pool elevation;
- Bottom elevations of forebay, low flow channel and micropool;
- All pipes, headwalls, manholes, weirs, and any other structure that is part of the storm drainage system;
- Boundary fencing and survey monuments;
- Planting spreadsheet indicating zone elevation, species, and quantity planted;
- Location, size and species of all existing trees greater than six (6") caliper.

The Contractor shall submit the as-built plans with the above information included as an electronic file to the Restoration Specialist. The Contractor shall supply the surveys immediately after the completion of each BMP site to allow the Restoration Specialist time to complete the landscape survey. The Restoration Specialist shall verify the contractor's information and include his/her information along with any additional planting and natural features information on a separate sheet to the as-built plans. Paper prints of the completed as-built plans shall be provided by the Contractor to the Engineer for review.

The approved final as-built plans shall be stamped by the professional surveyor and sent as a mylar set to the NYC Department of Design and Construction for inclusion in the final complete set of project as-built plans. The final as-built BMP plans shall consist of the following three sheets per site; 1) a base map stamped by the surveyor with property lines,

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contours, structures, and invert elevations, 2) a tree and shrub plan, and 3) a herbaceous planting plan. The NYCDDC shall be responsible for routing three (3) complete sets of as-built plans to the following locations:

NYCDEP Mapping and Records Division
59-17 Junction Boulevard
Flushing, NY 11373-5108

NYCDEP Water and Sewer Permitting
10 Richmond Terrace
Staten Island, NY 10301

NYCDEP Staten Island Bluebelt
182 Joline Avenue
Staten Island, NY 10307

The Contractor shall also submit as an electronic file, AutoCAD 2008 and six sets of paper prints of the approved final (BMP only) as-built plans to the NYCDEP Bluebelt field office located at 182 Joline Avenue, Staten Island, NY 10307, and 3 sets of paper prints to the NYCDEP Staten Island Bluebelt main office located at 59-17 Junction Boulevard, 12th Floor, High Rise, Flushing, NY 11373-5108.

C. No Separate Payment

No separate payment shall be made for this work of the specification. All costs shall be included in the various Contract Items of this Contract.

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7.415 VINE AND INVASIVE PLANT REMOVAL

A. Description of Work

Under this item, the Contractor shall remove all vines and invasive plants at the BMP project area and as directed by the Engineer

B. General Removal Methods

All vine and invasive plant material shall be removed by hand. The removal of these plant and materials shall be from existing trees, fence lines, utility poles and lines, adjacent structures, BMP sites, and other areas within the watershed. All vines and invasive plant material removed shall be disposed of by the Contractor at the Contractor's own expense.

The Contractor shall carefully protect all trees, shrubs and other plant material and structures during the vine and invasive plant removal operation. Any repair to damaged trees, fence, shrubs, and other plants and structures resulting from the vine and invasive plant removal operation will be repaired by the Contractor at the Contractor's own expense.

The removal of vines and invasive plants under this item is to be done in conjunction with the work covered under Specification Section 7.408-B, Herbicide Application.

The vines and invasive plants to be removed will be identified by the Engineer and restoration specialist and clearly marked prior to removal. No trees are to be removed under this item.

The plant species to be eradicated primarily include, but shall not be limited to the following, and shall include additional species at the direction of the engineer:

Japanese Knotweed (*Polygonum cuspidatum*)
Mutiflora Rose (*Rosa mutiflora*)
Purple Loosestrife (*Lythrum salicaria*)
Oriental Bittersweet (*Celastrus orbiculatus*)
Black Locust (*Robinia pseudoacacia*)
Japanese Honeysuckle (*Lonicera japonica*)
Common Reed (*Phragmites australis*)
Mile-A-Minute Vine (*Polygonum perfoliatum*)
Mugwort (*Artemisia vulgaris*)
Common Ragweed (*Ambrosia artemisiifolia*)
Giant Ragweed (*Ambrosia trifida*)
English Ivy (*Hedera helix*)
Japanese Stiltgrass (*Microstegium vimineum*)

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Porcelain Berry (*Ampelopsis brevipedunculata*)
 Burning Bush (*Euonymus alatus*)
 Russian Olive (*Elaeagnus angustifolia*)
 Giant Hogweed (*Heracleum mantegazzianum*)
 Tree of Heaven (*Ailanthus altissima*)
 White Mulberry (*Morus alba*)
 Norway Maple (*Acer platanoides*)

C. Measurement and Payment

The quantity to be measured for payment under this section shall be the total number of crewday (shifts) necessary for completion of Vines and Invasive Plant Removal. A crewday (shift) is defined as one period from 8AM – 4PM, including lunch and breaks. The crew shall consist of three gardeners and one supervisor. The crew shall also consist of the following equipment:

One (1) truck (10-15 cubic yard enclosed hydraulic dump body)
 Manual Pole Saw (2)
 Full Size Lopping shears
 Tool Kit including files for minor mechanical repairs
 Dirt Shovel
 Sweep Type Broom Rake
 Hand Saw
 First Aid Kit
 Ear and Eye Protectors
 Hand Saw with Scabbard (2)
 Axe
 Broom
 Hard Hats
 Safety cones
 Red Flags
 Danger Signs

The contract price per unit for Invasive Vine and Plant Removal shall be as indicated on the BID SCHEDULE OF PRICES Item No. BMP-7.415. The unit price bid shall include the costs for all labor, materials, equipment, vehicles and incidental expenses necessary or required to complete the work in accordance with the plans and specifications to the satisfaction of the Engineer.

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7.416

GALVANIZED 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 SAND

NO TEXT ON THIS PAGE

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7.419

TREE AND ROOT PRUNING

NO TEXT ON THIS PAGE

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7.420 GUTTER AND CHUTE RESTORATION

NO TEXT ON THIS PAGE

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7.421 ROOT BARRIERA. Description of Work

The Contractor shall furnish all materials, labor, and equipment necessary to install root barrier specified herein and as shown on the Contract Drawings, including all incidental and appurtenant work required for a complete job.

The installation of the root barrier 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 Engineer.

B. Materials and Methods

The root barrier shall be an injection molded or extruded modular component made of high density polypropethylene or polyethylene plastic. Panels shall measure 48" in depth with a mean thickness of 0.08". The root barrier shall have raised ribs, or root guide, protruding 1/2" from the face of the panel running from top to bottom. The distance between ribs shall not exceed 6".

The tree root barrier shall be high density and high impact plastic as available from Root Solution, Deep Root, Vespro, Inc, or approved equal.

C. Installation

Top of root barrier shall be set one-inch above finished grade of soil. The raised root guiding ribs must face away from the newly landscaped area. This shall prevent roots from any surrounding phragmites or invasive plants from entering the newly landscaped area. The root barrier shall be installed in accordance with manufacturer's instruction.

D. Measurement and Payment

The quantity to be measured for payment under this Section shall be the total square feet of root barrier furnished and installed in accordance with the Contract Drawings, specifications and directed by the Engineer.

The contract price per square foot of root barrier shall be as indicated on the BID SCHEDULE OF PRICES, Item No. BMP-7.421. The bid price shall constitute full compensation for all labor, materials, equipment and incidental expenses necessary to complete and maintain the work 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-0-10-001, 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 and tidal wetland permits 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

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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 three times 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 construction limiting fence, staked hay bales, and/or 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 three times the ambient level of the receiving water body, the Permittee 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 monitor's 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 7.512. The work shall take place at the BMP site only and is not payment for street work or the installation of sewers.

The work shall include items of work specified under the following sections:

| <u>Section Number</u> | <u>Title</u> |
|-----------------------|---|
| 7.502 | Construction Limit Fence |
| 7.504 | Reinforced Silt Fence |
| 7.505 | Sand Bags |
| 7.506-A | Sediment Trap with Filter |
| 7.509-A | Stabilized Construction Entrance |
| 7.510 | Portable Sediment Tank |
| 7.511 | Storm Drain – Inlet Protection Measures |
| 7.512 | Dirtbag |

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7.501

MAINTENANCE OF EROSION CONTROL MEASURES

NO TEXT ON THIS PAGE

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7.502 CONSTRUCTION LIMIT FENCEA. Description of Work

The Contractor shall furnish all materials, labor, and equipment necessary to install the construction limit fence specified herein and as shown on the Contract Drawings, including all incidental and appurtenant work required for a complete job. The construction limit fence is used to mark the limit of the construction activity and to protect the adjacent areas.

Upon furnishing and installing the above sedimentation and erosion control device but prior to commencing any other work on-site, the Contractor shall notify the Engineer and arrange for an on-site inspection.

The construction limit 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

Construction Limit Fence: The construction limit fence shall be a welded wire fence with a minimum height of four (4) feet. The fence shall be constructed of wire fabric fastened to vertical line posts.

Wire fabric shall be of No. 6 gauge wire with a mesh of approximately 2 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 construction limit 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 2 feet below finished grade. Post locations shall be adjusted to avoid tree roots as appropriate.

C. Maintenance

The construction limit fences shall be inspected periodically (at least once per week), or as directed by the Engineer. Any required repairs shall be made immediately.

D. Measurement and Payment

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The quantity to be measured for payment under this Section shall be the total number of linear feet of construction limit fence furnished, installed and maintained in accordance with the Plans and Specifications and the directions of the Engineer.

The contract price per linear foot for Construction Limit Fence shall be as indicated on the BID SCHEDULE OF PRICES, Item No. BMP-7.502. The unit price per linear foot shall include all labor, materials, equipment and work incidental expenses necessary or required to complete the work in accordance with the plans and specifications and to the satisfaction of the Engineer.

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7.503A STAKED STRAW BALES

NO TEXT ON THIS PAGE

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7.504 REINFORCED SILT FENCEA. Description of Work

The Contractor shall furnish all materials, labor, and equipment necessary to construct reinforced 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 reinforced 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 reinforced 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. Construction (Limiting) Fence: The construction (limiting) fence shall be a welded wire fence with a minimum height of four (4) feet. The fence shall be constructed of wire fabric fastened to the middle rails and to vertical line posts.

Wire fabric shall be of No. 6 gauge wire with a mesh of approximately 2 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 construction (limiting) 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 2 feet 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, and shall be situated between the wire fabric and staked straw bales.

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

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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 meet the requirements of the NYSDOT standard specifications for geotextile, latest edition, and shall be Fabric MUTUAL MISF 1776 as manufactured by Mutual Industries Inc.; Fabric # GTF190 as manufactured by Thrace Linq; Fabric Geotex2130 as manufactured by Propex, or approved equal.

A trench shall be excavated approximately 4 inches wide and 4 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.

Siltation fences shall be removed when they have served their useful purpose, but not before the upslope area has been permanently stabilized.

3. Straw Bales: All straw bales shall be of straw, and shall be standard sized bales. Bales shall be placed in a single row, with ends of adjacent bales tightly abutting one another. Bales shall be placed upslope of the filter fabric, and shall at all times run parallel to the construction (limiting) fence and abut the filter fabric.

All bales shall be fiber-bound. No string bound straw bales are accepted. Straw bales shall be installed so that bindings are oriented around the sides rather than along the tops and bottoms of the bales in order to prevent deterioration of the bindings.

The straw bale barrier shall be entrenched and backfilled. A trench shall be excavated the width of a bale and the length of the proposed barrier to a depth of 4 inches. After the bales are staked and chinked, the excavated soil shall be backfilled against the barrier. Backfill soil shall conform to the ground to the ground level on the downhill side and shall be built up to 4 inches against the uphill side of the straw bale barrier.

Each bale shall be securely anchored by at least two stakes or steel reinforcing bars driven through the bale. The first stake in each bale shall be driven toward the previously laid bale to force the bales together. Stakes or reinforcing bars shall be driven deep enough into the ground to securely anchor the bales.

The gaps between bales shall be chinked (filled by wedging) with straw to prevent water from escaping between the bales. The

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Contract shall scatter loose straw over the area immediately uphill from the straw bale barrier to increase barrier efficiency.

Straw bale barriers shall be removed when they have served their usefulness, but not before the upslope areas have been permanently stabilized.

C. Maintenance

The reinforced 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.

Straw bales shall be inspected at least once per week and immediately after each rainfall and at least daily during prolonged rainfall. Close attention shall be paid to the repair of damaged bales, end runs and undercutting beneath bales. Necessary repairs to barriers or replacement of bales shall be accomplished promptly. Sediment deposits should be removed after each rainfall. They must be removed when the level of deposition reaches approximately one-half foot deep in front of the straw bale. Any sediment deposits remaining in place after the straw bale barrier is no longer required shall be dressed to conform to the existing grade.

D. Measurement and Payment

The quantity to be measured for payment under this section shall be the total number of linear feet of Reinforced Silt Fence, installed and maintained in accordance with the plans, specifications and directions of the Engineer. The construction (limiting) fence, filter fabric and staked straw bales which together make up the reinforced silt fence shall be measured as one erosion and sediment control feature.

The contract price per linear foot for Reinforced Silt Fence shall be as indicated on the BID SCHEDULE OF PRICES, Item No. BMP-7.504. 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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7.505 SAND BAGSA. Description of Work

The Contractor shall furnish all materials, labor, and equipment necessary to construct the sand bag wall specified herein and as shown on the Contract Drawings, including all incidental and appurtenant work required for a complete job.

The installation of the sand bag wall 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 Engineer.

B. Materials and Methods

1. The bags shall be of coarse heavy woven synthetic non-biodegradable and non-photo degradable.
2. Sand shall meet ASTM C33 concrete and specifications.
3. Sand bags shall be installed at the locations shown on the Contract Drawings and as directed by the Engineer.
4. Each bag shall be filled with 40 lbs of dry clean sand.

C. Measurement and Payment

The quantity to be measured for payment under this Section shall be the total number of sand bags furnished and installed in accordance with the Contract Drawings, specifications and directed by the Engineer.

The contract price per sand bag shall be as indicated on the BID SCHEDULE OF PRICES, Item No. BMP-7.505. The bid price shall constitute full compensation for all labor, materials, equipment and incidental expenses necessary to complete and maintain the work in accordance with the plans and specifications to the satisfaction of the Engineer.

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7.506–A SEDIMENT TRAP WITH FILTER

A. Description of Work

The Contractor shall furnish all materials, labor, and equipment necessary to construct the Sediment Trap specified herein and as shown on the Contract Drawings, including all incidental and appurtenant work required for a complete job. A Sediment Trap is typically intended to serve a drainage area of three acres or less. Therefore, it is not as large as a sediment basin.

Upon furnishing and installing the approved sediment trap but prior to commencing dewatering operations, the Contractor shall notify the Engineer and arrange for an on-site inspection.

The sediment trap 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

1. Rip-Rap: The rip-rap shall have a d50 of 6".
2. Staked Hay Bales. All Hay Bales shall be of straw and shall be standard sized bales as shown in the Contract Drawings. All bales shall be fiber-bound. No string-bound hay bales are acceptable.
3. Perforated Corrugated Pipe. A six inch diameter pipe shall be used as shown on the Contract Drawing.
4. Sand bags. The bags shall be of coarse heavy woven fabric (burlap). The sand shall meet ASTM C33 concrete specifications.
5. Filter Cloth. The filter cloth used for wrapping the corrugated pipe, shall be Encadrain 9120 or equivalent with the following specifications:

| <u>Property</u> | <u>Test Method</u> | <u>Unit</u> | |
|-----------------|--------------------|-------------------|-----------|
| Material | Non-woven | geotextile fabric | |
| Unit Weight | ASTM D1777 | oz./sq. yd | 4.3 (min) |
| Flow Rate | Falling Head Test | gpm/sq.ft | 120 (min) |
| Puncture | ASTM D751 | lbs. | 60 (min) |
| Thickness | | in. | 0.8 (min) |

6. Reinforced Silt Fence as described in Specification Section 7.504.

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C. Construction Method

1. The area under excavation shall be cleared, grubbed and stripped of any vegetation and root mat. The pool area shall be cleared.
2. Place the filter cloth in the bottom of the pool.
3. Place the rip- rap over the cloth as shown on the Contract Drawings.
4. Place the hay bales and sand bags in a single row, with ends of adjacent bales and bags tightly abutting one another. Refer to the Contract Drawings.
5. Wrap the perforated, corrugated pipe with the filter cloth and place it where is shown on the Contract Drawings.
6. The structure shall be inspected after each rain and repaired as needed.

D. Measurement and Payment

The quantity to be paid for under this item shall be the number of sediment traps with filters placed in accordance with the plans and specifications to the satisfaction of the Engineer, measured in number of above items at the site of the work. The sand bags, reinforced silt fence hay bales, filter cloth, pipe and rip-rap and sediment filter which together make up the Sediment Trap shall be measured as one erosion and sediment control feature.

The contract price per unit for sediment traps with filters shall be as indicated on the BID SCHEDULE OF PRICES Item No. BMP-7.506-A. The bid price shall be a unit price per sediment trap and shall include the cost of all labor, materials and equipment necessary to furnish, place and incorporate and all other work incidental thereto, in accordance with the plans and specifications to the satisfaction of the Engineer.

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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 traprock.
5. Width shall be twelve (12) foot 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 | 125 lbs. |
| Equivalent opening size | 40-80 mm |

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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.
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. (See specification for accessways.)

D. Measurement and Payment

The contract price per 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 necessary to construct the stabilized construction entrance in

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accordance with the plans and specifications and the direction of the Engineer. Separate payment will be made for all trees removed during the construction of the stabilized construction entrance. Payment for tree removal shall be in accordance with the Detailed Specifications for Tree Removal and Disposal.

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7.510 PORTABLE SEDIMENT TANKA. Description of Work

The Contractor shall furnish all materials, labor and equipment necessary to install the portable sediment tank specified herein and as shown on the Contract Drawings. The sediment tank shall be a steel compartmented tank through which sediment laden water is pumped to trap and retain sediment.

The purpose of the portable sediment tank is to trap and retain sediment prior to discharging the water to wetlands, adjoining properties and rights-of-way below the sediment tank site. The sediment tank shall be located for ease of cleanout and disposal of the trapped sediment and to minimize the interference with construction activities and pedestrian traffic. The temporary relocation of the tank(s) during clean-out shall be included in the cost of this item. Relocating the tank(s) from one work area to another before, during and after construction shall be included in the cost of this item.

B. Design Criteria

The portable sediment tank shall be sized using the following formula:
pump discharge (gpm) x 16 = cubic foot storage.

Certified pump curves are to be provided to ensure that the pump provided can meet the hydraulic requirements.

C. Tank Specifications

The portable sediment tank shall be an above ground horizontal single-wall UL-142 manufactured by Highland Tank or weir box manufactured by Rain for Rent or equivalent as approved by the Engineer.

The Contractor shall submit proposed sediment tanks for approval.

D. Maintenance

Portable sediment tanks shall be installed and maintained in accordance with Section 5A.47 of the New York Standards and Specifications for Erosion and Sediment Controls to the satisfaction of the Engineer.

The Contractor shall be responsible for cleaning out the sediment tank when the tank is one-third (1/3) filled with silt. All sediment collected in the tank shall be disposed of in an approved location in which further sediment transport will not occur or as approved by the Inspector.

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E. Measurement and Payment

The quantity to be paid for under this item shall be the number of portable sediment tanks placed in accordance with the plans and specifications to the satisfaction of the Engineer, measured in number of above items at the site of the work.

The Contract price per unit for portable sediment tanks shall be as indicated on the BID SCHEDULE OF PRICES, Item No. BMP-7.510. The bid price shall be a unit price per portable sediment tank and shall include the cost of all labor, materials and equipment necessary to furnish, place and incorporate and all other work incidental thereto, in accordance with the plans and specifications to the satisfaction of the Engineer.

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7.511 STORM DRAIN - INLET PROTECTION MEASURESA. Description of Work

The Contractor shall furnish all materials, labor and equipment necessary to install the storm drain - inlet protection measures. Storm drain inlet protection measure consists of a sediment filter, sediment control device or an excavated impounding area around a storm drain drop inlet, curb inlet or catch basin. The purpose of the storm drain - inlet protection measures is to prevent sediment from entering storm drainage systems prior to permanent stabilization of the disturbed area.

B. Conditions Where Practice Applies

Where storm drain inlets are or are to be made operational before permanent stabilization of the corresponding disturbed drainage area.

C. Planning Considerations

Storm sewers which are, or become operational prior to stabilization of the associated drainage areas can convey large amounts of sediment to natural drainageways. In case of extreme sediment loading, the storm sewer itself may clog and lose a major portion of its capacity. To avoid these problems, it is necessary to prevent sediment from entering the system at the inlets or capturing it in the storm drain inlet.

This practice contains several types of inlet filters and traps which have different applications dependent upon site conditions and type of inlet. Other innovative techniques for accomplishing the same purpose are encouraged, but only after specific plans and details are submitted to and approved by the Engineer.

Care shall be taken when choosing a specific type of inlet protection. Field experience has shown that inlet protection which causes excessive ponding in an area of high construction activity may become so inconvenient that it is removed or bypassed, thus transmitting sediment-laden flows unchecked. In such situations, a structure with an adequate overflow mechanism should be utilized.

The best way to prevent sediment from entering the storm sewer system is to stabilize the site as quickly as possible, preventing erosion and stopping sediment at its source.

Stone is utilized as the chief ponding/filtering agent in most of the inlet protection types described in this specification. The various types of "coarse aggregates" which are depicted are able to filter out sediment

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mainly through slowing down flows directed to the inlet by creating an increased flow path for the stormwater (through void space in the respective stone). The stone filtering medium by no means slows stormwater flow rate as does filter cloth and therefore cannot provide the same degree of filter efficiency when smaller silt and clay particles are introduced into stormwater flows. However, as mentioned earlier, excessive ponding in busy areas adjacent to stormwater inlets is in many cases unacceptable - that is why stone must be utilized with many installations.

Fortunately, in most instances, inlet protection utilizing stone should not be the sole control measure. At the time that storm sewer inlet and associated appurtenances become operational, areas adjacent to the structures are most likely at final grade or will not be altered for extended periods; this is the time when temporary seeding and other appropriate controls should be implemented to enhance sediment-loss mitigation. In addition, by varying stone sizes used in the construction of inlet protection, a greater degree of sediment removal can be obtained. As an option, filter cloth can be used with the stone in these devices to further enhance sediment removal. Notably, the potential inconvenience of excessive ponding must be examined with these choices, especially the latter. In addition to sediment filtering options a sediment control device can be installed. A sediment control device is installed inside the storm drain thereby catching sediment that was not removed by the inlet filters while allowing water to pass through. A sediment control device is a secondary device to be used in conjunction with other storm drain inlet protection.

D. Design Criteria

1. The drainage area shall be no greater than 1 acre.
2. The inlet protection device shall be constructed in a manner that will facilitate cleanout and disposal of trapped sediment and minimize interference with construction activities.
3. The inlet protection devices shall be constructed in such a manner that any resultant ponding of stormwater will not cause excessive inconvenience or damage to adjacent areas or structures.
4. For the inlet protection devices which utilize stone as the chief ponding/filtering medium, a range of stone sizes is offered; DOT #3, #357, or #5 Coarse Aggregate shall be used.

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5. In all designs which utilize stone with a wire-mesh support as a filtering mechanism, the stone can be completely wrapped with the wire mesh to improve stability and provide easier cleaning.
6. Filter Fabric is added to any of the devices which utilize "coarse aggregate" stone to significantly enhance sediment removal. The fabric shall be secured between the stone and the inlet (on wire-mesh if it is present). As a result of the significant increase in filter efficiency provided by the fabric, a larger range of stone sizes (DOT #1, #2 or #3 Coarse Aggregate) may be utilized with such a configuration. The larger stone will help keep larger sediment masses from clogging the cloth. Notably, significant ponding may occur at the inlet if filter cloth is utilized in this manner.
7. Sediment Control Device is a woven polypropylene bag which is inserted into a catch basin or drop inlet to capture sediment. The sediment control devices are equipped with lifting loops or lugs to allow the devices to be removed, cleaned and reinserted back into catch basin or drop inlet.

E. Construction Specifications

1. Gravel and Wire Mesh Drop Inlet Sediment Filter
 - a. Wire mesh shall be laid over the drop inlet so that the wire extends a minimum of 1 foot beyond each side of the inlet structure. Wire mesh with 2-inch openings shall be used. If more than one strip of mesh is necessary, the strips shall be overlapped.
 - b. Coarse aggregate shall be placed over the wire mesh as indicated on Plate A. The depth of stone shall be at least 12 inches over the entire inlet opening. The stone shall extend beyond the inlet opening at least 18 inches on all sides.
 - c. If the stone filter becomes clogged with sediment so that it no longer adequately performs its function, the stones must be pulled away from the inlet, cleaned and/or replaced.

Note: This filtering device has no overflow mechanism; therefore, ponding is likely especially if sediment is not removed regularly. This type of device must never be used where overflow may endanger an exposed fill slope. Consideration should also be given to the possible effects of ponding on traffic movement, nearby structures, working areas, adjacent property, etc.

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2. Block and Gravel Curb Inlet Sediment Filter
 - a. Two concrete blocks shall be placed on their sides abutting the curb at either side of the inlet opening.
 - b. A 2-inch x 4-inch stud shall be cut and placed through the outer holes of each spacer block to help keep the front blocks in place.
 - c. Concrete blocks shall be placed on their sides across the front of the inlet and abutting the spacer blocks as depicted in Plate B.
 - d. Wire mesh shall be placed over the outside vertical face (webbing) of the concrete blocks to prevent stone from being washed through the holes in the blocks. Wire mesh with 2-inch openings shall be used.
 - e. Coarse aggregate shall be piled against the wire to the top of the barrier as shown in Plate B.
 - f. If the stone filter becomes clogged with sediment so that it no longer adequately performs its function, the stone must be pulled away from the blocks, cleaned and/or replaced.

3. Sediment Control Devices
 - a. The sediment control device shall be manufactured from woven polypropylene and sewn using high strength nylon thread.
 - b. The sediment control device shall be sized to fit a standard catch basin or drop inlet.
 - c. The sediment control device shall include tie down straps (See Plate C).
 - d. The sediment control device shall be manufactured by ACF Environmental Inc. or approved equal.
 - e. The fabric shall be woven polypropylene fabric with the following properties:

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| <u>Property</u> | <u>Test Method</u> | <u>Test Result</u> |
|---------------------|--------------------|----------------------------|
| Grab Tensile | ASTM D-4632 | 265 lb to 300 lbs. |
| Grab Elongation | ASTM D-4632 | 20% |
| Puncture | ASTM D-4833 | 120 lbs. |
| Min. Mullen Burst | ASTM D-3786 | 420 lbs |
| Min. Trapezoid Tear | ASTM D-4533 | 120 lbs. |
| Min. UV Resistance | ASTM D-4355 | 80% |
| Apparent Opening | ASTM D-4751 | 20 to 40 US Sieve |
| Min. Flow Rate | ASTM D-4491 | 40 Gal/Min/Ft ² |
| Permittivity | ASTM D-4491 | 0.55 sec. ⁻¹ |

F. Maintenance

1. The structure shall be inspected after each rain and repairs made as needed.
2. Sediment shall be removed and the trap restored to its original dimensions when the sediment has accumulated to one half the design depth of the trap. Removed sediment shall be deposited in a suitable area and in such a manner that it will not erode.
3. Structures shall be removed and the area stabilized when the remaining drainage area has been properly stabilized.
4. To empty the sediment control device place a #8 rebar through the lifting straps and lift out of the catch basin. This will lift and turn the device inside out thereby dumping its contents. Clean out and wash with water. Reinstalled when clean. Dispose sediment off site.

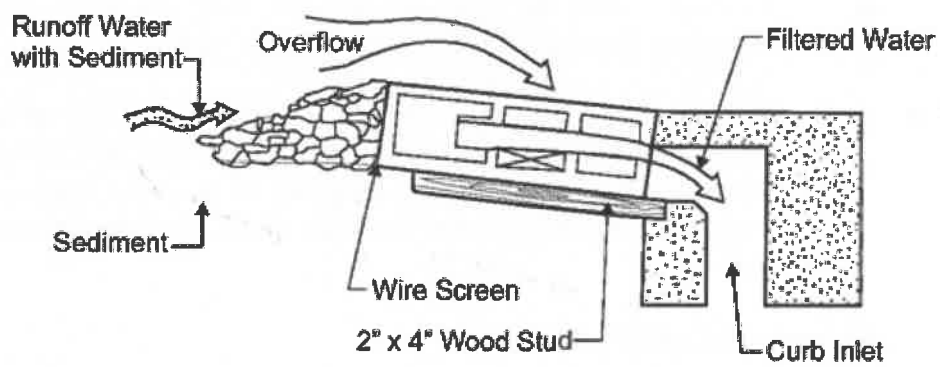
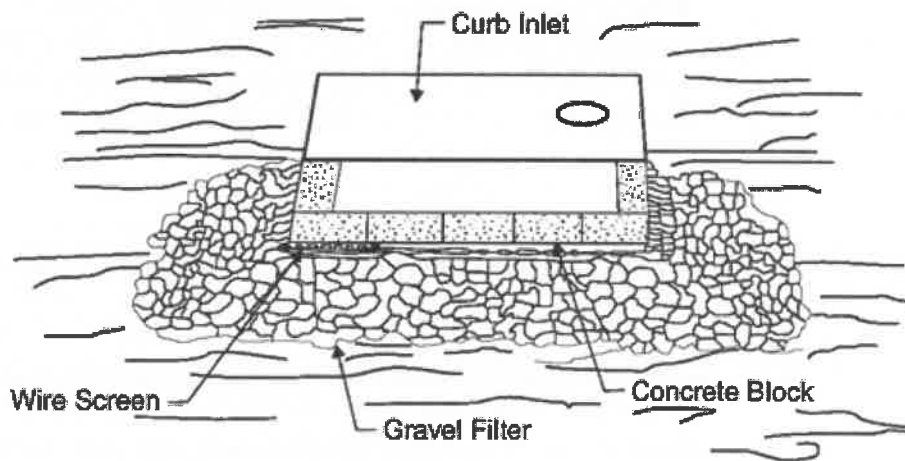
G. Measurement and Payment

The quantity to be paid for under this Item shall be the number of storm drain inlet protection measures furnished and maintained in accordance with the Contract Plans, specifications and directions of the Engineer. The Contract price per storm drain inlet protection measure shall be indicated on BID SCHEDULE OF PRICES, Item No. BMP-7.511. The unit price per measure shall include all labor, materials, equipment and work in accordance with the plans and specifications and to the satisfaction of the Engineer.

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Plate A

**Block and Gravel Curb Inlet
Sediment Filter**



Gravel Shall be DOT #3, #357 or #5 Coarse Aggregate

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Plate B

**Gravel and Wire Mesh
Drop Inlet Sediment Filter**

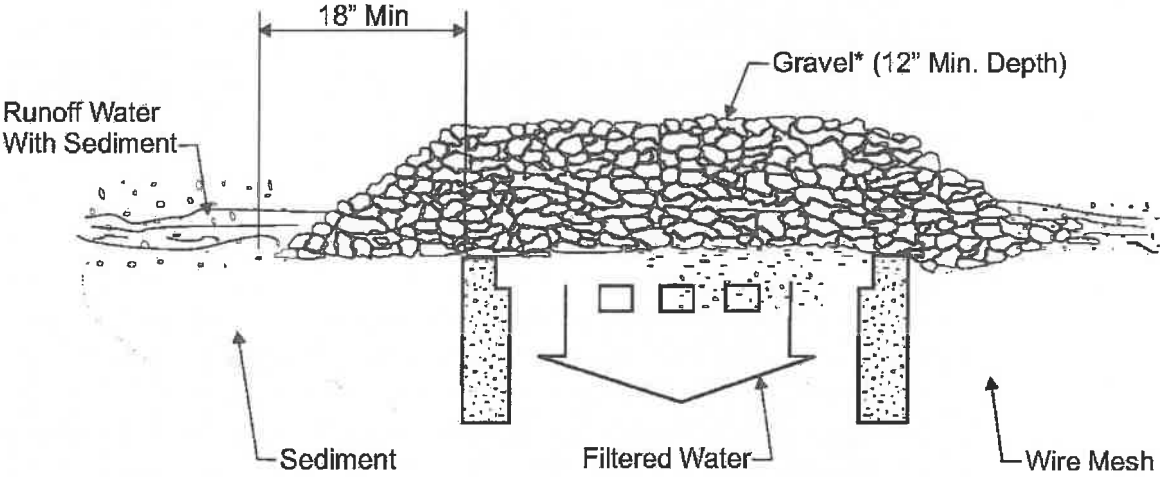
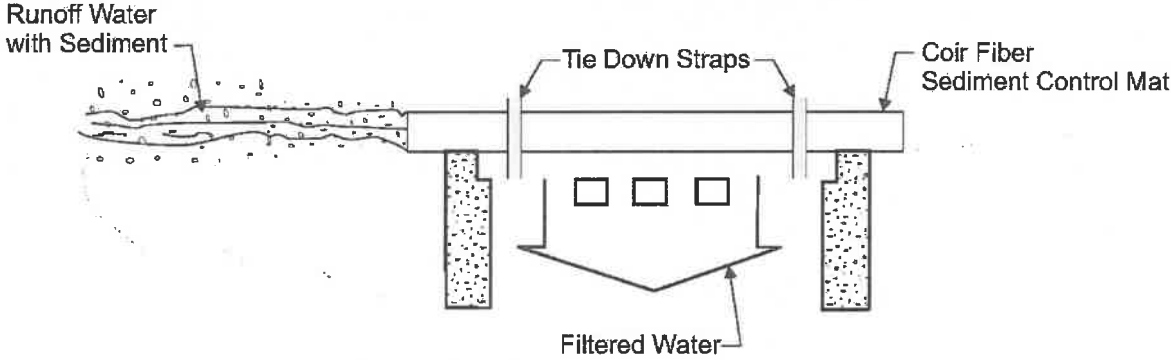


Plate C

**Drop Inlet Sediment with
Control Device Tie Down Straps**



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7.512 DIRTBAG

A. Description of Work

The Contractor shall furnish all materials, labor and equipment necessary to install the Dirtbags specified herein and as shown on the Contract Drawings.

Dirtbag is a fabric bag through which sediment laden water is pumped to trap and retain sediment. The Dirtbag is available from Erosion Control Technologies, Inc., ACF Environmental, or approved equal. The purpose of the Dirtbag is to prevent the silting of wetlands by trapping and retaining sediment prior to pumping the water to drainage ways, surrounding properties, and storm sewers.

B. Location

The Dirtbag shall be added to the portable sediment tank at the tanks discharge point. The Dirtbag can either be placed within the sediment trap or sediment basin near the inlet so that effluent from the bag flows into the trap or basin. This will serve to reduce the amount of sediment that enters the trap/basin, and provide for effective collection and disposal of sediment.

C. Specifications

| <u>Properties</u> | <u>Test Method</u> | <u>Units</u> | <u>Woven 2016</u> | <u>Nonwoven</u> | | |
|-------------------|--------------------|-------------------------|-------------------|-----------------|-------------|-------------|
| | | | | <u>4551</u> | <u>4553</u> | <u>4555</u> |
| Weight | ASTM D-3776 | oz./yd | 8 | 6 | 8 | 10 |
| Grab Tensile | ASTM D-4632 | lbs. | 300 | 150 | 200 | 270 |
| Puncture | ASTM D-4833 | lbs. | 120 | 90 | 130 | 150 |
| FlowRate | ASTM D-4491 | Gal/Min/ft ² | 40 | 130 | 80 | 70 |
| Permittivity | ASTM D-4991 | sec ⁻¹ | 0.55 | 1.9 | 1.5 | 1.3 |
| UV Resistance | ASTM D-4355 | % | 80 | 70 | 70 | 80 |

D. Methods/Maintenance/Disposal

The flow pumped to the dirtbag should not exceed a rate of 750 gallons per minute, or as directed by the engineer.

Dirtbags shall be replaced when they observed to be half full or as directed by the engineer.

The Contractor shall be responsible for the disposal of the Dirtbag off-site.

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E. Measurement and Payment

The quantity to be paid for under this time shall be the number of Dirtbags placed in accordance with the Plans and Specifications to the satisfaction of the Engineer, measured in number of above items at the site of the work.

The Contract price per each Dirtbag shall be as indicated on the BID SCHEDULE OF PRICES, Item No. BMP-7.512. The bid price shall be a unit price per Dirtbag and shall include the cost of all labor, materials and equipment necessary to furnish, place and incorporate and all other work incidental thereto, in accordance with the Plans and Specifications to the satisfaction of the Engineer.

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PERIMETER SITE SECURITY/ACCESS CONTROL MEASURES

7.600 WORK INCLUDED

Under Perimeter Site Security and Access Control Measures, 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.

| <u>Section Number</u> | <u>Title</u> |
|-----------------------|---|
| 7.603 | Fixed and Removable Steel Pipe Bollards |
| 7.606 | Permanent Access Way with Concrete Pavers or Gravel |
| 7.622 | Forebay Micropool Sediment Clean-out Indicator |

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7.601-C

STEEL BACKED TIMBER GUIDE RAIL

NO TEXT ON THIS PAGE

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7.602

BOULDER PROVISION AND PLACEMENT

NO TEXT ON THIS PAGE

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7.603 FIXED AND REMOVABLE STEEL PIPE BOLLARDS

A. Description of Work

Under this item, the Contractor shall furnish, erect and powder coat steel pipe bollard, fixed or removable in accordance with the plans, specifications and directions of the Engineer.

B. Materials

Steel pipe bollard shall be as manufactured by All City Play Equipment, Brooklyn, New York; Boundary Fence, Jamaica, New York ; TrafficGuard Direct, Geneva, Illinois or approved equal.

All fittings and hardware shall be of the materials listed in the following schedule:

| | |
|-----------------------------------|------------------------------|
| <u>Post Caps:</u> | Malleable iron - 3/16" thick |
| <u>Drive Pins and Set Screws:</u> | Stainless steel |
| <u>Flange:</u> | Pressed steel |
| <u>"U" Bolts:</u> | Pressed steel, extra heavy |

Malleable iron castings shall be hot dipped galvanized in accordance with ASTM A153 and powder coated per this Specification.

Pressed steel fittings and appurtenances shall be powder coated and hot dipped galvanized in accordance with ASTM A123.

Posts: Posts shall be extra heavy galvanized steel pipe, 3.5" O.D. and shall conform to ASTM A120, Schedule 80 except that pipe shall be unthreaded and untested for water pressure.

Sleeves: Sleeves shall be standard weight galvanized steel pipe, 4" I.D. and shall conform to ASTM A120, Schedule 40 except pipe shall be unthreaded and untested for water pressure.

Padlocks: Four (4) padlocks shall be furnished for each removable bollard. The padlocks shall be American No. 5571 as manufactured by American Lock Company of Crete, Illinois ;Yale Global-USA of Lenoir City, TN; The Wilson Bohannon Lock Company of Marion, OH; or approved equal. All padlocks 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 locks shall be keyed for NYC Fire Department No. 1620 keys. The Contractor shall furnish two (2) keys for each padlock.

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C. Erection

The posts for fixed bollards shall be set in concrete footings as shown on the plans or as directed by the Engineer. Once erected, steel pipe of the fixed bollard shall be filled with average concrete. The sleeves for removable bollards shall be set in concrete footings as shown on the plans or as directed by the Engineer.

All posts and sleeves shall be set plumb and true to line and grade. Any post and sleeve 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.

D. Powder Coating

The galvanized steel pipe and fittings shall be powder coated with TGIC-Polyester.

Galvanizing 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 and fittings.

The powder coating shall be applied to the galvanized pipe and fittings 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 coated parts 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 TGIC-Polyester shall be applied at a film thickness of 3 to 4 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.

Laboratory Tests for TGIC-Polyester Powder Coat: At the discretion of the Engineer, a sample TGIC-Polyester powder coated bollard 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 and Repair: For minor damage caused by installation or transportation, clean damaged area, then:

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1. On damaged galvanized 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 (6) feet.

E. Submissions

Shop Drawings: Before the work is started, the Contractor shall submit shop drawings for approval by the Engineer.

F. Measurement and Payment

The quantity of Steel Pipe Bollard - Fixed and Steel Pipe Bollard - Removable to be paid for under these items shall be the total number furnished and installed in accordance with the plans, specifications and directions of the Engineer.

The contract price for steel pipe bollard fixed and removable shall be as indicated on the BID SCHEDULE OF PRICES, Item Nos. BMP-7.603-A and BMP-7.603-B, respectively. The bid price shall include the cost for all labor, material, equipment and incidental expenses necessary to complete the work, including excavation, average concrete and powder coating, all in accordance with the plans and specifications to the satisfaction of the Engineer.

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7.604

BLACK CHAIN LINK FENCE

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7.605

SIGN INSTALLATION ON STEEL RAIL POSTS

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7.606 PERMANENT ACCESSWAY WITH CONCRETE PAVERS OR GRAVEL

A. Description of Work

The Contractor shall provide all labor, materials, tools and equipment necessary to complete the permanent accessways as shown in the Contract Drawings and as directed by the Engineer.

B. Materials and Methods - Concrete Pavers

1. Pavers

The Permanent Accessway shall be constructed using concrete grid pavers. Unless directed by the Engineer, materials and methods shall conform to ICPI Technical Specification #8. The pavers shall be 23 5/8" x 15 3/4". They shall be made in a grid-like pattern 3 1/8" in height. The Pavement Accessway edges shall be secured with a concrete curb. The pavers and adjoining curb shall be earthtone brown in color. The pavers shall be fabricated of Portland Cement Type II or III fine and course aggregates (ASTM C-33-61) utilizing a steel mesh-6"/6" x 8/8 gauge with an air-entraining agent between 4%-6% (ASTM C-173) achieving a concrete strength of 5,000 psi at 28 days (ASTM C-39-49) and a maximum water absorption of 5% (ASTM C-97). The concrete grid pavers shall be manufactured by Metromont Materials Company or approved equal.

2. Crushed Stone

The crushed stone layer shall consist of 1/2" to 1" stone, with gradation conforming to ASTM D2940.

3. Sand

Sand bedding shall consist of concrete sand, with gradation conforming to ASTM33(6).

4. Filter Cloth

Filter cloth underliner shall have the following minimum properties:

| | |
|-----------------------|----------|
| Grab tensile strength | 220 lbs. |
| Elongation at failure | 220% |
| Mullen Burst Strength | 430% |

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Remove from the setting bed rock or other materials which would create uneven bearing.

- b. Install concrete curb along the perimeter outlining the entire area to receive crushed stone and pavers.
- c. A 12 inch deep crushed stone base should then be installed, compacted to a minimum of 98% standard Proctor density (4).
- d. Place sand in a 2" compacted layer over the base to present a true and even grade over entire area to receive pavers.
- e. Set pavers and line up to abut.

7. Void Filler

Thoroughly mix topsoil with fertilizer and spread loosely to fill voids in pavers. Water with a mist spray to settle. Add additional topsoil mix to bring the topsoil flush with top of the paver. Seed at slightly less than normal rate. When grass is 2 1/2" high, cut to 1 3/4".

C. Material and Methods – Gravel

The specifications for permanent gravel accessway shall be the same as those for stabilized construction entrance of this Detailed Specification Section 7.509-A.

D. Measurement and Payment

The contract price per square foot for Permanent Accessway with Concrete Pavers shall be as indicated on the BID SCHEDULE OF PRICES Item No. BMP-7.606-B and Item No. BMP-7.606-C for Permanent Accessway with gravel. No separate payment shall be made for concrete curbing or sub base material used for pavers. The unit price per square foot shall include all labor, materials, equipment and incidental expenses necessary to complete the work in accordance with the plans and specifications to the satisfaction of the Engineer.

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7.607

HERBIVORE EXCLUSION FENCE

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7.608

SURVEY BOLLARDS AND SURVEY MONUMENTS

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7.609

CURB PLATE

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7.610

CURB PLATE INSTALLATION

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7.611 CEDAR SPLIT RAIL FENCE

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7.612

BRONZE PLAQUE

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7.613

SPLIT RAIL FENCE

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7.614

BELGIUM BLOCKS

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7.615 ORNAMENTAL SWING GATE

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7.616 STEEL PANEL FENCE

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7.617

WELDED STAINLESS STEEL PIPE RAIL

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7.618

SURVEYING SERVICES FOR LOCATION OF BOUNDARY POINTS

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7.619 HYDRANT UTILITY MARKER

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7.620

ALUMINUM PIPE RAILING

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7.621

TIMBER BARRIER RAIL

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7.622 FOREBAY MICROPOOL SEDIMENT CLEAN-OUT INDICATORA. Description of Work

Under this item, the Contractor shall furnish, install and adjust Forebay/Micropool Sediment Clean-Out Indicator in accordance with the plans, specifications and directions of the Engineer within the BMP Project limits and associated work areas.

B. Submittals

1. Before the work is started, the Contractor shall submit shop drawings for approval by the Engineer.
2. Drawings for the fabrication and installation of stainless steel welded Forebay/Micropool Sediment Clean-Out Indicator with sizes of members, components and anchorage devices, all based on specified requirements. Include copies of standard and custom detail drawings and installation instructions. Include all plans and elevations identifying the location and top elevation to establish sediment clean-out indicator removal depth.

C. Materials

All fittings and hardware shall be of the materials listed in the following schedule:

Stainless Steel:

1. Stainless Steel Rod or Pipe: ASTM A554, Type 316L. Provide posts and plates with 1.0 inch outside diameter, Schedule 10 min.
2. Stainless Steel Fittings: Same material and thickness as posts and plates except where otherwise shown on Contract Drawings.

Non-Shrink, Non-Metallic Grout:

1. Pre-mixed non-staining cementitious grout requiring only the addition of water.
2. Product and Manufacturer: Provide one of the following:
 - a. Euco N-S by the Euclide Chemical Company.
 - b. Masterflow 713 by Master Builders Company.
 - c. Or approved equal.

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D. Installation

1. The Forebay/Micropool Sediment Clean-Out Indicators shall be set in concrete as shown on the plans or as directed by the Engineer.
2. Adjust Clean-Out Indicators prior to securing in place with concrete or grout to ensure proper and correct alignment throughout their length. Plumb in each direction and adjust to the appropriate elevation.
3. Anchor or grout into concrete substrate.
4. All Clean-Out Indicators shall be set plumb and true to line and grade. Any Indicators 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.

E. Measurement and Payment

The quantity of Forebay/Micropool Sediment Clean-Out Indicators to be paid for under this item shall be the total number furnished and installed in accordance with the plans, specifications and directions of the Engineer.

The contract price for Each – Forebay/Micropool Sediment Clean-Out Indicator shall be as indicated on the BID SCHEDULE OF PRICES, Item BMP-7.622. The bid price shall include the cost for all labor, material, equipment and incidental expenses necessary to complete the work, including submissions and approvals, materials, fabrication, installation, and adjustment to the proper elevation, all in accordance with the plans and specifications to the satisfaction of the Engineer.

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UI - PAGES

UTILITY INTERFERENCES SECTION

NOTICE

THE PAGES CONTAINED IN THIS SECTION (UI - PAGES) REPRESENT ADDITIONAL CONTRACT REQUIREMENTS APPLYING TO WORK PERFORMED IN THE PRESENCE OF PRIVATELY OWNED UTILITY FACILITIES.

(NO TEXT ON THIS PAGE)

UTILITY INTERFERENCES (UI) SECTION

DATED: March 21, 2017

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-27).
(Verizon) (Pages UI-28 through UI-35).
(Time Warner) (Pages UI-36 through UI-37).
 - D. Schedule U-3 Page UI-38 (as per the Private Utilities reference document for UI SECTION called "CET SPECIFICATIONS AND SKETCHES", dated November 2010), in this Section UI-Pages; and Test Pits (Pages UI-39 through UI-52).
 - E. Utility drawings (31 Sheets) consisting of:
 - * Con Edison - Overhead Condition Report (18 sheets)
 - * Con Edison – Conduit and Duct Occupancy Plates (6 sheets)
 - * Con Edison – Low Tension Main and Service Plates (6 sheets)
 - * Verizon – Existing Facility Plans (1 Sheet)All Thirty- One (31) drawings are attached to the Plans.
2. Each facility operator shall provide inspectors at the work site to inspect methods of interference work, verify quantities and items of Utility Work, and coordinate all phases of the facility operator operations.
3. In addition, the following statements are made to provide clarification of various Paragraphs under UI Section:
 - A. UI Section, Paragraph 4, requires the Contractor to immediately commence negotiations with each Company for an Interference Agreement under which the Company will compensate the Contractor for any Interference Work which the Company does not elect to perform with its own forces or by specialty contractors retained by the Company. Thus the Contractor is on notice that its work under the Contract may be affected by Interference Work performed by

- (a) the Contractor pursuant to a separate Interference Agreement with the Company, (b) the Company, or (c) partly by each.
- B. UI Section, Paragraph 2, informs the Contractor that the duration of the Contract as shown in Schedule A includes the time which may be necessary for the Contractor to perform the necessary Interference Work.
- C. The Contractor is hereby informed that the duration of the Contract as shown in Schedule A includes the time which may be necessary for the Company to perform whatever portion of the Interference Work which the Company elects to perform with its own forces or by specialty contractors retained by the Company.
- D. UI Section informs the Contractor that the City has entered into an Interference Agreement with the Companies regarding interferences to the City work in this Contract created by the facilities owned and/or operated by such Companies. Pursuant to this Section, a sample of the Utility Agreement letter as executed by the Companies is annexed on page UI-12, as an Exhibit to the Contract. Signed copies of those Utility Agreement letters are on file with New York City Department of Design and Construction (DDC).
- E. The City has no contract with any of the Companies for work on or adjacent to the site of work under this Contract, and the Companies are not "Other Contractors" as defined for the purposes of this Contract. The Contractor is reminded, however, that pursuant to UI Section, Paragraph 4, the City will not compensate the Contractor for any direct and/or indirect costs related to Interference Work, regardless of whether such Interference Work is covered by an Interference Agreement between the Contractor and the Company or is performed by the Company using its own forces or by specialty contractors retained by the Company.
- F. UI Section, Paragraph 14, provides that the provisions of UI Section are material provisions of the Contract and that the Contractor's failure to comply with the procedures set forth in UI Section are sufficient for the Commissioner to declare the Contractor in default pursuant to Article 48 of the Contract.

Pursuant to this Section, the Contractor is informed that the Performance Bond required of the Contractor pursuant to the Contract is not deemed to guarantee performance of any of the Interference Work.

Utility Interferences Section - Additional Contract Requirements Applicable to Work Performed in the Presence of Privately Owned Utility Facilities

The Contractor is hereby notified that pursuant to the law and franchise agreements issued by the City, certain private utility and public service companies named in Schedule U-1 ("the Companies") own and/or operate surface and/or subsurface facilities within the limits of this contract. The existence of these facilities impacts the productivity of the City work called for in the contract. In order to improve coordination of the City construction with the private utility facilities owned and/or operated by the Companies named in Schedule U-1, Article 1.06.30 of the Standard Highway Specifications of the New York City Department of Transportation, Dated August 1, 2015; and/or Articles 10.15 through 10.18 of the Standard Sewer and Water Main Specifications of the New York City Department of Environmental Protection, Dated July 1, 2014; as applicable, are amended and will be implemented as follows:

1. Pre-engineering:

The anticipated scopes of private utility facilities interferences and anticipated work items and specifications are included in this contract. The locations of these interferences are indicated on the plans and/or listed in the specifications for this contract, and a schedule of estimated quantities by type of interference expected to be encountered within the limits of this project area have been listed on Schedule U-2. In addition, in Schedule U-3 the Companies have provided standard details and methods for supporting, protecting, relocating, and/or working around their facilities when they are in interference with City contract work.

2. Means and methods for City work:

a) The Contractor is hereby notified that the utility interferences identified on the plans and/or listed in the Specifications to be known conditions which may impact the performance of, and/or interferes with, City work. The Contractor will be required to perform such utility work as directed by the Resident Engineer in order to clear all utility interferences from the project site as required for satisfactory completion of City work within specified contract schedule.

b) In areas serviced by overhead lines on poles carrying electric, telecommunication and cable system, the Contractor understands and by bidding for this contract agrees that he/she has reviewed the schedule of estimated quantities by type of interference expected to be encountered within the limits of this project and that he/she will be required to perform the public work in the presence of these overhead lines and appurtenances located in areas adjacent and/or within the project area. As a consequence he/she will select means and method of construction appropriate to maintain the safety clearances required or as permitted by contract specifications (e.g. "CET 350 – Overhead Accommodation Protection of Overhead Facilities, Poles, and Appurtenances") in order to avoid damaging the insulation or shielding of these lines and also to prevent knocking them down. The

duration of the contract as shown in Schedule A thus includes the time which may be necessary for the Contractor to remove, repair, protect, support, shift, temporarily remove and replace, work around and/or work in the presence of the Companies' facilities ("Interference Work") as described on the plans and/or specifications of the contract during the progress of the City work.

3. *Field inspection prior to construction:*

Prior to the start of any contract work in areas serviced by overhead electric lines , and after the award to the apparent low bidder for this contract, the Contractor must request a field walk of the project area along with the operator of the overhead electrical facilities and the DDC Engineer-In-Charge. At that time the facility operator, pursuant to contract specification (e.g. "CET 350 – Overhead Accommodation Protection of Overhead Facilities, Poles, and Appurtenances") will confirm the type and condition of the overhead electrical lines and the sufficiency of their insulating properties with respect to the means and methods proposed by the Contractor. The Contractor must be prepared to describe in enough details his/her proposed means and methods of construction operations in order to anticipate the likelihood that electric lines insulation would be cut or otherwise compromised. Also such details will allow the facility operator to anticipate the need for added insulation and/or shielding of non-insulated lines.

4. *Compensation for interference work:*

Compensation for Interference Work is a matter of adjustment between the Contractor and each private utility company located within the limits of the project area and whose utility facilities are affected by City contract work. In particular, the City will not compensate the Contractor for any direct and/or indirect costs related to Interference Work, including, but not limited to, delay, lost profit, increased overhead, or any other impact costs which are deemed to be included in cost agreement between the Contractor and private utility company affected by such work. Upon receipt of a Notice of Award from the City, the Contractor shall immediately commence negotiations with each of the Companies concerning the manner in which and the price for which the Contractor, through its own forces or by others hired by it, will perform and be paid by the Company for all necessary Interference Work as defined above that the Company(ies) choose(s) not to perform with its(their) own forces or by specialty Contractors hired by it (them) (as per "Interference Agreement"). Specialty contractors' work is limited to (i) insulation installation and removal, (ii) live gas and steam work, (iii) cleanup and disposal of hazardous materials, (iv) splicing live electrical and telecommunications facilities, and (v) work not within the competence of general construction contractors.

5. Interference Agreement:

a) The Companies have provided estimate of the quantity of each type of interferences expected to be encountered in the contract in Schedule U-2. The parties may negotiate an Interference Agreement in any format or manner they deem fit based on quantities and types of Interferences expected to be encountered on this Contract as stated in Schedule U-2.

b) Furthermore, in Schedule U-3, standard unit work measurement and payment provisions are specified and shall apply only if the Contractor and affected Utility companies enters into a unit price based on an Interference Agreement, otherwise the unit of work measurement, and payment provisions set forth in Schedule U-3 shall not apply. The Contractor shall notify the City upon concluding an Interference Agreement with each of the Companies, which shall be binding and final once concluded.

6. City contract work to continue without Interference Agreement:

If, prior to the start of construction, as directed by the City's Order to work / Notice To Proceed (OTW/ NTP) date any of the Companies and the Contractor have not concluded an Interference Agreement as described above, then the City will issue to private utility company (ies) in a written "48 Hours' notice to Public Corporation" in accordance with the Administrative Code of the City of New York. Construction will then proceed as ordered and the Contractor will be directed by the Resident Engineer (RE) to perform the City work on Time, Material and Equipment basis (T&M) as specified in standard City contract agreement Article 26.2. T&M records will include identification of types of utility facilities interfering with City work, utility facility owners, specifying the nature and quantity of any materials, plant and equipment furnished or used in connection with the performance of such work and crew size, such as: name and number of each worker employed on such work. T&M records will also indicate the hours of active time, standby time and idle time. The Company (ies) and the Contractor will maintain separate records of the actual quantity and cost of labor, materials, and equipment expended, and will provide copies of this information to the other party on a daily basis for reconciliation. These T&M records along with cost evaluations will be submitted daily to the Resident Engineer for review and approval. The total cost of City work will be based on quantity of work performed multiplied by unit price contract bid items. The total interference cost will be calculated as the difference between the total T&M cost and total cost for City work. The Resident Engineer will conduct a monthly reconciliation session of the daily T&M records with the affected Company (ies) and the Contractor. If the Contractor and affected utility companies cannot reconcile their T&M records, by the last day of each month, then the Resident Engineer will submit the approved City's T&M records along with total cost evaluations to the DDC Director of Construction who will review these records and recommend approval and validity certification by the DDC Construction Assistant Commissioner.

- a) Copies of the DDC approved and certified T&M records will then be transmitted by the DDC to the Contractor and the utility companies. These certified records may be used by the Contractor for compensation claims against the responsible private facility owners, or may be used by any party as supporting documentation in dispute regarding compensation for performing Interference Work as identified in Schedule U-2. The Contractor will be required to perform City work while invoices are submitted by the Contractor to the utility companies for payment within 30 days, or while compensation disputes between the Contractor and affected company (ies) are submitted to Binding Arbitration process described in Paragraph 10.
- b) All issues related to utility work and/or delays due to compensation disputes or claims against utility companies are not allowable as justification for granting contract time extensions or delay claims against the City. The City may assess liquidated damages specified in the contract for net overall delays suffered by City contract work as a result of utility issues, disputes and claims.
- c) The standard City contract dispute resolution process specified in Article 27 "Presentation of disputes to Commissioner", of the standard City contract agreement is not applicable to any disputes related to utility work and/or compensation for such work or claim against utility companies. Utility work issues, disputes and claims may only be submitted to Binding Arbitration process described in Paragraph 10.
- d) The Contractor will notify the Resident Engineer when utility capital work not specified in Schedule U-2 and/or for utility work that require the intervention of company utility specialty crews causes excessive contractor's labor and equipment standby or idleness and, thereby jeopardizing the City project schedule. The Resident Engineer will submit the facts to the DDC Director of Construction who will recommend to the DDC Deputy Commissioner regarding the issuance of a "48 Hours' notice to Public Corporation" to the concerned utility company as authorized by the New York City Administrative Code Section 19-143 and/or Section 24-521 as applicable.
- e) Utility delays caused by utility capital work not listed in Schedule U-2 and/or by unavailability of utility specialty crews cannot be discounted for earning any contractual bonus when such bonus clause is included in a contract. However, if such specified bonus is not earned or is disallowed by the City or if the City assesses specified liquidated damages as a result of such excessive delays, the Contractor may seek damages from the responsible utility company (ies).

7. Extra utility work with Interference Agreement:

If during construction the Contractor encounters utility facilities interferences or utility scope of work that it believes is not covered by the Interference Agreement as described above, then the Contractor shall immediately notify the Company in writing, with a copy to the City, describing the nature and location of the extra work in question. The Company then has five (5) business days to investigate the conditions and then:

a) Advise the Contractor and the City in writing that no interference with its facilities exists at the location in question, and hence that the Contractor may proceed with City work without providing for any impact from Company facilities;

b) Advise the Contractor and the City in writing that the Interference Agreement negotiated pursuant to Paragraph 6, above, provides for the scope of work encountered, specifying the exact unit items and/or terms of the agreement that cover the work;

c) Advise the Contractor and the City in writing that it intends to perform the necessary utility work with company forces or with its own contractor including, but not limited to, relocating its facility out of the way of the proposed City work. In this case, the Company shall provide a written schedule for the performance of the utility work it proposes to perform, which shall be subject to approval by the City based on its impact to the Contractor's currently approved progress schedule. Upon approval of the Company's schedule by the City, the Contractor shall provide access to the worksite to the Company and/or any contractors hired by it to perform this utility work. If necessary, the City may grant a contract time extension for delays caused by the performance of such utility work by the company.

d) Reasonably specify in writing the scope of work to be performed by the Contractor on behalf of the Company that is not covered under the Interference Agreement negotiated pursuant to Paragraph 6, including, but not limited to, relocating, supporting, and/or protecting the Company's facilities, and/or shifting the City facility if approved by the Resident Engineer, and/or otherwise changing its operations to work in the presence of the Company's facilities. Should the Company elect this option, it must adequately define and provide an initial price offer for the work required to be performed.

8. Means and Methods for utility work:

Upon receipt of the Company's determination pursuant to Paragraphs 7.b, or 7.d, above, the Contractor shall determine reasonable means and methods of performing the work defined by the Company. These means and methods are subject to approval of the Company, which shall not be unreasonably withheld. If, however, the Company objects to the Contractor's proposed means and methods then it shall define an alternate method of construction. Upon receipt of the Company's approval or its proposed alternate method of construction, the Contractor shall commence

performance of the work defined by the Company as soon as possible, and shall perform the work in a good, workmanlike, and efficient manner, using the means and methods approved by the Company, in order to permit the City work to proceed in the most expeditious manner possible, but without imposing unreasonable and/or unnecessary costs on the Company. It is expressly understood by all parties that the City's rights pursuant to Article 4 of the Contract apply to Utility Work performed pursuant to this Section.

9. *Disputed utility work covered by an interference agreement:*

The City Work will continue as described in Paragraph 6 above. In the event of any dispute between the Company (ies) and the Contractor regarding any issue related to the performance of, or payment for, utility work, including, but not limited to, any indirect or impact costs incurred by the Contractor due to the Utility Work and/or to the existence of facilities owned or operated by the Company (ies) on the line of the work. The Company (ies) and the Contractor hereby agree to submit to each other a "Final Offer," in writing, by certified mail. Each party shall then have three business days to consider each other's Final Offer. In the event that neither party accepts the other's Final Offer within those three days, the Company (ies) and the Contractor agree to immediately submit the dispute to binding arbitration as described in Paragraph 10. During the pendency of any arbitration, the Company (ies) and the Contractor shall maintain separate records of the actual quantity and cost of labor, materials, and equipment expended, and to provide copies of this information to the other party on a daily basis for reconciliation. Any and all disagreement with the records maintained and provided by the other, must be documented in writing to all parties. However, these records are solely for the benefit of presentation to the arbitrator, whose decision may not necessarily be based on these records and in any event is final. Both parties should be aware that the City will not confirm or deny the accuracy of any records that is not certified by DDC. While the arbitration is pending, the Company shall pay the Contractor on a monthly basis, based on the price offered by the Company to the Contractor for the performance of the work.

10. *Arbitration of utility work:*

The arbitration of the issues described above shall be conducted pursuant to the Construction Industry Arbitration Rules of the American Arbitration Association (hereinafter "the Rules" and "AAA") in effect on the date the arbitration is initiated except as set forth herein. The arbitration award shall be final and binding upon the parties to the arbitration and judgment upon the award may be entered in a court having jurisdiction.

- a) Once an arbitrator(s) has been appointed by the AAA, the arbitration shall be scheduled as promptly as possible given the arbitrator(s) and the parties' schedules.
- b) No later than seven days prior to the first arbitration hearing, Company and the Contractor shall submit to the arbitrator(s), and to each other, a summary of each

party's respective position and such other information as is deemed appropriate, along with a copy of each party's Final Offer as specified in Paragraph 9.

- c) The arbitration shall be conducted and concluded in two days.
- d) On the morning of the first day of the arbitration, the Contractor and/or representatives shall have 3 ½ hrs to make a presentation of its claim to the arbitrator. During its presentation, the Contractor shall not be permitted to produce any documents or cost records which have not already been provided to the Company. The Contractor shall be permitted to produce any analysis or description of its claim which has been prepared for the purpose of its presentation.
- e) Company and/or its representatives shall have two hours to ask the Contractor questions about its claim and its presentation. Thereafter the arbitrator(s) shall have two hours to ask the Contractor questions about its claim and its presentation.
- f) On the morning of the second day of the arbitration, Company and/or its representatives shall have 3 ½ hours to make a presentation of its claim to the arbitrator. During its presentation, the Company shall not be permitted to produce any documents or cost records which have not already been provided to the Contractor. The Company shall be permitted to produce any analysis or description of its claim which has been prepared for the purpose of its presentation.
- g) The Contractor and/or its representatives shall have two hours to ask Company questions about its claim and its presentation. Thereafter the arbitrator(s) shall have two hours to ask Company questions about its claim and its presentation.
- h) Subject to the above time limitations, the arbitrator(s) may conduct the arbitration in such manner as the arbitrator(s) deems reasonable.
- i) The arbitrator(s) shall then have one week to select in writing, as the arbitrator ('s) award, that party's Final Offer which appears to be more reasonable, based on the presentations at the arbitration hearings.
- j) The arbitrator shall have no discretion to grant an award other than one of the two Final Offers submitted by the parties.
- k) Any award for work that has already been performed shall be paid on the 7th day after receipt of the arbitrator's decision, or on the 30th day after completion of the work, whichever is later. Payment for work not yet completed at the time of the arbitrator's decision shall be paid within 30 days of completion of work. Interest shall accrue from the date payment is due at the rate of 9% per annum. Either party may cause judgment to be entered in accordance with the arbitrator(s) decision in a court in the State of New York, County of New York.
- l) The arbitrator's fees and any other costs of the arbitration shall be initially shared equally by Company and the Contractor. The non-prevailing party shall then pay all

arbitrator's fees and costs of the arbitration and shall reimburse the prevailing party for its share of such fees and costs theretofore paid.

m) The parties may, at any time, settle any matter submitted to arbitration.

11. Order-out waiver:

The Contractor and all subcontractors hired by it, if an Interference Agreement is executed as specified between the concerned parties, agree to waive any rights they may have, if any, under law, contract or otherwise to compel the City to assert any right the City may have, including the issuance of any directives required under the New York City Administrative Code, Section 19-143 and Section 24-521, to require any or all of the Companies to maintain, repair, replace, protect, support, shift, alter, relocate, and/or remove utility facilities in connection with the work to be performed under this contract. However, nothing in this Section shall preclude the City from exercising its rights under the Law to issue such a directive to the Company.

12. Cost of insurance:

Each of the named Companies, at their option and if an Interference Agreement is executed as specified between the concerned parties, may be named as an additional insured on all insurance policies required to be maintained under this contract. In the event that a Company opts to be so named as an additional insured, the actual incremental cost, if any, to the Contractor of providing such insurance coverage shall be borne by that Company. The Contractor shall provide a written statement from its insurance provider documenting the actual cost of this added coverage to the Company. Under no circumstances shall the cost of insurance coverage on behalf of any Company be borne by the City. Nothing in this paragraph shall be interpreted to imply the City's acceptance of any additional responsibility or liability for any matter related to the performance of Utility Work. In particular, the Company and the Contractor bear joint and full responsibility to ensure that any Utility Work performed by the Contractor is in compliance with all applicable government and Company regulations.

13. Cost of utility interference work:

The Companies, by virtue of participating in design alignment meetings and submitting their scope of Utility Interferences Work to the City, have agreed to perform their obligations described in this Section. It is expressly understood that the cost of Utility Work or any delays caused by such Utility Work shall not be a charge against the City, but shall be a matter for adjustment between the Contractor and the Company or Companies concerned. The City and the Contractor agree that the Companies are third party beneficiaries of this Section of the contract, if an Interference Agreement is executed between the Contractor and utility company (ies). The provisions of this Section shall govern in all cases where Company property interferes with or is about to be disturbed by the City work, notwithstanding any other provision of the Contract,

except for Natural Gas transmission/distribution facilities covered subject to the Gas Facility Cost Allocation Act (GFCAA) and covered separately in this contract.

14. Default declaration:

The Contractor agrees that the provisions of this Section are material provisions of the contract, and that the Contractor's failure to comply with the procedures set forth above are sufficient for the Commissioner to declare the Contractor in default pursuant to Article 48 of the Contract.

15. NYS Labor Law:

The Contractor is hereby advised that New York State Labor Law and/or, Davis-Bacon Act if federally funded, applies to public work. The work described in this Utility Interferences Section of the contract performed by utility company (ies) with their own forces or vendors hired by such company (ies) is not public work.

16. Facility operators:

The insurance requirements in Paragraph 12 of this UI Section apply to: (i) additional Companies, if any, who were not named in Schedule "A" but which have executed an Interference Agreement with the Contractor for utility work; and (ii) additional coverage, if any, paid for by Utility Companies whose utility facilities are located within the project limits, that they may require for the utility work pursuant to an Interference Agreement between the Contractor and such utility company (ies).

(End of Section)

“STANDARD UTILITY LETTER OF AGREEMENT”

(Name)
Deputy Commissioner, Infrastructure Division
Department of Design and Construction
30-30 Thomson Avenue
Long Island City, NY 11101

RE: City Work Performed in the Presence of Private Utility Facilities
Project No: _____

Dear (Name):

This letter is to certify that _____, has requested the inclusion of the attached “Utility Interferences (UI) Section: Additional contract requirements applying to work performed in the presence of privately owned utility.” The company agrees to abide by the terms of this UI Section at the company’s own expenses due to their facilities interferences with the Public work.

Sincerely,

By: Authorized Company Representative

Title

NOTARY PUBLIC

CERTIFIED AS TO FORM
AND LEGAL AUTHORITY:

By: _____

SCHEDULE U-1

LISTING OF COMPANY (IES) NAMED FOR THIS CONTRACT

| <u>COMPANY NAME</u> | <u>CONTACT NAME</u> | <u>CONTACT TELEPHONE</u> |
|----------------------------|----------------------------|---------------------------------|
| CON EDISON | THERESA KONG | 212-460-4834 |
| VERIZON | AUBREY MAKHANLALL | 718-977-8165 |
| TIME WARNER | JOHN PIAZZA | 718-888-4261 |

**SCHEDULE U-2
FOR INFORMATION ONLY
ENGINEER'S ESTIMATE OF QUANTITY AND TYPES OF INTERFERENCE
FOR CONSOLIDATED EDISON
SER200226
VICTORY BLVD, GLEN ST, CANNON AVE, MELVIN AVE, WILD AVE, PRICES LANE**

| CET ITEM | DESCRIPTION | UNITS | ESTIMATED QUANTITY |
|------------|---|-------|--------------------|
| CET 100.1 | UTILITIES CROSSING TRENCH FOR CATCH BASIN CHUTE CONNECT. AND/OR TESTPIT (TYPE .1) | EA | 14 |
| CET 100.2 | UTILITIES CROSSING TRENCH FOR CATCH BASIN CHUTE CONNECT. AND/OR TESTPIT (TYPE .2) | EA | 6 |
| CET 100.3 | UTILITIES CROSSING TRENCH FOR CATCH BASIN CHUTE CONNECT. AND/OR TESTPIT (TYPE .3) | EA | 1 |
| CET 101.1 | UTILITIES CROSSING TRENCH FOR SEWERS UP TO AND INCL. 24" DIAMETER (TYPE .1) | EA | 27 |
| CET 101.2 | UTILITIES CROSSING TRENCH FOR SEWERS UP TO AND INCL. 24" DIAMETER (TYPE .2) | EA | 4 |
| CET 101.3 | UTILITIES CROSSING TRENCH FOR SEWERS UP TO AND INCL. 24" DIAMETER (TYPE .3) | EA | 1 |
| CET 102.1 | UTILITIES CROSSING TRENCH FOR SEWERS OVER 24" TO 36" DIAMETER (TYPE .1) | EA | 1 |
| CET 102.3 | UTILITIES CROSSING TRENCH FOR SEWERS OVER 24" TO 36" DIAMETER (TYPE .3) | EA | 1 |
| CET 108.1 | UTILITIES CROSSING TRENCH FOR WATERMAIN UP TO AND INCL. 12" DIAMETER (TYPE .1) | EA | 18 |
| CET 108.2 | UTILITIES CROSSING TRENCH FOR WATERMAIN UP TO AND INCL. 12" DIAMETER (TYPE .2) | EA | 2 |
| CET 109.2 | UTILITIES CROSSING TRENCH FOR WATERMAIN OVER 12" AND UP TO 24" (TYPE .2) | EA | 1 |
| CET 109.3 | UTILITIES CROSSING TRENCH FOR WATERMAIN OVER 12" AND UP TO 24" (TYPE .3) | EA | 1 |
| CET 110.2 | UTILITIES CROSSING TRENCH FOR WATERMAIN OVER 24" AND UP TO 36" (TYPE .2) | EA | 1 |
| CET 113.1 | UTILITIES CROSSING TRENCH FOR WATERMAIN OVER 36" AND UP TO 60" (TYPE .1) | EA | 1 |
| CET 200.2 | EXTRA DEPTH EXCAVATION OF CATCH BASIN CHUTE CONNECTIONS (INVERT DEPTH 5' TO 6' FOR TYPE 2 OR > 5'-6" TO 6'-6" FOR TYPE 3) | L.F. | 105 |
| CET 225.1A | INSTALLATION AND REMOVAL OF CATCH BASINS WITH UTILITY INTERFERENCES | EA | 1 |
| CET 225.1B | INSTALLATION OF CATCH BASINS WITH UTILITY INTERFERENCES | EA | 8 |

Rev 2
March 15, 2014

SCHEDULE U-2
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SER200226
VICTORY BLVD, GLEN ST, CANNON AVE, MELVIN AVE, WILD AVE, PRICES LANE

| CET ITEM | DESCRIPTION | UNITS | ESTIMATED QUANTITY |
|--------------|--|-------|--------------------|
| CET 300 | SPECIAL CARE EXCAVATION AND BACKFILING | C.Y. | 32 |
| CET 301 | SPECIAL CARE HAND EXCAVATION OIL-O-STATIC ENCROACHMENT | C.Y. | 280 |
| CET 302 | FIELD COATING OF OIL-O-STATIC FEEDER PIPES | L.F. | 1,958 |
| CET 303 | FURNISH, DELIVER AND INSTALL 3/8" CLEAN SAND BACKFILL | C.Y. | 958 |
| CET 304 B | FURNISH, DELIVER AND INSTALL CONCRETE SIDEWALK | C.Y. | 2 |
| CET 304 C | BREAK, REMOVE, AND DISPOSE CONCRETE SIDEWALK | C.Y. | 2 |
| CET 305 | FURNISH AND INSTALL ASPHALT PAVING MIXTURE | TONS | 63 |
| CET 330E-B.2 | SUPPORT & PROTECT ELEC, GAS & STEAM FAC. DURING EXCAVATION OF CITY TRENCH WHEN FAC. LJE W/IN TRENCH LIMITS W/ SHEETING (TYPE .2) | L.F. | 681 |
| CET 350 | OVERHEAD ACCOMMODATION, PROTECTION OF OVERHEAD FACILITIES AND APPURTENANCES | L.S. | 1 |
| CET 351 | INSTALL AND REMOVE "A" FRAME ON UTILITY POLES | EA | 12 |
| CET 400 | TEST PITS FOR UTILITY FACILITIES | C.Y. | 60 |
| CET 401 | TRENCH EXCAVATION FOR ADJUSTMENT OF UTILITIES | C.Y. | 108 |
| CET 402.2A | EXISTING OCCUPIED NON-CONCRETE ENCASED CONDUITS PLACED IN FINAL POSITION WITH CONCRETE ENCASEMENT | L.F. | 200 |
| CET 402.V2 | EXISTING VACANT NON-CONCRETE ENCASED CONDUITS PLACED IN FINAL POSITION W/O CONCRETE ENCASEMENT | L.F. | 1,040 |
| CET 450.1 | CONSTRUCTION FIELD SUPPORT REQUIRING AVERAGE SIZE SURVEY CREW PERFORMING TYPICAL SURVEY FUNCTIONS (TYPE .1) | CRHRS | 24 |
| CET 450.2 | CONSTRUCTION FIELD SUPPORT REQUIRING AVERAGE SMALL SIZE CREW CAPABLE OF PERFORMING VARIOUS TASKS (TYPE .2) | CRHRS | 24 |
| CET 450.3 | CONSTRUCTION FIELD SUPPORT REQUIRING AVERAGE MEDIUM SIZE CREW CAPABLE OF PERFORMING VARIOUS TASKS (TYPE .3) | CRHRS | 24 |

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SER200226
VICTORY BLVD, GLEN ST, CANNON AVE, MELVIN AVE, WILD AVE, PRICES LANE

| CET ITEM | DESCRIPTION | UNITS | ESTIMATED QUANTITY |
|---------------|--|-------|--------------------|
| CET 601.1 | INSTALL CONDUIT IN PAVED AREA (1 EA. 2", 4" OR 5" CONDUIT - ALL TYPES) | L.F. | 60 |
| CET 636 EE RD | ADJUSTMENT OF UTILITY HARDWARE IN ROADWAY (34" TO UNDER 41" WIDTH) | EA | 1 |
| CET 711 | USE SHEETING LINE AS FORM | L.F. | '85 |

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CON EDISON SCOPE OF WORK
SUPPORT AND PROTECTION

SER200226

VICTORY BLVD, GLEN ST, CANNON AVE, MELVIN AVE, WILD AVE, PRICES LANE

CET 100.1 UTILITIES CROSSING TRENCH FOR CATCH BASIN CHUTE CONNECT. AND/OR TESTPIT (TYPE .1) EA

At the following locations:

- 9' N/S/C Victory Blvd, 145' W/W/C Ridgeway Ave
- 11' N/S/C Victory Blvd, 145' W/W/C Ridgeway Ave
- 9' N/S/C Victory Blvd, 30' E/E/C Ridgeway Ave
- 11' N/S/C Victory Blvd, 30' E/E/C Ridgeway Ave
- 18' N/S/C Victory Blvd, 250' E/E/C Leroy Street
- N/S Victory Blvd, 250' E/E/C Leroy Street
- 13' N/S/C Victory Blvd, 25' W/W/C Cannon Ave
- 15' N/S/C Victory Blvd, 25' W/W/C Cannon Ave
- 9' N/S/C Victory Blvd, 25' E/E/C Cannon Ave
- 11' N/S/C Victory Blvd, 25' E/E/C Cannon Ave
- 13' N/S/C Victory Blvd, E/E/C Parish Ave
- 15' N/S/C Victory Blvd, E/E/C Parish Ave
- 15' N/S/C Victory Blvd, 25' E/E/C Burke Ave
- 17' N/S/C Victory Blvd, 25' E/E/C Burke Ave

Total quantity for CET 100.1 = 14

CET 100.2 UTILITIES CROSSING TRENCH FOR CATCH BASIN CHUTE CONNECT. AND/OR TESTPIT (TYPE .2) EA

At the following locations:

- N/S Victory Blvd, 22' W/W/C Leroy Street
- N/S Victory Blvd, 250' E/E/C Leroy Street
- N/S Victory Blvd, 22' W/W/C Leroy Street
- N/S Victory Blvd, 25' W/W/C Cannon Ave
- N/S Victory Blvd, 20' E/E/C Cannon Ave
- W/S Burke Ave, 15' S/S/C Victory Blvd

Total quantity for CET 100.2 = 6

CET 100.3 UTILITIES CROSSING TRENCH FOR CATCH BASIN CHUTE CONNECT. AND/OR TESTPIT (TYPE .3) EA

At the following locations:

- N/S Victory Blvd, 40' E/E/C Ridgeway Ave

Total quantity for CET 100.3 = 1

CON EDISON SCOPE OF WORK
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VICTORY BLVD, GLEN ST, CANNON AVE, MELVIN AVE, WILD AVE, PRICES LANE

CET 101.1 UTILITIES CROSSING TRENCH FOR SEWERS UP TO AND INCL. 24" DIAMETER (TYPE .1) EA

At the following locations:

10' E/W/C Glen St, 92' N/N/C Wild Ave
6' W/E/C Cannon Ave, 85' N/N/C Glen St
Cannon Ave, F/O # 123
2 Xing's @ Intersection Of Victory Blvd / Ridgeway Ave
2 Xing's @ Intersection Of Victory Blvd / Leroy Street
1 Xing @ Victory Blvd, E/E/C Leroy Street (F / O 3953)
2 Xing's @ Intersection Of Victory Blvd / Towers Lane
4 Xing's At Intersection Of Victory Blvd / Simmons Lane
2 Xing's @ Intersection Of Victory Blvd / Wild Ave
2 Xing's @ Intersection Of Victory Blvd / Shelley Ave
2 Xing's @ Intersection Of Victory Blvd / Burke Ave
2 Xing's @ Intersection Of Victory Blvd / Melvin Ave
6' S/N/C Victory Blvd, E/E/C Melvin Ave
Intersection Of Victory Blvd and Parish Ave (S/S)
Intersection Of Victory Blvd and Parish Ave (S/S)
Intersection Of Victory Blvd and Burke Ave (S/S)
Intersection Of Victory Blvd and Burke Ave (S/S)

Total quantity for CET 101.1 = 27

CET 101.2 UTILITIES CROSSING TRENCH FOR SEWERS UP TO AND INCL. 24" DIAMETER (TYPE .2) EA

At the following locations:

2 Xing's @ Intersection Of Victory Blvd / Leroy Street
1 Xing @ Intersection Of Victory Blvd / Cannon Ave
1 Xing @ Intersection Of Victory Blvd / Burke Ave

Total quantity for CET 101.2 = 4

CET 101.3 UTILITIES CROSSING TRENCH FOR SEWERS UP TO AND INCL. 24" DIAMETER (TYPE .3) EA

At the following locations:

N/S Intersection Of Cannon Ave / Leroy St

Total quantity for CET 101.3 = 1

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VICTORY BLVD, GLEN ST, CANNON AVE, MELVIN AVE, WILD AVE, PRICES LANE

| | | |
|------------------|--|----|
| CET 102.1 | UTILITIES CROSSING TRENCH FOR SEWERS OVER 24" TO 36" DIAMETER (TYPE .1) <i>At the following locations:</i> Cannon Ave, F/O # 123 Total quantity for CET 102.1 = 1 | EA |
| CET 102.3 | UTILITIES CROSSING TRENCH FOR SEWERS OVER 24" TO 36" DIAMETER (TYPE .3) <i>At the following locations:</i> N/S Intersection Of Cannon Ave / Leroy St Total quantity for CET 102.3 = 1 | EA |
| CET 108.1 | UTILITIES CROSSING TRENCH FOR WATERMAIN UP TO AND INCL. 12" DIAMETER (TYPE .1) <i>At the following locations:</i> 8' W/E/C Glen St, 92' N/N/C Wild Ave 3' W/E/C Cannon Ave, 85' N/N/C Glen St Cannon Ave, F/O # 123 9' N/S/C Victory Blvd, 290' W/W/C Ridgeway Ave 11' N/S/C Victory Blvd, 290' W/W/C Ridgeway Ave 9' N/S/C Victory Blvd, 70' W/W/C Ridgeway Ave 11' N/S/C Victory Blvd, 70' W/W/C Ridgeway Ave 2 Xing's @ Intersection Of Victory Blvd / Ridgeway Ave 9' N/S/C Victory Blvd, 187' E/E/C Ridgeway Ave 11' N/S/C Victory Blvd, 187' E/E/C Ridgeway Ave 2 Xing's @ Intersection Of Victory Blvd / Leroy Street 2 Xing's @ Intersection Of Victory Blvd / Cannon Ave 2 Xing's @ Intersection Of Victory Blvd / Wild Ave 6' S/N/C Victory Blvd, E/E/C Melvin Ave Total quantity for CET 108.1 = 18 | EA |
| CET 108.2 | UTILITIES CROSSING TRENCH FOR WATERMAIN UP TO AND INCL. 12" DIAMETER (TYPE .2) <i>At the following locations:</i> 1 Xing @ Intersection Of Victory Blvd / Leroy Street 1 Xing @ Intersection Of Victory Blvd / Cannon Ave Total quantity for CET 108.2 = 2 | EA |

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**CON EDISON SCOPE OF WORK
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SER200226

VICTORY BLVD, GLEN ST, CANNON AVE, MELVIN AVE, WILD AVE, PRICES LANE

| | | |
|-------------------|--|-------------|
| CET 109.2 | UTILITIES CROSSING TRENCH FOR WATERMAIN OVER 12" AND UP TO 24" (TYPE .2) <i>At the following locations:</i> 1 Xing @ Intersection Of Victory Blvd / Burke Ave Total quantity for CET 109.2 = 1 | EA |
| CET 109.3 | UTILITIES CROSSING TRENCH FOR WATERMAIN OVER 12" AND UP TO 24" (TYPE .3) <i>At the following locations:</i> N/S Intersection Of Cannon Ave / Leroy St Total quantity for CET 109.3 = 1 | EA |
| CET 110.2 | UTILITIES CROSSING TRENCH FOR WATERMAIN OVER 24" AND UP TO 36" (TYPE .2) <i>At the following locations:</i> 1 Xing @ Intersection Of Victory Blvd / Cannon Ave Total quantity for CET 110.2 = 1 | EA |
| CET 113.1 | UTILITIES CROSSING TRENCH FOR WATERMAIN OVER 54" AND UP TO 60" (TYPE .1) <i>At the following locations:</i> 7' E/W/C Cannon Ave 85' N/N/C Glen St Total quantity for CET 113.1 = 1 | EA |
| CET 200.2 | EXTRA DEPTH EXCAVATION OF CATCH BASIN CHUTE CONNECTIONSS (INVERT DEPTH 5' TO 6' FOR TYPE 2 OR > 5'-6" TO 6'-6" FOR TYPE 3) <i>At the following locations:</i> S/S Victory Blvd, 145' W/W/C Ridgeway Ave S/S Victory Blvd, 25' W/W/C Cannon Ave S/S Victory Blvd, 25' E/E/C Cannon Ave S/S Victory Blvd, 30' E/E/C Ridgeway Ave S/S Victory Blvd, 196' E/E/C Towers Lane Total quantity for CET 200.2 = 105 | L.F. |
| CET 225.1A | INSTALLATION AND REMOVAL OF CATCH BASINS WITH UTILITY INTERFERENCES <i>At the following locations:</i> S/W Intersection Of Victory Blvd / Simmons Lane Total quantity for CET 225.1A = 1 | EA |

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VICTORY BLVD, GLEN ST, CANNON AVE, MELVIN AVE, WILD AVE, PRICES LANE

CET 225.1B **INSTALLATION OF CATCH BASINS WITH UTILITY INTERFERENCES** **EA**

At the following locations:

- S/S Victory Blvd, 20' WW/C Ridgeway Ave
- N/S Victory Blvd, 40' E/E/C Ridgeway Ave
- S/E Int Victory Blvd / Church Ave
- N/S Victory Blvd, 22' WW/C Leroy Street
- N/S Victory Blvd, 250' E/E/C Leroy Street
- N/S Victory Blvd, 25' WW/C Cannon Ave
- N/S Victory Blvd, 20' E/E/C Cannon Ave
- W/S Burke Ave, 15' S/S/C Victory Blvd

Total quantity for CET 225.1B = 8

CET 300 **SPECIAL CARE EXCAVATION AND BACKFILING** **C.Y.**

At the following locations:

- 7' S/N/C Victory Blvd, 45' WW/C Roswell Ave
- Service Ext To # 3906
- Service Ext To # 3904
- Service Ext To # 3902
- Service Ext To # 3892
- Service Ext To # 3894
- Service Ext To # 3890
- Service Ext To #3884
- Service Ext To # 3880
- Service Ext To #3874
- Service Ext To # 3860
- Service Ext To # 3858
- Service Ext To # 3820
- Service Ext To # 3816
- Service Ext To # 3812
- Service Ext To # 3808

Total quantity for CET 300 = 32

**CON EDISON SCOPE OF WORK
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SER200226

VICTORY BLVD, GLEN ST, CANNON AVE, MELVIN AVE, WILD AVE, PRICES LANE

CET 301 **SPECIAL CARE HAND EXCAVATION OIL-O-STATIC ENCROACHMENT** **C.Y.**

At the following locations:

12' N/S/C Victory Blvd From Sta. 33+00 To Sta. 37+00
14' N/S/C Victory Blvd From Sta. 21+70 To Sta. 24+20
18' N/S/C Victory Blvd, W/E/C Towers Lane
20' N/S/C Victory Blvd, W/E/C Towers Lane
13' N/S/C Victory Blvd From Sta. 24+00 To Sta. 27+70
18' N/S/C Victory Blvd From Sta. 9+60 To Sta. 17+75
14' N/S/C Victory Blvd From Sta. 4+02 To Sta. 4+25
11' N/S/C Victory Blvd, (55' - 75') W/W/C Roswell Ave
AS ENCOUNTERED AND DIRECTED BY A CON EDISON REPRESENTATIVE

Total quantity for CET 301 = 280

CET 302 **FIELD COATING OF OIL-O-STATIC FEEDER PIPES** **L.F.**

At the following locations:

12' N/S/C Victory Blvd From Sta. 33+00 To Sta. 37+00
9' N/S/C Victory Blvd, 145' W/W/C Ridgeway Ave
11' N/S/C Victory Blvd, 145' W/W/C Ridgeway Ave
4 Xing's @ Int Victory Blvd / Ridgeway Ave
9' N/S/C Victory Blvd, 30' E/E/C Ridgeway Ave
11' N/S/C Victory Blvd, 30' E/E/C Ridgeway Ave
9' N/S/C Victory Blvd, 187' E/E/C Ridgeway Ave
11' N/S/C Victory Blvd, 187' E/E/C Ridgeway Ave
14' N/S/C Victory Blvd From Sta. 21+70 To Sta. 24+00
18' N/S/C Victory Blvd, W/E/C Towers Lane
20' N/S/C Victory Blvd, W/E/C Towers Lane
13' N/S/C Victory Blvd From Sta. 24+00 To Sta. 27+70
13' N/S/C Victory Blvd, E/E/C Parish Ave
15' N/S/C Victory Blvd, E/E/C Parish Ave
18' N/S/C Victory Blvd From Sta. 9+60 To Sta. 17+75
15' N/S/C Victory Blvd, 25' E/E/C Burke Ave
17' N/S/C Victory Blvd, 25' E/E/C Burke Ave
14' N/S/C Victory Blvd From Sta. 4+02 To Sta. 4+25
9' N/S/C Victory Blvd, 130' W/W/C Baron Blvd
11' N/S/C Victory Blvd, 130' W/W/C Baron Blvd
11' N/S/C Victory Blvd, (55' - 75') W/W/C Roswell Ave

Total quantity for CET 302 = 1,958

CON EDISON SCOPE OF WORK
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VICTORY BLVD, GLEN ST, CANNON AVE, MELVIN AVE, WILD AVE, PRICES LANE

CET 303 FURNISH, DELIVER AND INSTALL 3/8" CLEAN SAND BACKFILL C.Y.

At the following locations:

- 12' N/S/C Victory Blvd From Sta. 33+00 To Sta. 37+00
- 9' N/S/C Victory Blvd, 145' W/W/C Ridgeway Ave
- 11' N/S/C Victory Blvd, 145' W/W/C Ridgeway Ave
- 4 Xing's @ Int Victory Blvd / Ridgeway Ave
- 9' N/S/C Victory Blvd, 30' E/E/C Ridgeway Ave
- 11' N/S/C Victory Blvd, 30' E/E/C Ridgeway Ave
- 9' N/S/C Victory Blvd, 187' E/E/C Ridgeway Ave
- 11' N/S/C Victory Blvd, 187' E/E/C Ridgeway Ave
- 14' N/S/C Victory Blvd From Sta. 21+70 To Sta. 24+00
- 18' N/S/C Victory Blvd, W/E/C Towers Lane
- 20' N/S/C Victory Blvd, W/E/C Towers Lane
- 13' N/S/C Victory Blvd From Sta. 26+75 To Sta. 27+60
- 13' N/S/C Victory Blvd, E/E/C Parish Ave
- 15' N/S/C Victory Blvd, E/E/C Parish Ave
- 18' N/S/C Victory Blvd From Sta. 9+60 To Sta. 17+75
- 15' N/S/C Victory Blvd, 25' E/E/C Burke Ave
- 15' N/S/C Victory Blvd, 25' E/E/C Burke Ave
- 14' N/S/C Victory Blvd From Sta. 4+02 To Sta. 4+25
- 9' N/S/C Victory Blvd, 130' W/W/C Baron Blvd
- 11' N/S/C Victory Blvd, 130' W/W/C Baron Blvd
- 13' N/S/C Victory Blvd, 5' E/W/C Cannon Ave
- 13' N/S/C Victory Blvd, 5' E/W/C Cannon Ave
- 11' N/S/C Victory Blvd, (55' - 75') W/W/C Roswell Ave

Total quantity for CET 303 = 958

CET 304 B FURNISH, DELIVER AND INSTALL CONCRETE SIDEWALK C.Y.

At the following locations:

- N/S Victory Blvd, 22' W/W/C Leroy Street

Total quantity for CET 304 B = 2

CET 304 C BREAK, REMOVE, AND DISPOSE CONCRETE SIDEWALK C.Y.

At the following locations:

- N/S Victory Blvd, 22' W/W/C Leroy Street

Total quantity for CET 304 C = 2

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CET 305 FURNISH AND INSTALL ASPHALT PAVING MIXTURE TONS

At the following locations:

- N/S Victory Blvd, 35' E/E/C Ridgeway Ave
- N/S Victory Blvd, 22' W/W/C Leroy Street
- N/S Victory Blvd, 250' E/E/C Leroy Street
- N/S Victory Blvd, 25' W/W/C Cannon Ave
- N/S Victory Blvd, 20' E/E/C Cannon Ave
- W/S Burke Ave, 15' S/S/C Victory Blvd

Total quantity for CET 305 = 63

CET 330E-B.2 SUPPORT & PROTECT ELEC, GAS & STEAM FAC. DURING EXCAVATION OF CITY TRENCH WHEN FAC. LIE W/IN TRENCH LIMITS W/ SHEETING (TYPE 2) L.F.

At the following locations:

- N/S Victory Blvd From Sta. 21+85 To Sta. 22+20
- 15' N/S/C Victory Blvd, 30' W/W/C Towers Lane
- 17' N/S/C Victory Blvd, 30' W/W/C Towers Lane
- 3' S/N/C Victory Blvd From Sta. 26+75 To Sta. 32+95
- Intersection Of Victory Blvd / Leroy Street

Total quantity for CET 330E-B.2 = 681

CET 350 OVERHEAD ACCOMMODATION, PROTECTION OF OVERHEAD FACILITIES AND APPURTENANCES L.S.

At the following locations:

- Various Locations As Needed
- AS SHOWN ON CONTRACT DOCUMENTS

Total quantity for CET 350 = 1

CET 351 INSTALL AND REMOVE "A" FRAME ON UTILITY POLES EA

At the following locations:

- S/E Int Glen St / Melvin Ave
- 5 Locations @ Cannon Ave Between Glen St and Prices Lane
- 2 Locations @ Cannon Ave Between Bldg # 155 and Bldg # 141
- Melvin Ave, F/O # 119
- Parish Ave, F/O # 40
- Meredith Ave, F/O # 29
- S/S Victory Blvd @ Cannon Blvd (F/O Bldg # 3904)
- S/W Intersection Of Victory Blvd / Ridgeway Ave

Total quantity for CET 351 = 12

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CON EDISON SCOPE OF WORK
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CET 400 TEST PITS FOR UTILITY FACILITIES C.Y.

At the following locations:

Various Locations As Needed

Total quantity for CET 400 = 60

CET 401 TRENCH EXCAVATION FOR ADJUSTMENT OF UTILITIES C.Y.

At the following locations:

- N/S Victory Blvd, 35' E/E/C Ridgeway Ave
- N/S Victory Blvd, 22' W/W/C Leroy Street
- N/S Victory Blvd, 250' E/E/C Leroy Street
- N/S Victory Blvd, 25' W/W/C Cannon Ave
- N/S Victory Blvd, 20' E/E/C Cannon Ave
- W/S Burke Ave, 15' S/S/C Victory Blvd

AS ENCOUNTERED AND DIRECTED BY A CON EDISON REPRESENTATIVE

Total quantity for CET 401 = 108

CET 402.2A EXISTING OCCUPIED NON-CONCRETE ENCASED CONDUITS PLACED IN FINAL POSITION WITH CONCRETE ENCASEMENT L.F.

At the following locations:

- N/S Victory Blvd, 35' E/E/C Ridgeway Ave
- N/S Victory Blvd, 22' W/W/C Leroy Street
- W/S Burke Ave, 15' S/S/C Victory Blvd

AS ENCOUNTERED AND DIRECTED BY A CON EDISON REPRESENTATIVE

Total quantity for CET 402.2A = 200

CET 402.V2 EXISTING VACANT NON-CONCRETE ENCASED CONDUITS PLACED IN FINAL POSITION W/O CONCRETE ENCASEMENT L.F.

At the following locations:

- N/S Victory Blvd, 35' E/E/C Ridgeway Ave
- N/S Victory Blvd, 22' W/W/C Leroy Street
- N/S Victory Blvd, 250' E/E/C Leroy Street
- N/S Victory Blvd, 25' W/W/C Cannon Ave
- N/S Victory Blvd, 20' E/E/C Cannon Ave
- W/S Burke Ave, 15' S/S/C Victory Blvd

AS ENCOUNTERED AND DIRECTED BY A CON EDISON REPRESENTATIVE

Total quantity for CET 402.V2 = 1,040

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CON EDISON SCOPE OF WORK
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VICTORY BLVD, GLEN ST, CANNON AVE, MELVIN AVE, WILD AVE, PRICES LANE

| | | |
|---------------|---|-------|
| CET 450.1 | <p>CONSTRUCTION FIELD SUPPORT REQUIRING AVERAGE SIZE SURVEY CREW PERFORMING TYPICAL SURVEY FUNCTIONS (TYPE .1) <i>At the following locations:</i> Various Locations As Needed</p> <p>Total quantity for CET 450.1 = 24</p> | CRHRS |
| CET 450.2 | <p>CONSTRUCTION FIELD SUPPORT REQUIRING AVERAGE SMALL SIZE CREW CAPABLE OF PERFORMING VARIOUS TASKS (TYPE .2) <i>At the following locations:</i> Various Locations As Needed</p> <p>Total quantity for CET 450.2 = 24</p> | CRHRS |
| CET 450.3 | <p>CONSTRUCTION FIELD SUPPORT REQUIRING AVERAGE MEDIUM SIZE CREW CAPABLE OF PERFORMING VARIOUS TASKS (TYPE .3) <i>At the following locations:</i> Various Locations As Needed</p> <p>Total quantity for CET 450.3 = 24</p> | CRHRS |
| CET 601.1 | <p>INSTALL CONDUIT IN PAVED AREA (1 EA. 2", 4" OR 5" CONDUIT - ALL TYPES) <i>At the following locations:</i> Int Victory Blvd / Simmons Lane AS ENCOUNTERED AND DIRECTED BY A CON EDISON REPRESENTATIVE</p> <p>Total quantity for CET 601.1 = 60</p> | L.F. |
| CET 636 EE RD | <p>ADJUSTMENT OF UTILITY HARDWARE IN ROADWAY (34" TO UNDER 41" WIDTH) <i>At the following locations:</i> Various Locations As Needed AS ENCOUNTERED AND DIRECTED BY A CON EDISON REPRESENTATIVE</p> <p>Total quantity for CET 636 EE R = 1</p> | EA |

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CON EDISON SCOPE OF WORK
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VICTORY BLVD, GLEN ST, CANNON AVE, MELVIN AVE, WILD AVE, PRICES LANE

CET 711 USE SHEETING LINE AS FORM

L.F.

At the following locations:

- 22' N/S/C Victory Blvd, 10' E/W/C Wild Ave
- 22' N/S/C Victory Blvd, 23' W/W/C Parish Ave
- 22' N/S/C Victory Blvd, 18' W/E/C Parish Ave
- 22' N/S/C Victory Blvd, 22' E/E/C Parish Ave
- 22' N/S/C Victory Blvd, 5' E/W/C Shelley Ave
- 8' S/N/C Victory Blvd, 10' E/E/C Burke Ave
- 22' N/S/C Victory Blvd, 17' E/W/C Burke Ave
- 22' N/S/C Victory Blvd, 20' E/E/C Burke Ave

AS SHOWN ON CONTRACT DRAWINGS AND DIRECTED BY CON EDISON REP

Total quantity for CET 711 = 85

SECTION U WORKSHEET
SER200226
FOR INFORMATION ONLY
ENGINEER'S ESTIMATE OF QUANTITY AND TYPES OF INTERFERENCE
FOR VERIZON
CONSTRUCTION OF STORM AND SANITARY SEWERS
WATER MAINS AND APPURTENANCES IN TRAVIS AVE. AREA

| CET ITEM NUMBER | DESCRIPTION | Unit of Measure | Estimated Quantity |
|-----------------------|--|--------------------|-----------------------|
| CET 100.1 | UTILITIES CROSSING TRENCH FOR CATCH BASIN CHUTE CONNECT. AND/OR TEST PIT (TYPE .1) | EA. | 4.00 |
| CET 100.2 | UTILITIES CROSSING TRENCH FOR CATCH BASIN CHUTE CONNECT. AND/OR TEST PIT (TYPE .2) | EA. | 8.00 |
| CET 100.3 | UTILITIES CROSSING TRENCH FOR CATCH BASIN CHUTE CONNECT. AND/OR TEST PIT (TYPE .3) | EA. | 3.00 |
| CET 101.1 | UTILITIES CROSSING TRENCH FOR SEWERS OVER 12" TO 24" DIAMETER (TYPE .1) | EA. | 8.00 |
| CET 101.2 | UTILITIES CROSSING TRENCH FOR SEWERS OVER 12" TO 24" DIAMETER (TYPE .2) | EA. | 2.00 |
| CET 101.3 | UTILITIES CROSSING TRENCH FOR SEWERS OVER 12" TO 24" DIAMETER (TYPE .3) | EA. | 1.00 |
| CET 102.1 | UTILITIES CROSSING TRENCH FOR SEWERS OVER 24" TO 36" DIAMETER (TYPE .1) | EA. | 2.00 |
| CET 103.3 | UTILITIES CROSSING TRENCH FOR SEWERS OVER 36" TO 48" DIAMETER (TYPE .3) | EA. | 1.00 |
| CET 108.1 | UTILITIES CROSSING TRENCH FOR WATERMAIN UP TO AND INCL. 12" DIAMETER (TYPE .1) | EA. | 8.00 |
| CET 108.2 | UTILITIES CROSSING TRENCH FOR WATERMAIN UP TO AND INCL. 12" DIAMETER (TYPE .2) | EA. | 1.00 |
| CET 108.3 | UTILITIES CROSSING TRENCH FOR WATERMAIN UP TO AND INCL. 12" DIAMETER (TYPE .3) | EA. | 1.00 |
| CET 109.1 | UTILITIES CROSSING TRENCH FOR WATERMAIN OVER 12" AND UP TO 24" DIAMETER (TYPE .1) | EA. | 6.00 |
| CET 109.2 | UTILITIES CROSSING TRENCH FOR WATERMAIN OVER 12" AND UP TO 24" DIAMETER (TYPE .2) | EA. | 2.00 |
| CET 200.1 | EXTRA DEPTH EXCAVATION OF CATCH BASIN CHUTE CONNECTION PIPES | L.F. | 20.00 |
| CET 225.1B | INSTALLATION OF CATCH BASINS WITH UTILITY INTERFERENCES | EA. | 2.00 |
| 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. | 3,275.00 |
| CET 350 | OVERHEAD ACCOMMODATION, PROTECTION OF OH FACILITIES & APPURTENANCES | L.S. | 1.00 |
| CET 351 | INSTALL AND REMOVE "A" FRAMES ON UTILITY POLES | EA. | 1.00 |
| CET 400 | TEST PITS | C.Y. | 40.00 |
| CET 401 | TRENCH EXCAVATION FOR ADJUSTMENT OF UTILITIES | C.Y. | 2,700.00 |
| CET 402T.1A | EXIST. OCCUPIED CONCR. ENCASED CONDUITS PLCD. IN FINAL POS. WITH CONCR. ENCSMNT. | L.F. | 31,760.00 |
| CET 402T.2 | EXIST. OCCUPIED NON-CONCR. ENCASED CONDUITS PLCD. IN FINAL POS. WITHOUT CONCR. ENCSMNT. | L.F. | 420.00 |

3/11/2014

SER200226_TRAVIS AVE- VERIZON CET_REV2 - INFORMATION ONLY

SECTION U WORKSHEET**SER200226****FOR INFORMATION ONLY****ENGINEER'S ESTIMATE OF QUANTITY AND TYPES OF INTERFERENCE****FOR VERIZON****CONSTRUCTION OF STORM AND SANITARY SEWERS****WATER MAINS AND APPURTENANCES IN TRAVIS AVE. AREA**

| CET ITEM NUMBER | DESCRIPTION | Unit of Measure | Estimated Quantity |
|--------------------------------|---|----------------------------|-------------------------------|
| CET 402T.V1A | EXIST. VACANT CONCR. ENCASED CONDUITS PLCD. IN FINAL POS. WITH CONCR. ENCSMNT. | L.F. | 3,240.00 |
| CET 402T.V2 | EXIST. VACANT NON-CONCR. ENCASED CONDUITS PLCD. IN FINAL POS. WITHOUT CONCR. ENCSMNT. | L.F. | 100.00 |
| CET 500 | REMOVAL OF ABANDONED UTILITY CONDUITS (NON-CONCRETE ENCASED) | L.F. | 260.00 |
| CET 636 EE RD | ADJUSTMENT OF UTILITY HARWARE (34" TO UNDER 41" WIDTH) IN ROADWAY | EA. | 6.00 |
| CET 636 ME | MOD. OF METHODS TO ACCOMM. UTILITY STREET HRDW. DURING PAVE. MILL. AND RESURF. OPS (34" TO UNDER 41" WIDTH) | EA. | 1.00 |
| CET 636 RM | REBUILDING AND MODIFICATIONS TO UTILITY STRUCTURES | C.Y. | 95.00 |
| CET 711 | USE SHEETING LINE AS FORM | L.F. | 80.00 |

3/11/2014

SER200226_TRAVIS AVE- VERIZON CET_REV2 - INFORMATION ONLY

VERIZON CET SCOPE OF WORK
SUPPORT & PROTECTION
SER200226
CONSTRUCTION OF STORM AND SANITARY SEWERS
WATER MAINS AND APPURTENANCES IN TRAVIS AVE. AREA

CET 100.1 UTILITIES CROSSING TRENCH FOR CATCH BASIN CHUTE CONNECT. AND/OR TEST PIT (TYPE .1) EA.

At the following locations:

| | |
|---|---|
| E/S SHELLEY AVENUE S/O VICTORY BOULEVARD | 1 |
| E/S CHURCH AVENUE S/O VICTORY BOULEVARD | 1 |
| S/S VICTORY BOULEVARD BETWEEN LEROY STREET AND CANNON AVENUE | 1 |
| W/S PARISH AVENUE BETWEEN CANNON AVENUE AND VICTORY BOULEVARD | 1 |

Total quantity for CET 100.1 = 4

CET 100.2 UTILITIES CROSSING TRENCH FOR CATCH BASIN CHUTE CONNECT. AND/OR TEST PIT (TYPE .2) EA.

At the following locations:

| | |
|---|---|
| N/S VICTORY BOULEVARD W/O PARISH AVENUE | 1 |
| N/S VICTORY BOULEVARD E/O BURKE AVENUE | 1 |
| N/S VICTORY BOULEVARD W/O LEROY AVENUE | 1 |
| N/S VICTORY BOULEVARD BETWEEN LEROY STREET AND CANNON AVENUE | 1 |
| N/S VICTORY BOULEVARD W/O CANNON AVENUE | 1 |
| N/S VICTORY BOULEVARD E/O CANNON AVENUE | 1 |
| S/S VICTORY BOULEVARD BETWEEN CANNON AVENUE AND RIDGEWAY AVENUE | 1 |
| S/S VICTORY BOULEVARD E/O RIDGEWAY AVENUE | 1 |

Total quantity for CET 100.2 = 8

CET 100.3 UTILITIES CROSSING TRENCH FOR CATCH BASIN CHUTE CONNECT. AND/OR TEST PIT (TYPE .3) EA.

At the following locations:

| | |
|---|---|
| N/S VICTORY BOULEVARD W/O MELVIN AVENUE | 1 |
| N/S VICTORY BOULEVARD W/O WILD AVENUE | 1 |
| N/S VICTORY BOULEVARD E/O PARISH AVENUE | 1 |

Total quantity for CET 100.3 = 3

CET 101.1 UTILITIES CROSSING TRENCH FOR SEWERS OVER 12" TO 24" DIAMETER (TYPE .1) EA.

At the following locations:

| | |
|---|---|
| VICTORY BOULEVARD BETWEEN MELVIN AVENUE AND WILD AVENUE | 1 |
| INT. OF VICTORY BOULEVARD AND SHELLEY AVENUE | 1 |
| INT. OF VICTORY BOULEVARD AND CHURCH AVENUE | 1 |
| INT. OF VICTORY BOULEVARD AND LEROY STREET | 2 |
| VICTORY BOULEVARD BETWEEN LEROY STREET AND CANNON AVENUE | 1 |
| INT. OF VICTORY BOULEVARD AND CANNON AVENUE | 1 |
| SHELLEY AVENUE BETWEEN VICTORY BOULEVARD AND MILDRED AVENUE | 1 |

Total quantity for CET 101.1 = 8

VERIZON CET SCOPE OF WORK
SUPPORT & PROTECTION
SER200226
CONSTRUCTION OF STORM AND SANITARY SEWERS
WATER MAINS AND APPURTENANCES IN TRAVIS AVE. AREA

| | | |
|------------------|---|------------|
| CET 101.2 | UTILITIES CROSSING TRENCH FOR SEWERS OVER 12" TO 24" DIAMETER (TYPE .2) | EA. |
| | At the following locations: | |
| | INT. OF VICTORY BOULEVARD AND CANNON AVENUE | 1 |
| | INT. OF VICTORY BOULEVARD AND RIDGEWAY AVENUE | 1 |
| | Total quantity for CET 101.2 = 2 | |
| CET 101.3 | UTILITIES CROSSING TRENCH FOR SEWERS OVER 12" TO 24" DIAMETER (TYPE .3) | EA. |
| | At the following locations: | |
| | INT. OF VICTORY BOULEVARD AND MELVIN AVENUE | 1 |
| | Total quantity for CET 101.3 = 1 | |
| CET 102.1 | UTILITIES CROSSING TRENCH FOR SEWERS OVER 24" TO 36" DIAMETER (TYPE .1) | EA. |
| | At the following locations: | |
| | INT. OF VICTORY BOULEVARD AND CANNON AVENUE | 1 |
| | W/S PARISH AVENUE BETWEEN CANNON AVENUE AND VICTORY BOULEVARD | 1 |
| | Total quantity for CET 102.1 = 2 | |
| CET 103.3 | UTILITIES CROSSING TRENCH FOR SEWERS OVER 36" TO 48" DIAMETER (TYPE .3) | EA. |
| | At the following locations: | |
| | INT. OF VICTORY BOULEVARD AND PARISH AVENUE | 1 |
| | Total quantity for CET 103.3 = 1 | |
| CET 108.1 | UTILITIES CROSSING TRENCH FOR WATERMAIN UP TO AND INCL. 12" DIAMETER (TYPE .1) | EA. |
| | At the following locations: | |
| | CANNON AVENUE BETWEEN LEROY STREET AND VICTORY BOULEVARD | 1 |
| | INT. OF VICTORY BOULEVARD AND PARISH AVENUE | 1 |
| | INT. OF VICTORY BOULEVARD AND LEROY STREET | 1 |
| | VICTORY BOULEVARD BETWEEN LEROY STREET AND CANNON AVENUE | 2 |
| | VICTORY BOULEVARD BETWEEN RIDGEWAY AVENUE AND BARON BOULEVARD | 2 |
| | W/S PARISH AVENUE BETWEEN CANNON AVENUE AND VICTORY BOULEVARD | 1 |
| | Total quantity for CET 108.1 = 8 | |

VERIZON CET SCOPE OF WORK
SUPPORT & PROTECTION
SER200226
CONSTRUCTION OF STORM AND SANITARY SEWERS
WATER MAINS AND APPURTENANCES IN TRAVIS AVE. AREA

| | | |
|-------------------|--|-------------|
| CET 108.2 | UTILITIES CROSSING TRENCH FOR WATERMAIN UP TO AND INCL. 12" DIAMETER (TYPE .2) | EA. |
| | At the following locations: | |
| | INT. OF VICTORY BOULEVARD AND CANNON AVENUE | 1 |
| | Total quantity for CET 108.2 = 1 | |
| CET 108.3 | UTILITIES CROSSING TRENCH FOR WATERMAIN UP TO AND INCL. 12" DIAMETER (TYPE .3) | EA. |
| | At the following locations: | |
| | INT. OF VICTORY BOULEVARD AND WILD AVENUE | 1 |
| | Total quantity for CET 108.3 = 1 | |
| CET 109.1 | UTILITIES CROSSING TRENCH FOR WATERMAIN OVER 12" AND UP TO 24" DIAMETER (TYPE .1) | EA. |
| | At the following locations: | |
| | INT. OF VICTORY BOULEVARD AND SHELLEY AVENUE | 1 |
| | INT. OF VICTORY BOULEVARD AND CHURCH AVENUE | 1 |
| | INT. OF VICTORY BOULEVARD AND LEROY STREET | 1 |
| | S/S VICTORY BOULEVARD 50' WEST OF WILD AVENUE | 1 |
| | N/S VICTORY BOULEVARD 35' W/O BARON BOULEVARD | 2 |
| | Total quantity for CET 109.1 = 6 | |
| CET 109.2 | UTILITIES CROSSING TRENCH FOR WATERMAIN OVER 12" AND UP TO 24" DIAMETER (TYPE .2) | EA. |
| | At the following locations: | |
| | INT. OF VICTORY BOULEVARD AND LEROY STREET | 2 |
| | Total quantity for CET 109.2 = 2 | |
| CET 200.1 | EXTRA DEPTH EXCAVATION OF CATCH BASIN CHUTE CONNECTION PIPES | L.F. |
| | At the following locations: | |
| | AS ENCOUNTERED OR DIRECTED BY VERIZON FIELD REPRESENTATIVE | 20 |
| | Total quantity for CET 200.1 = 20 | |
| CET 225.1B | INSTALLATION OF CATCH BASINS WITH UTILITY INTERFERENCES | EA. |
| | At the following locations: | |
| | E/S CHURCH AVENUE S/O VICTORY BOULEVARD | 1 |
| | S/S VICTORY BOULEVARD BETWEEN LEROY STREET AND CANNON AVENUE | 1 |
| | Total quantity for CET 225.1B = 2 | |

3/11/2014

SER200226_TRAVIS AVE- VERIZON CET_REV2 - CET SCOPE

VERIZON CET SCOPE OF WORK
SUPPORT & PROTECTION
SER200226
CONSTRUCTION OF STORM AND SANITARY SEWERS
WATER MAINS AND APPURTENANCES IN TRAVIS AVE. AREA

| | | |
|-----------------|---|-------------|
| 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: | |
| | CANNON AVENUE BETWEEN LEROY STREET AND VICTORY BOULEVARD | 150 |
| | VICTORY BOULEVARD BETWEEN STA 4+00 TO STA 33+00 | 2,900 |
| | VICTORY BOULEVARD INT., AND LEROY STREET | 150 |
| | SHELLEY AVENUE FROM VICTORY BOULEVARD TO 60' S/O SHELLEY AVENUE | 75 |
| | Total quantity for CET 330T = 3,275 | |
| CET 350 | OVERHEAD ACCOMMODATION, PROTECTION OF OH FACILITIES & APPURTENANCES | L.S. |
| | At the following locations: | |
| | AS ENCOUNTERED OR DIRECTED BY VERIZON FIELD REPRESENTATIVE | 1 |
| | Total quantity for CET 350 = 1 | |
| CET 351 | INSTALL AND REMOVE "A" FRAMES ON UTILITY POLES | EA. |
| | At the following locations: | |
| | AS ENCOUNTERED OR DIRECTED BY VERIZON FIELD REPRESENTATIVE | 1 |
| | Total quantity for CET 351 = 1 | |
| CET 400 | TEST PITS | C.Y. |
| | At the following locations: | |
| | AS ENCOUNTERED OR DIRECTED BY VERIZON FIELD REPRESENTATIVE | 40 |
| | Total quantity for CET 400 = 40 | |
| CET 401 | TRENCH EXCAVATION FOR ADJUSTMENT OF UTILITIES | C.Y. |
| | At the following locations: | |
| | VICTORY BOULEVARD BETWEEN STA 4+00 TO STA 33+00 | 2,580 |
| | VICTORY BOULEVARD BETWEEN MELVIN AVENUE AND WILD AVENUE | 55 |
| | VICTORY BOULEVARD BETWEEN LEROY STREET AND CANNON AVENUE | 30 |
| | AS ENCOUNTERED OR DIRECTED BY VERIZON FIELD REPRESENTATIVE | 35 |
| | Total quantity for CET 401 = 2,700 | |

3/11/2014

SER200226_TRAVIS AVE- VERIZON CET_REV2 - CET SCOPE

VERIZON CET SCOPE OF WORK
SUPPORT & PROTECTION
SER200226
CONSTRUCTION OF STORM AND SANITARY SEWERS
WATER MAINS AND APPURTENANCES IN TRAVIS AVE. AREA

| | | |
|----------------------|--|-------------|
| CET 402T.1A | EXIST. OCCUPIED CONCR. ENCASED CONDUITS PLCD. IN FINAL POS. WITH CONCR. ENCSMNT. | L.F. |
| | At the following locations: | |
| | VICTORY BOULEVARD BETWEEN STA 4+00 TO STA 33+00 | 31,760 |
| | Total quantity for CET 402T.1A = 31,760 | |
| CET 402T.2 | EXIST. OCCUPIED NON-CONCR. ENCASED CONDUITS PLCD. IN FINAL POS. WITHOUT CONCR. ENCSMNT. | L.F. |
| | At the following locations: | |
| | VICTORY BOULEVARD BETWEEN MELVIN AVENUE AND WILD AVENUE | 240 |
| | VICTORY BOULEVARD BETWEEN LEROY STREET AND CANNON AVENUE | 180 |
| | Total quantity for CET 402T.2 = 420 | |
| CET 402T.V1A | EXIST. VACANT CONCR. ENCASED CONDUITS PLCD. IN FINAL POS. WITH CONCR. ENCSMNT. | L.F. |
| | At the following locations: | |
| | VICTORY BOULEVARD BETWEEN STA 4+00 TO STA 33+00 | 3,240 |
| | Total quantity for CET 402T.V1A = 3,240 | |
| CET 402T.V2 | EXIST. VACANT NON-CONCR. ENCASED CONDUITS PLCD. IN FINAL POS. WITHOUT CONCR. ENCSMNT. | L.F. |
| | At the following locations: | |
| | AS ENCOUNTERED OR DIRECTED BY VERIZON FIELD REPRESENTATIVE | 100 |
| | Total quantity for CET 402T.V2 = 100 | |
| CET 500 | REMOVAL OF ABANDONED UTILITY CONDUITS (NON-CONCRETE ENCASED) | L.F. |
| | At the following locations: | |
| | S/E INTERSECTION OF VICTORY BOULEVARD AND ROSWELL AVENUE | 10 |
| | S/S VICTORY BOULEVARD 70' EAST OF MELVIN AVENUE | 10 |
| | SHELLEY AVENUE FROM VICTORY BOULEVARD TO 60' S/O SHELLEY AVENUE | 177 |
| | FRONT OF HSE. #3942 AND HSE. #3938, VICTORY BOULEVARD | 63 |
| | Total quantity for CET 500 = 260 | |
| CET 636 EE RD | ADJUSTMENT OF UTILITY HARWARE (34" TO UNDER 41" WIDTH) IN ROADWAY | EA. |
| | At the following locations: | |
| | AS ENCOUNTERED OR DIRECTED BY VERIZON FIELD REPRESENTATIVE | 6 |
| | Total quantity for CET 636 EE RD = 6 | |

3/11/2014 SER200226_TRAVIS AVE- VERIZON CET_REV2 - GET SCOPE

VERIZON CET SCOPE OF WORK
SUPPORT & PROTECTION
SER200226
CONSTRUCTION OF STORM AND SANITARY SEWERS
WATER MAINS AND APPURTENANCES IN TRAVIS AVE. AREA

CET 636 ME MOD. OF METHODS TO ACCOMM. UTILITY STREET HRDW, DURING PAVE, MILL, AND RESURF. EA.
OPS (34" TO UNDER 41" WIDTH)

At the following locations:

AS ENCOUNTERED OR DIRECTED BY VERIZON FIELD REPRESENTATIVE 1

Total quantity for CET 636 ME = 1

CET 636 RM REBUILDING AND MODIFICATIONS TO UTILITY STRUCTURES C.Y.

At the following locations:

INT. OF VICTORY BOULEVARD AND ROSWELL AVENUE 15
INT. OF VICTORY BOULEVARD AND WILD AVENUE 15
INT. OF VICTORY BOULEVARD AND SHELLEY AVENUE 15
VICTORY BOULEVARD BETWEEN BURKE AVENUE AND LEROY STREET 20
VICTORY BOULEVARD BETWEEN LEROY STREET AND CANNON AVENUE 15
INT. OF VICTORY BOULEVARD AND CANNON AVENUE 15

Total quantity for CET 636 RM = 95

CET 711 USE SHEETING LINE AS FORM L.F.

At the following locations:

AS ENCOUNTERED OR DIRECTED BY VERIZON FIELD REPRESENTATIVE 80

Total quantity for CET 711 = 80

FOR INFORMATION ONLY
ENGINEER'S ESTIMATE OF QUANTITIES AND TYPES OF INTERFERENCE
TIME WARNER CABLE OF NEW YORK CITY
SER200226
Travis Ave., etc.
Borough of Staten Island

| CET ITEM | DESCRIPTION | UNITS | ESTIMATED QUANTITY |
|-----------------|--|--------------|---------------------------|
| 350 | OVERHEAD ACCOMMODATION, PROTECTION OF OVERHEAD FACILITIES, POLES & APPURTENANCES | LS | 1 |

TIME WARNER CABLE
SUPPORT & PROTECTION
SER200226
Travis Ave., etc.
Borough of Staten Island

| | | |
|----------------|---|-----------|
| CET 350 | OVERHEAD ACCOMMODATION, PROTECTION OF OVERHEAD FACILITIES, POLES & APPURTENANCES | LS |
| | At the following locations: | |
| | AS ENCOUNTERED | 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)



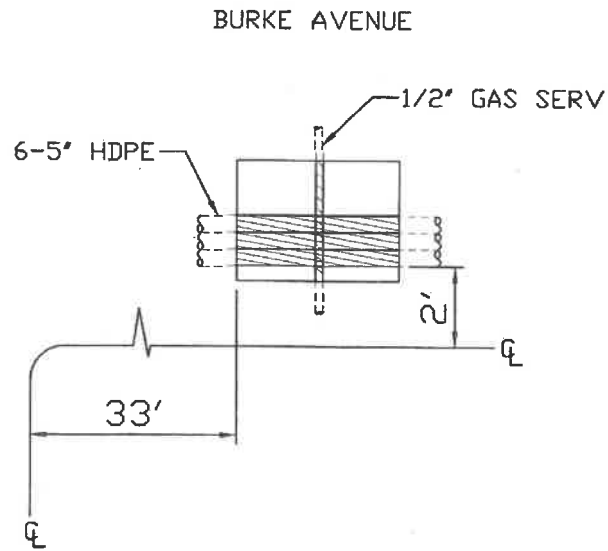
JOB NO: SER200226
 PREPARED BY: R. OLIVERAS
 CHECKED BY: R. PATINO-PRENZ

TEST PIT # 8
 DATE: 11/12/2013
 DATE: 11/15/2013

JOB NAME: STORM AND SANITARY SEWERS IN TRAVIS AREA LOCATION: W/S BURKE AVENUE
 PURPOSE: REQUEST TYPE 3 CATCH BASIN 15' SSC VICTORY BLVD
 DATE OF EXCAVATION: 10/15/13 CONTRACT SHEET NO: 10 OF 21



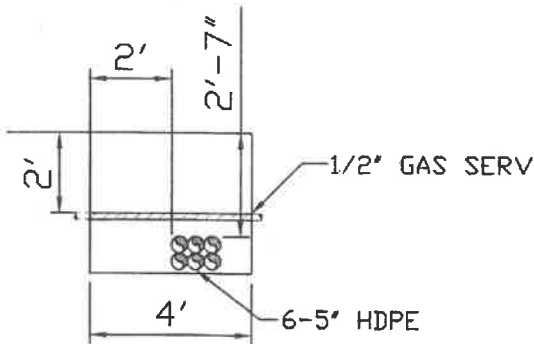
VICTORY BLVD



PLAN
N.T.S.

| |
|-----|
| CET |
| |

BURKE AVENUE



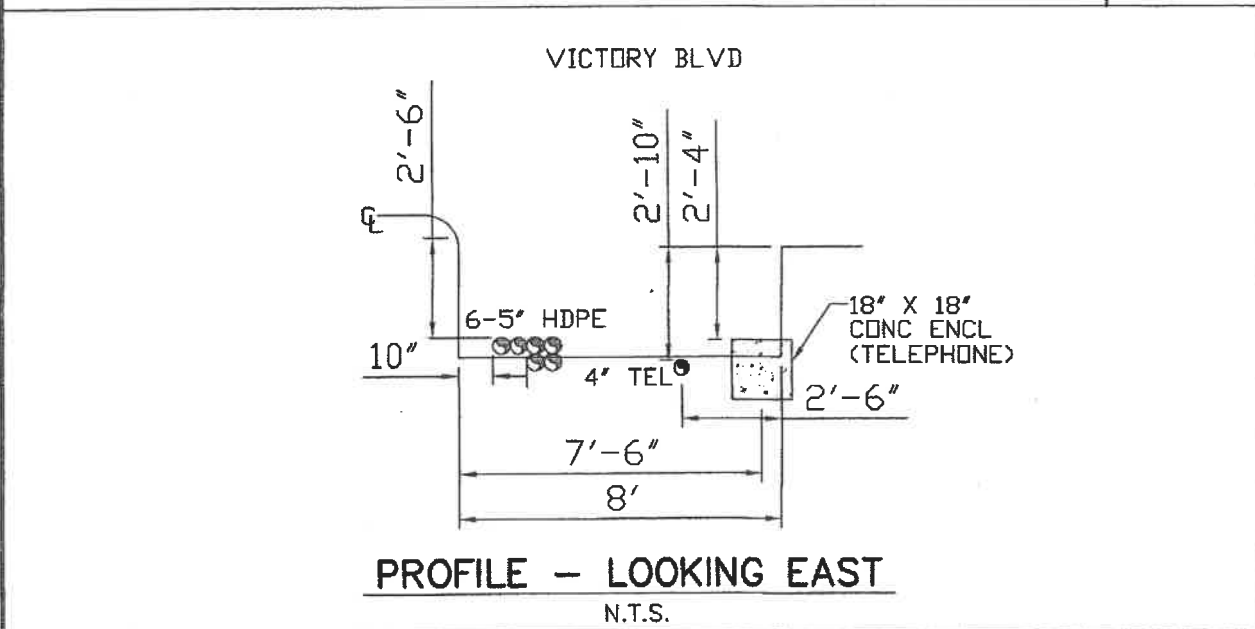
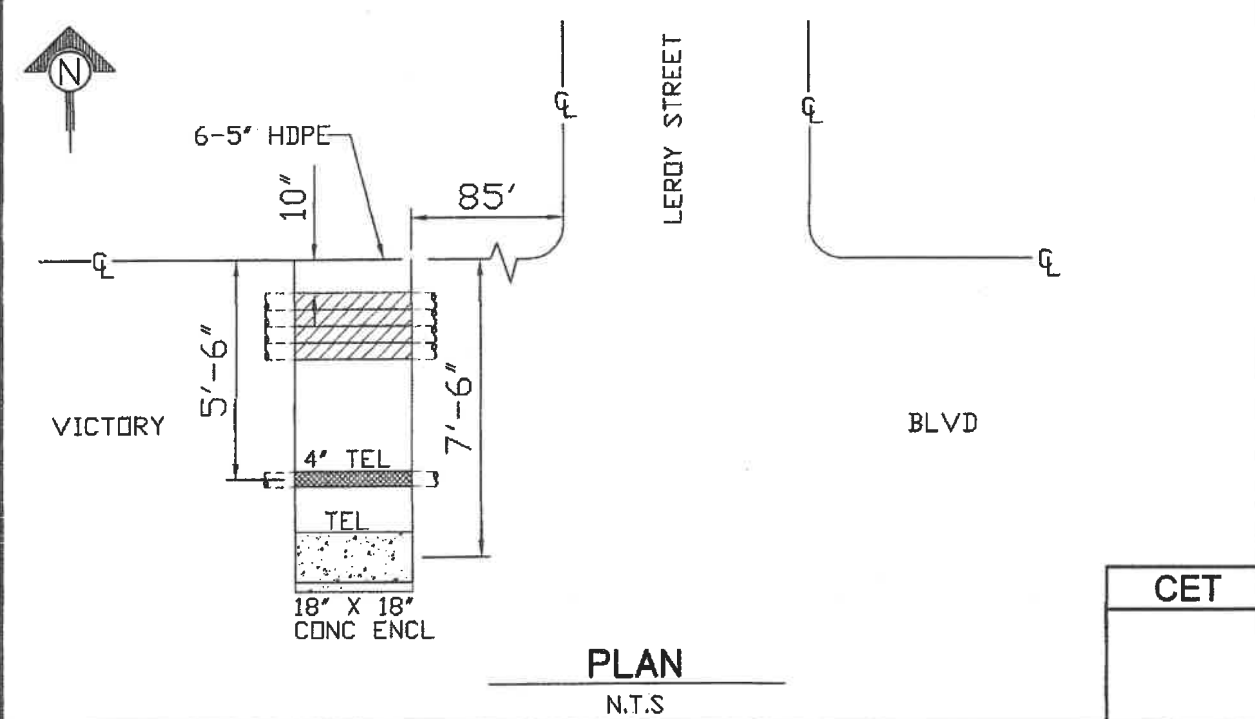
PROFILE - LOOKING NORTH
N.T.S.



JOB NO: SER200226
 PREPARED BY: R. OLIVERAS
 CHECKED BY: R. PATINO-PRENZ

TEST PIT # 11
 DATE: 11/12/2013
 DATE: 11/15/2013

JOB NAME: STORM AND SANITARY SEWERS IN TRAVIS AREA LOCATION: N/S VICTORY BLVD
 PURPOSE: REQUEST TYPE 3 CATCH BASIN 80' W/W/C LEROY STREET
 DATE OF EXCAVATION: 10/15/13 CONTRACT SHEET NO: 11 OF 21

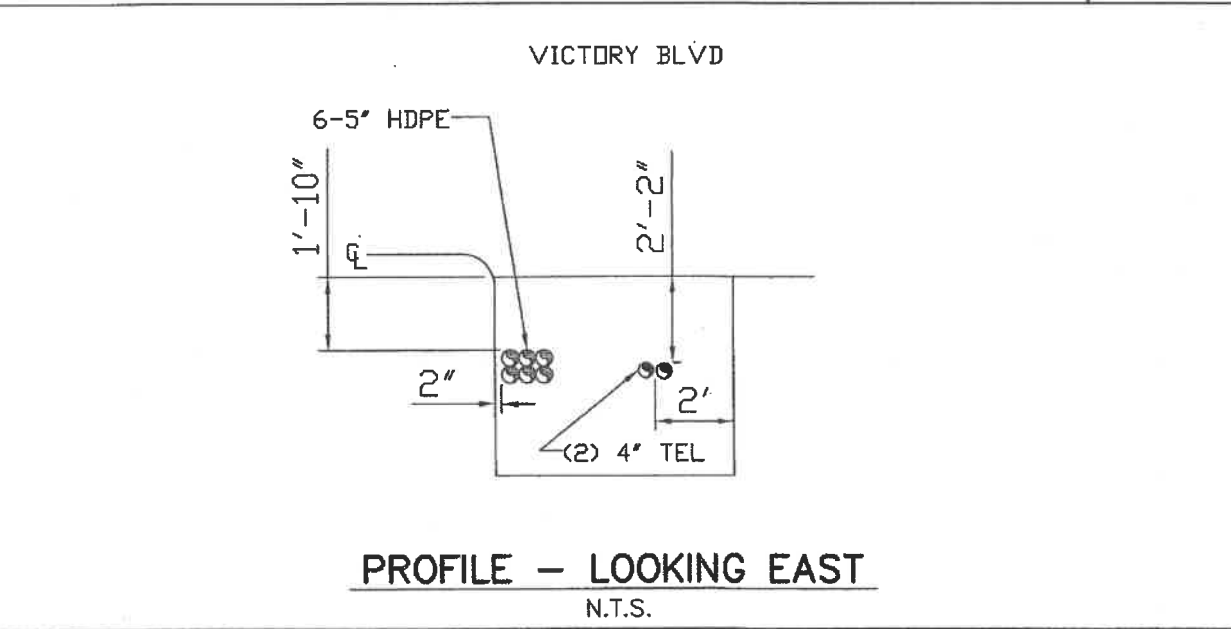
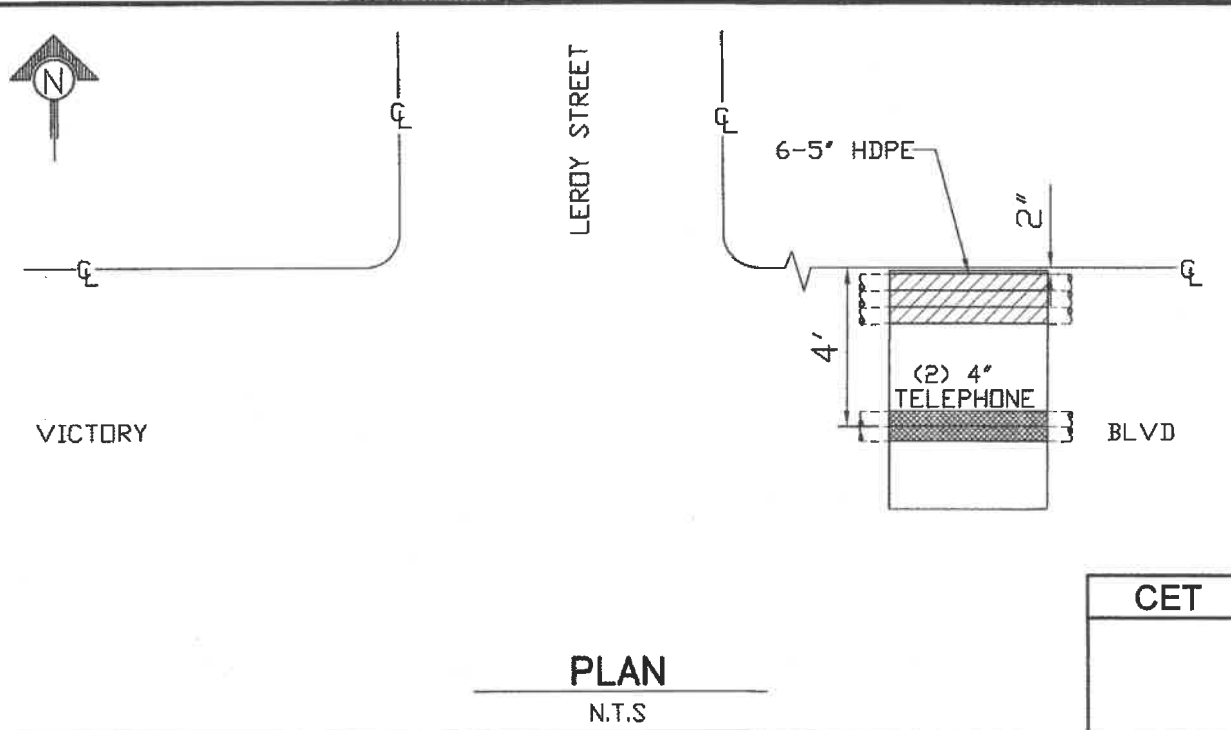




JOB NO: SER200226
 PREPARED BY: R. OLIVERAS
 CHECKED BY: R. PATINO-PRENZ

TEST PIT # 16
 DATE: 11/12/2013
 DATE: 11/15/2013

JOB NAME: STORM AND SANITARY SEWERS IN TRAVIS AREA LOCATION: N/S VICTORY BLVD
 PURPOSE: REQUEST TYPE 3 CATCH BASIN 255' E/E/C LEROY STREET
 DATE OF EXCAVATION: 10/17/13 CONTRACT SHEET NO: 11 OF 21





JOB NO: SER200226

TEST PIT # 20

PREPARED BY: R. OLIVERAS

DATE: 11/12/2013

CHECKED BY: R. PATINO-PRENZ

DATE: 11/15/2013

JOB NAME: STORM AND SANITARY SEWERS IN TRAVIS AREA

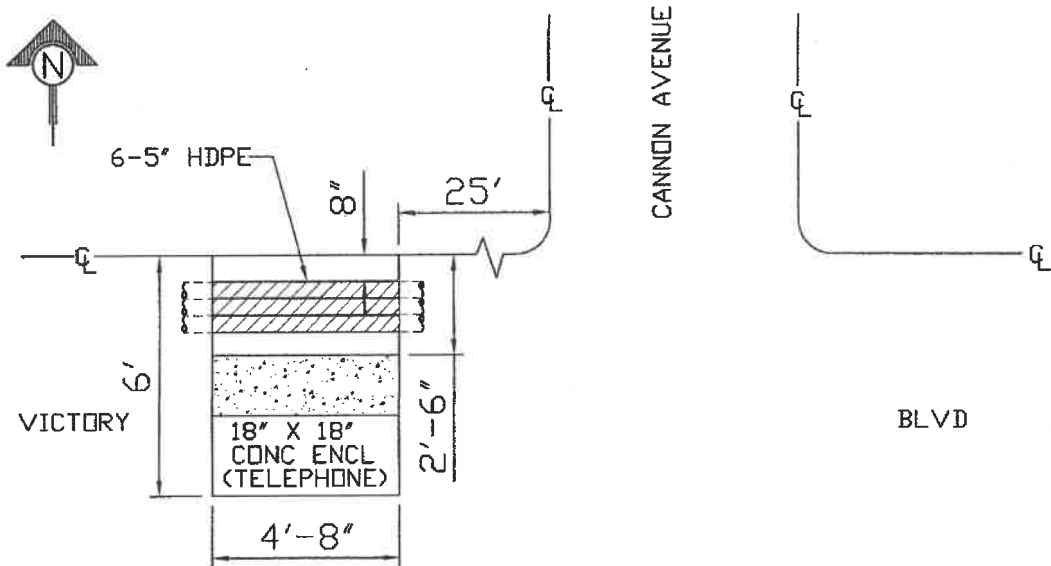
LOCATION: N/S VICTORY BLVD

PURPOSE: REQUEST TYPE 3 CATCH BASIN

25' W/W/C CANNON AVE

DATE OF EXCAVATION: 10/17/13

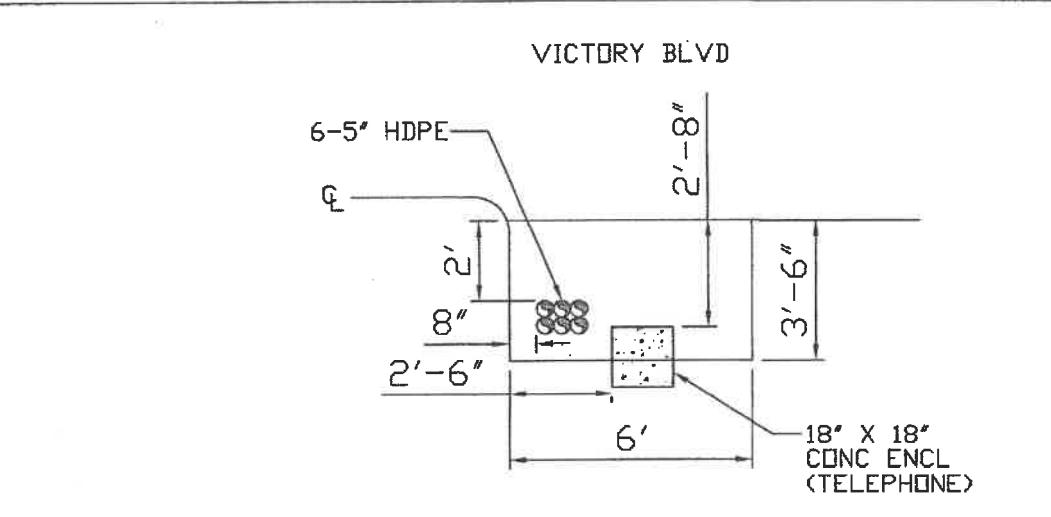
CONTRACT SHEET NO: 11 OF 21



PLAN

N.T.S.

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| CET |
| |



PROFILE - LOOKING EAST

N.T.S.



JOB NO: SER200226

TEST PIT # 22

PREPARED BY: R. OLIVERAS

DATE: 11/12/2013

CHECKED BY: R. PATINO-PRENZ

DATE: 11/15/2013

JOB NAME: STORM AND SANITARY SEWERS IN TRAVIS AREA

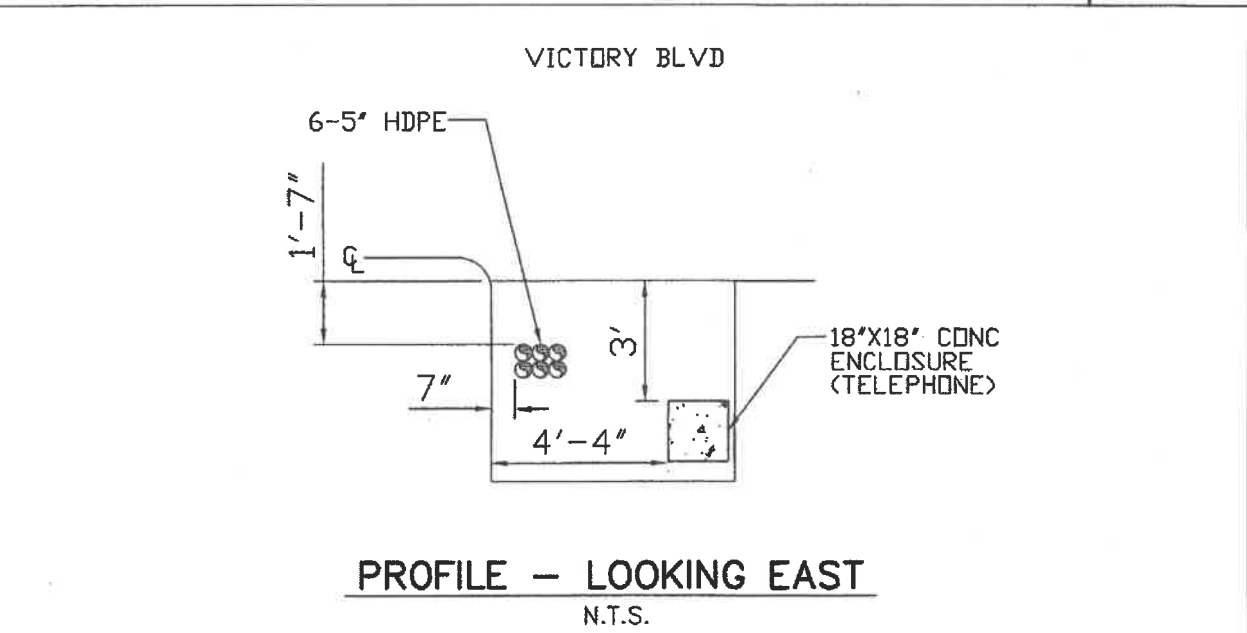
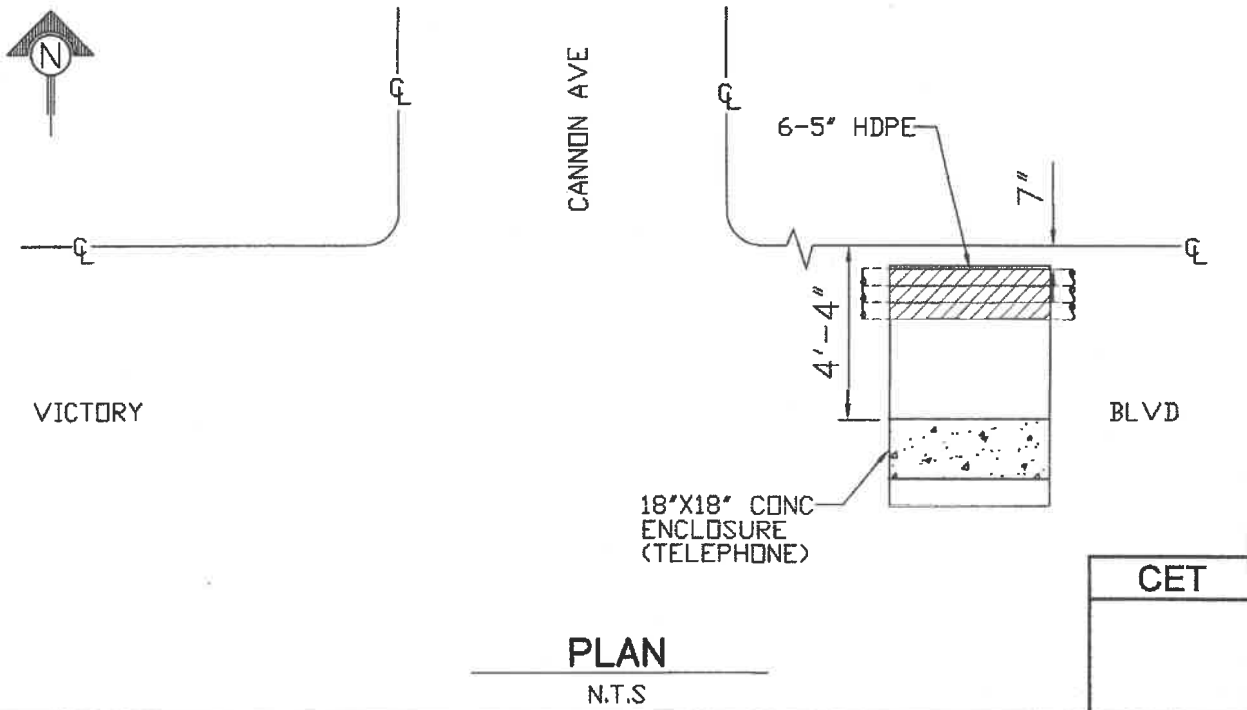
LOCATION: N/S VICTORY BLVD


PURPOSE: REQUEST TYPE 3 CATCH BASIN

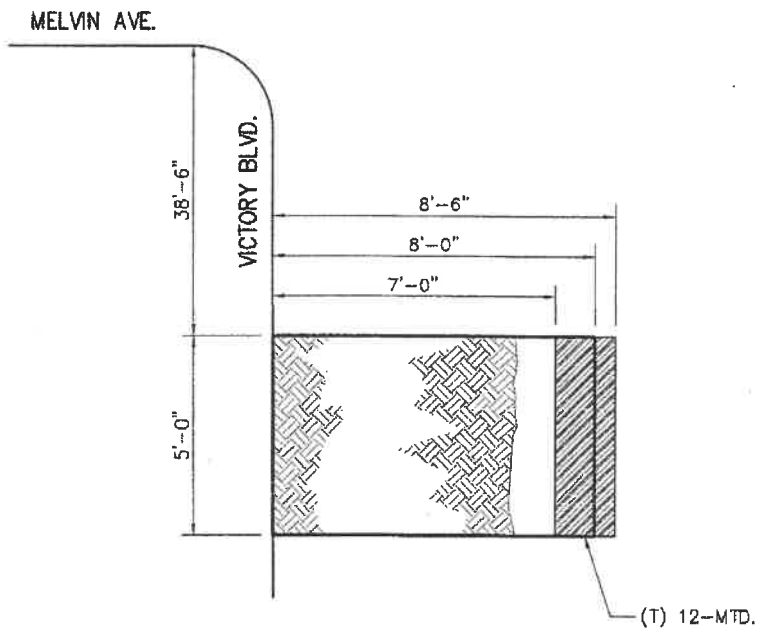
25' E/E/C CANNON AVE

DATE OF EXCAVATION: 10/17/13

CONTRACT SHEET NO: 11 OF 21



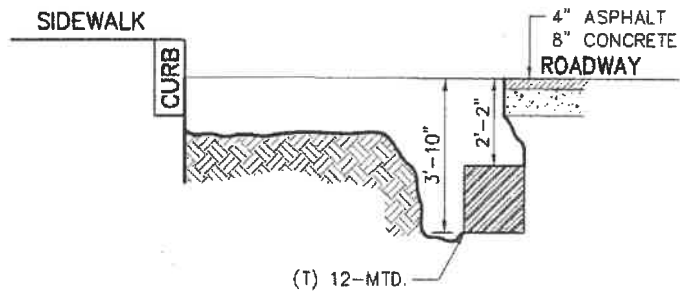
| | | |
|---|---------------------------------------|--------------------------------|
|  | JOB NO.: <u>SER200226</u> | TEST PIT #: <u>1</u> |
| | JOB: <u>STORM AND SANITARY SEWERS</u> | TP DATE: <u>10/08/2013</u> |
| | <u>IN TRAVIS AREA</u> | INSPECTOR: <u>PM</u> |
| LOCATION: <u>38'-6" W/W/C MELVIN AVENUE 0'-0" S/N/C VICTORY BOULEVARD</u> | | |
| PURPOSE: <u>LOCATE FACILITIES</u> | | |
| DIMENSION: <u>8'-0" x 5'-0" x 2'-6"</u> | VOLUME: <u>3.70 C.Y.</u> | SHEET NO. <u>1</u> OF <u>8</u> |



NOTE:
 1. ALL DRAWINGS SHOWING UTILITY
 SUPPORT AND PROTECT WORK ARE
 FOR REFERENCE ONLY.

PLAN

CET
 ITEMS



SECTION LOOKING EAST



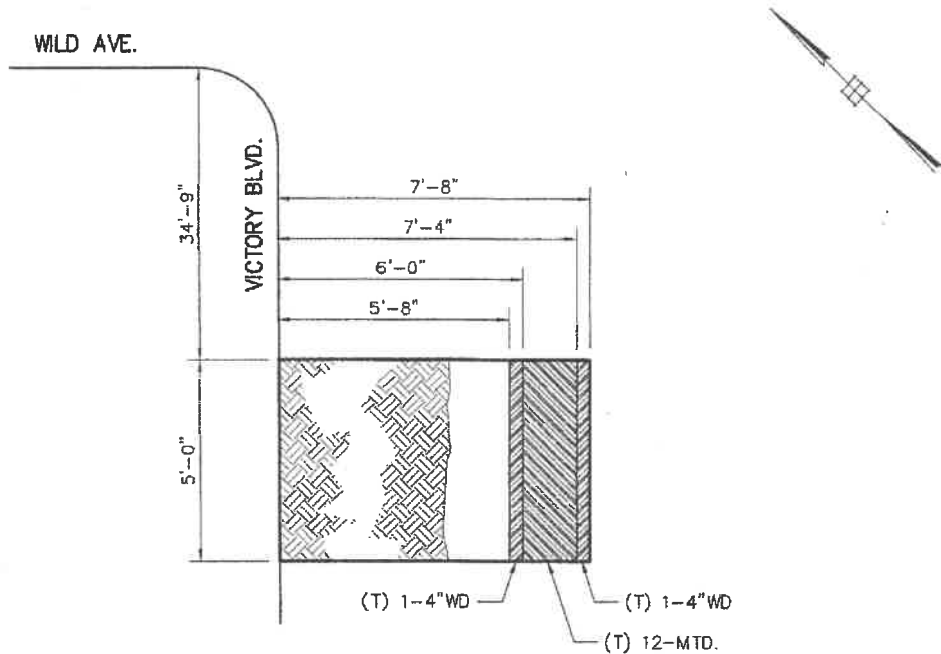
JOB NO.: SER200226
 JOB: STORM AND SANITARY SEWERS
IN TRAVIS AREA

TEST PIT #: 2
 TP DATE: 10/08/2013
 INSPECTOR: PM

LOCATION: 34'-9" W/W/C WLD AVENUE 0'-0" S/N/C VICTORY BOULEVARD

PURPOSE: LOCATE FACILITIES

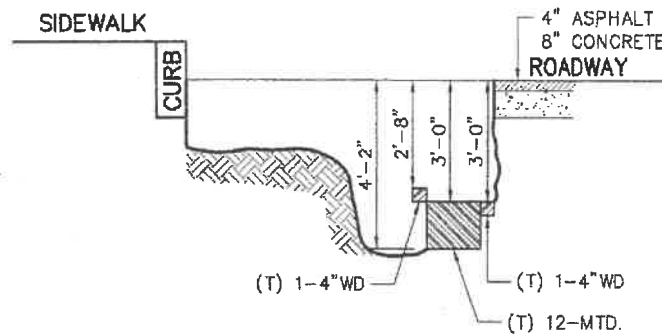
DIMENSION: 7'-8" x 5'-0" x 3'-0" VOLUME: 4.26 C.Y. SHEET NO. 2 OF 8




NOTE:
 1. ALL DRAWINGS SHOWING UTILITY
 SUPPORT AND PROTECT WORK ARE
 FOR REFERENCE ONLY.

PLAN

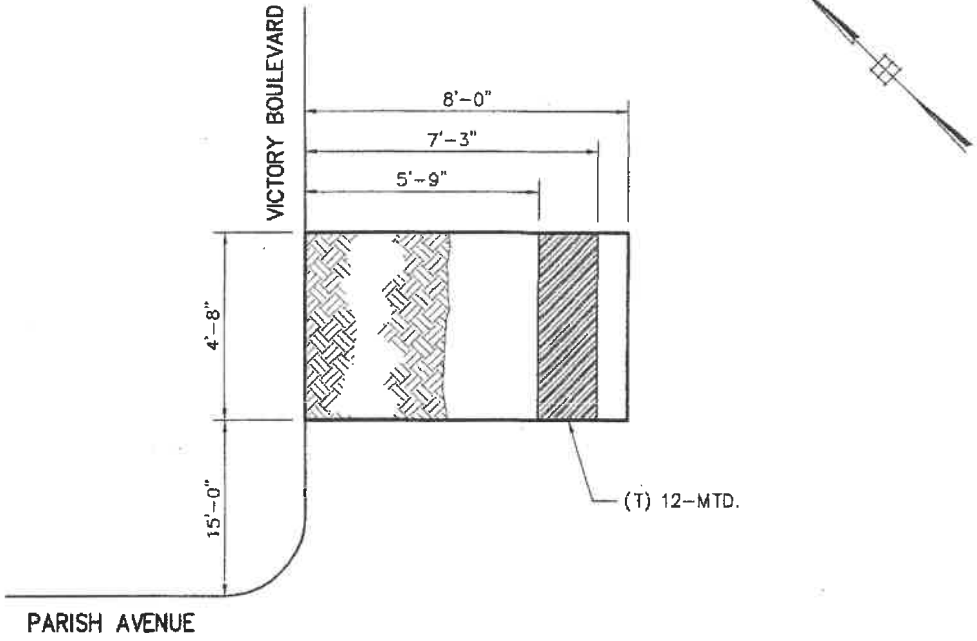
CET
 ITEMS



SECTION LOOKING EAST

| | | |
|---|---------------------------------------|----------------------------|
|  | JOB NO.: <u>SER200226</u> | TEST PIT #: <u>3</u> |
| | JOB: <u>STORM AND SANITARY SEWERS</u> | TP DATE: <u>10/08/2013</u> |
| | <u>IN TRAVIS AREA</u> | INSPECTOR: <u>PM</u> |

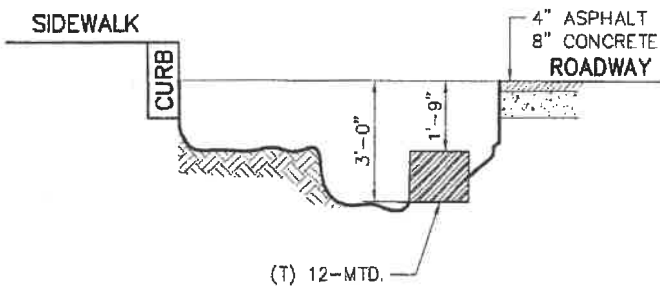
LOCATION: 15'-0" E/E/C PARISH AVENUE 0'-0" S/N/C VICTORY BOULEVARD
 PURPOSE: LOCATE FACILITIES
 DIMENSION: 8'-0"x 4'-8"x 2'-3" VOLUME: 3.11 C.Y. SHEET NO. 3 OF 8



NOTE:
 1. ALL DRAWINGS SHOWING UTILITY
 SUPPORT AND PROTECT WORK ARE
 FOR REFERENCE ONLY.

PLAN

CET
 ITEMS



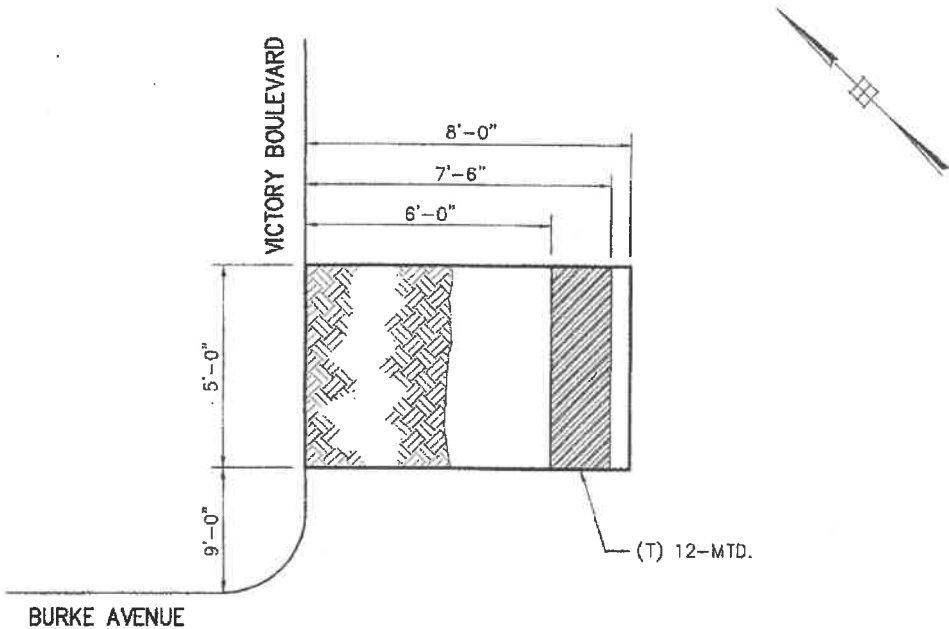
SECTION LOOKING EAST



JOB NO.: SER200226
JOB: STORM AND SANITARY SEWERS
IN TRAVIS AREA

TEST PIT #: 4
TP DATE: 10/09/2013
INSPECTOR: PM

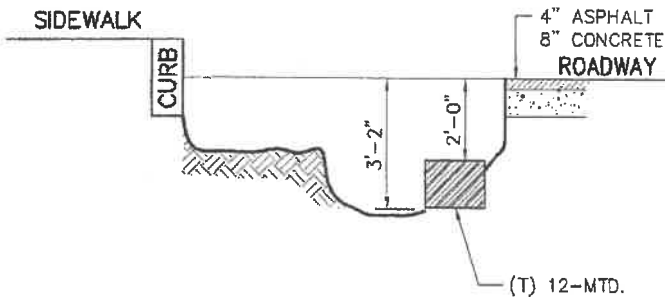
LOCATION: 9'-0"-E/E/C BURKE AVENUE 0'-0" S/N/C VICTORY BOULEVARD
PURPOSE: LOCATE FACILITIES
DIMENSION: 8'-0"x 5'-0"x 3'-3" VOLUME: 4.80 C.Y. SHEET NO. 4 OF 8




NOTE:
1. ALL DRAWINGS SHOWING UTILITY
SUPPORT AND PROTECT WORK ARE
FOR REFERENCE ONLY.

PLAN

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ITEMS



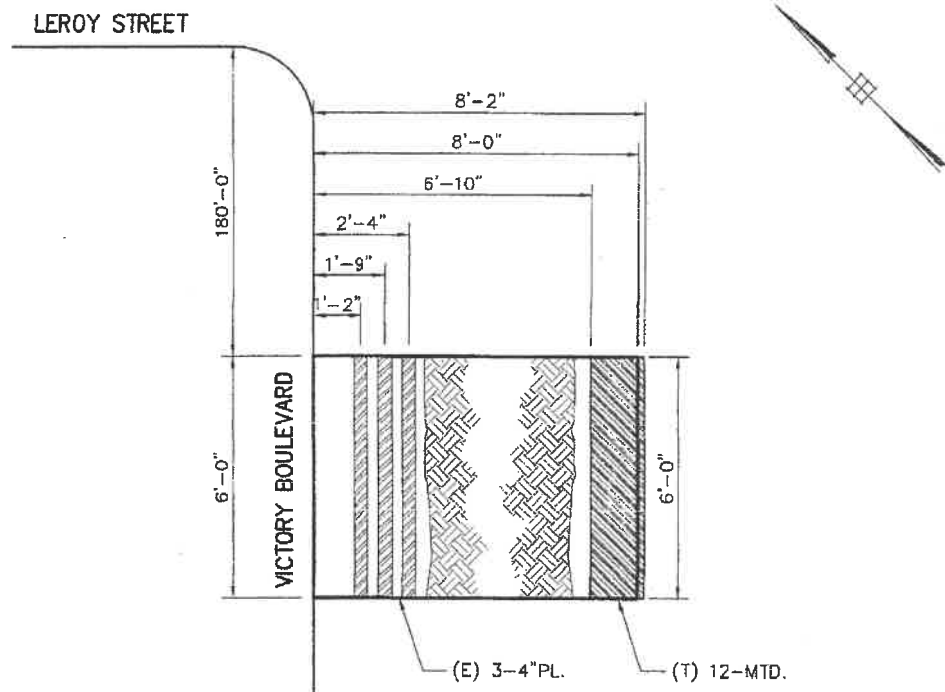
SECTION LOOKING EAST

| | | |
|---|---------------------------------------|----------------------------|
|  | JOB NO.: <u>SER200226</u> | TEST PIT #: <u>5</u> |
| | JOB: <u>STORM AND SANITARY SEWERS</u> | TP DATE: <u>10/09/2013</u> |
| | <u>IN TRAVIS AREA</u> | INSPECTOR: <u>PM</u> |

LOCATION: 180'-0" W/W/C LEROY STREET 0'-0" S/N/C VICTORY BOULEVARD

PURPOSE: LOCATE FACILITIES

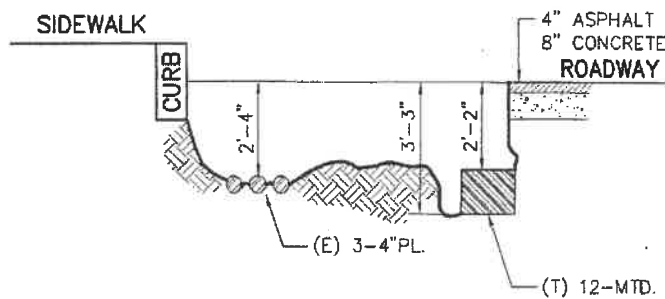
DIMENSION: 8'-0" x 6'-0" x 2'-6" VOLUME: 4.44 C.Y. SHEET NO. 5 OF 8




NOTE:
1. ALL DRAWINGS SHOWING UTILITY SUPPORT AND PROTECT WORK ARE FOR REFERENCE ONLY.

PLAN

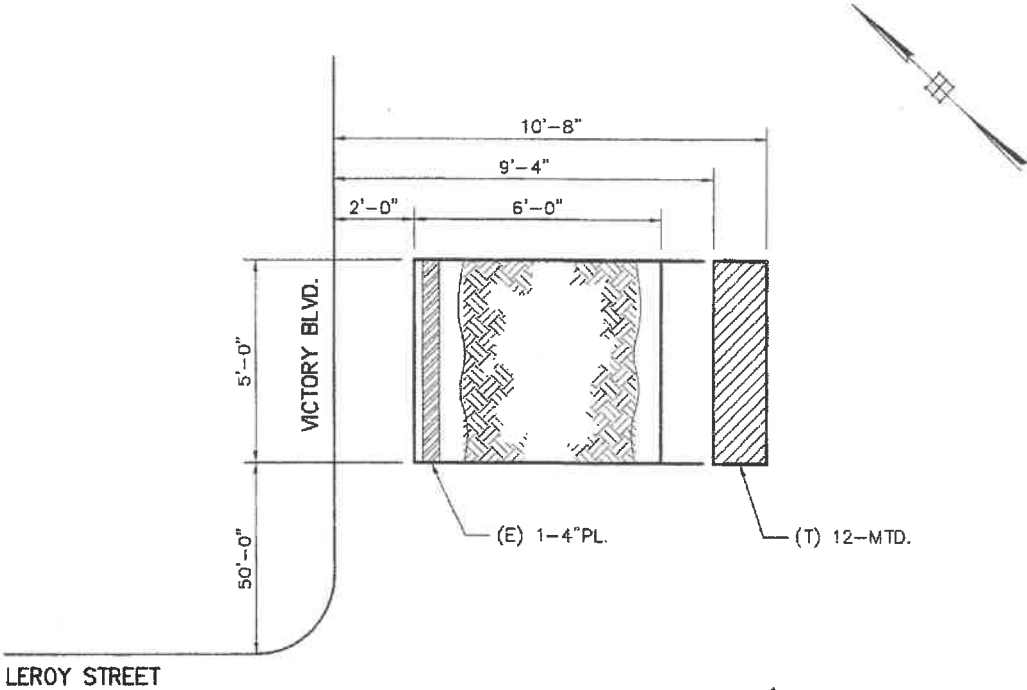
CET
ITEMS



SECTION LOOKING EAST

| | | |
|---|---------------------------------------|----------------------------|
|  | JOB NO.: <u>SER200226</u> | TEST PIT #: <u>6</u> |
| | JOB: <u>STORM AND SANITARY SEWERS</u> | TP DATE: <u>10/09/2013</u> |
| | <u>IN TRAVIS AREA</u> | INSPECTOR: <u>PM</u> |

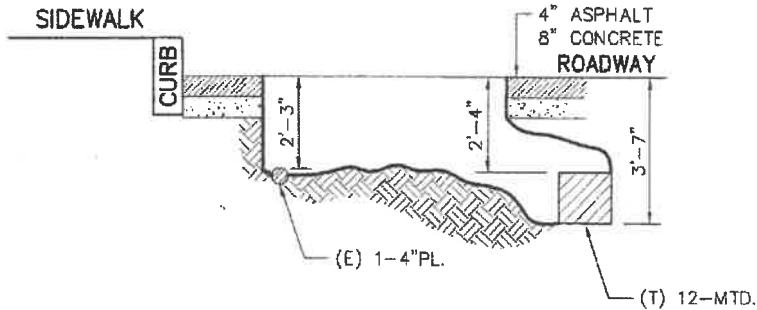
LOCATION: 50'-0" E/E/C LEROY STREET 2'-0" S/N/C VICTORY BOULEVARD
 PURPOSE: LOCATE FACILITIES
 DIMENSION: 6'-0" x 5'-0" x 2'-11" VOLUME: 3.24 C.Y. SHEET NO. 6 OF 8




NOTE:
 1. ALL DRAWINGS SHOWING UTILITY
 SUPPORT AND PROTECT WORK ARE
 FOR REFERENCE ONLY.

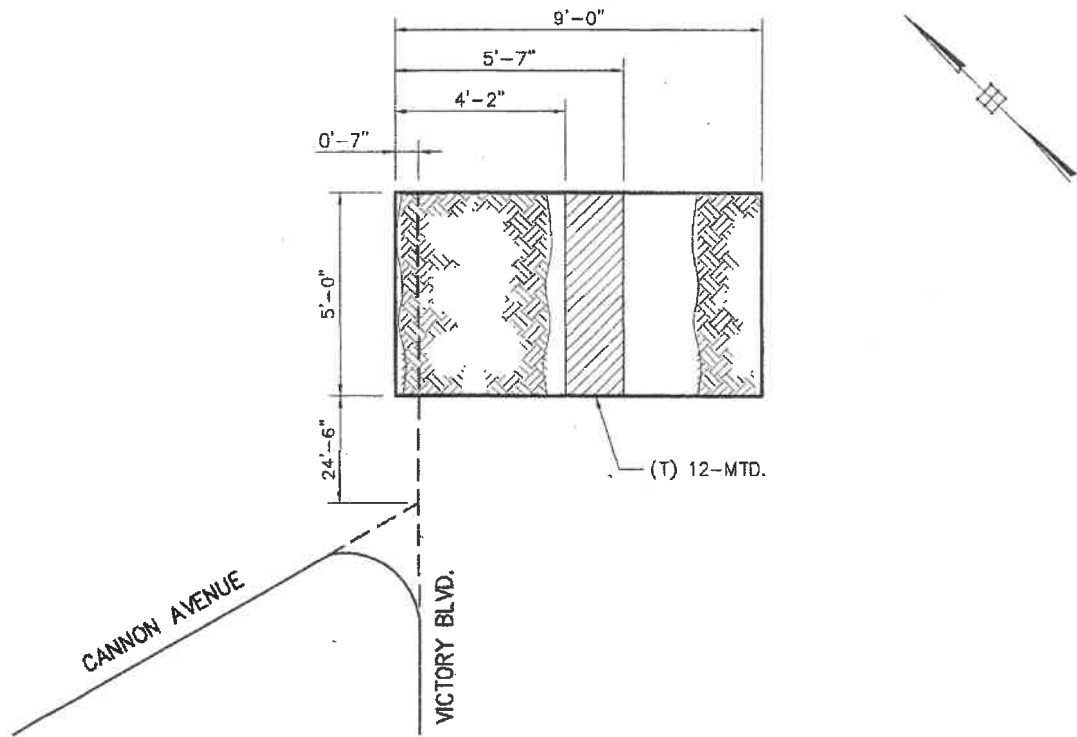
PLAN

CET
 ITEMS



SECTION LOOKING EAST

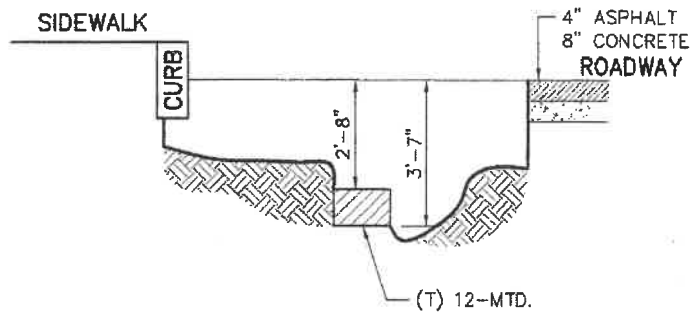
| | | |
|---|---------------------------------------|--------------------------------|
|  | JOB NO.: <u>SER200226</u> | TEST PIT #: <u>7</u> |
| | JOB: <u>STORM AND SANITARY SEWERS</u> | TP DATE: <u>10/10/2013</u> |
| | <u>IN TRAVIS AREA</u> | INSPECTOR: <u>PM</u> |
| LOCATION: <u>24'-6" E/W/C CANNON AVENUE 0'-7" N/N/C VICTORY BOULEVARD</u> | | |
| PURPOSE: <u>LOCATE FACILITIES</u> | | |
| DIMENSION: <u>9'-0" x 5'-0" x 2'-8"</u> | VOLUME: <u>4.45 C.Y.</u> | SHEET NO. <u>7</u> OF <u>8</u> |




NOTE:
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SUPPORT AND PROTECT WORK ARE
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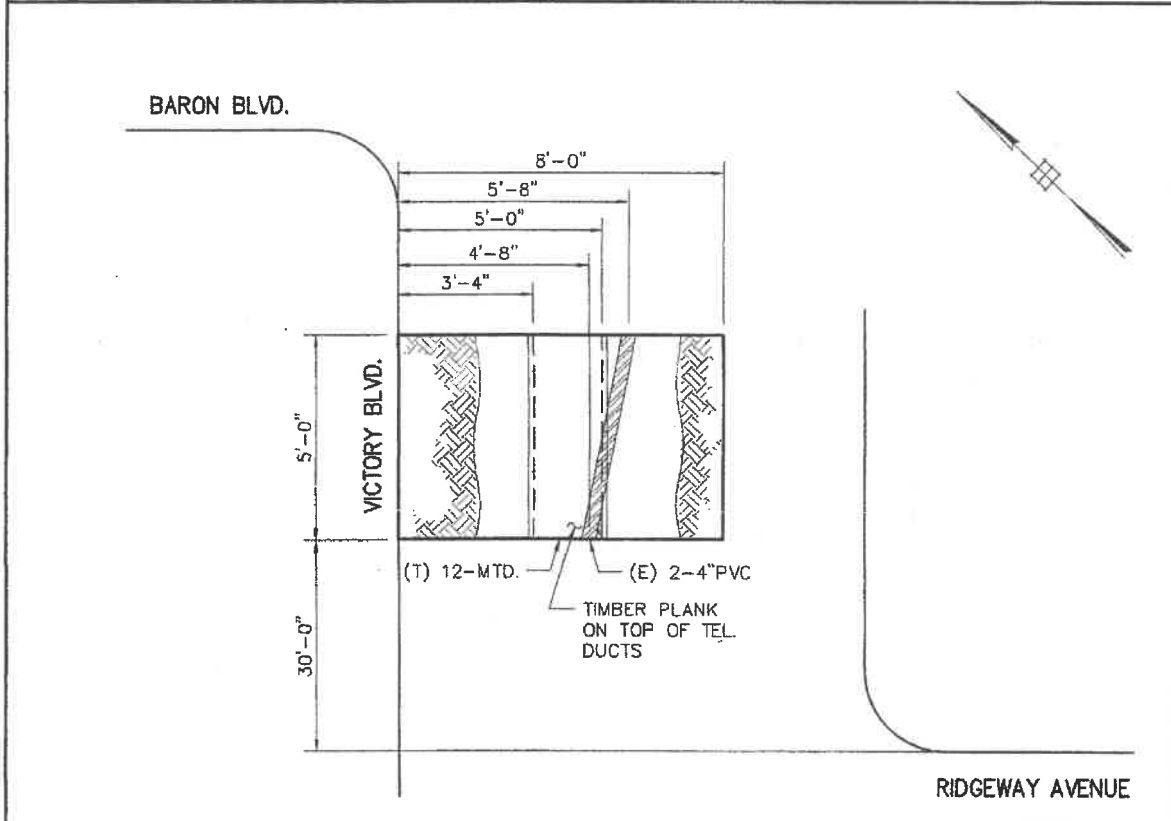
PLAN

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ITEMS



SECTION LOOKING EAST

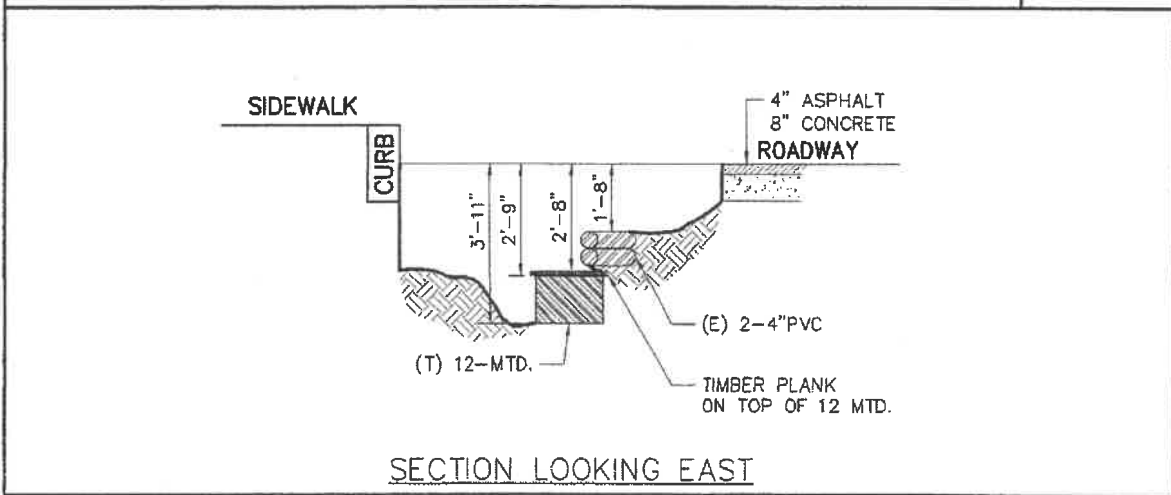
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|---|--|--------------------------------|
|  | JOB NO.: <u>SER200226</u> | TEST PIT #: <u>8</u> |
| | JOB: <u>STORM AND SANITARY SEWERS</u> <u>IN TRAVIS AREA</u> | TP DATE: <u>10/10/2013</u> |
| | | INSPECTOR: <u>PM</u> |
| LOCATION: <u>30'-0" E/E/C RIDGEWAY AVENUE 0'-0" S/N/C VICTORY BOULEVARD</u> | | |
| PURPOSE: <u>LOCATE FACILITIES</u> | | |
| DIMENSION: <u>8'-0" x 5'-0" x 2'-7"</u> | | VOLUME: <u>3.82 C.Y.</u> |
| | | SHEET NO. <u>8</u> OF <u>8</u> |



NOTE:
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PLAN

**CET
ITEMS**



SECTION LOOKING EAST



**Department of
Design and
Construction**

**INFRASTRUCTURE DIVISION
BUREAU OF DESIGN**

VOLUME 3 OF 3

PROJECT ID: SER200226

NEW STORM AND SANITARY SEWERS IN:

GLEN STREET: BETWEEN VICTORY BOULEVARD AND PARISH AVENUE
CANNON AVENUE: BETWEEN PARISH AVENUE AND VICTORY BOULEVARD
VICTORY BOULEVARD: BETWEEN ROSWELL AVENUE AND RICHMOND COURT
MELVIN AVENUE: BETWEEN GLEN STREET AND WILD AVENUE
PARISH AVENUE: BETWEEN CANNON AVENUE AND VICTORY BOULEVARD
WILD AVENUE BETWEEN: GLEN STREET AND PEARSON STREET
SHELLEY AVENUE: BETWEEN VICTORY BOULEVARD AND MILDRED AVENUE
BURKE AVENUE BETWEEN DEAD END OF PRICES LANE AND VICTORY BOULEVARD
PRICES LANE BETWEEN CANNON AVENUE AND DEAD END OF BURKE AVENUE
LEROY STREET BETWEEN CANNON AVENUE AND VICTORY BOULEVARD
MEREDITH AVENUE BETWEEN WEST SHORE EXPRESSWAY AND CANNON AVENUE
SIMMONS LANE BETWEEN VICTORY BOULEVARD AND MILDRED AVENUE

CAPITAL PROJECT WM-1

WATER MAIN WORK IN:

CANNON AVENUE: BETWEEN PARISH AVENUE AND VICTORY BOULEVARD
MEREDITH AVENUE BETWEEN BATES AVENUE AND CANNON AVENUE
VICTORY BOULEVARD: BETWEEN ROSWELL AVENUE AND RICHMOND COURT
WILD AVENUE BETWEEN: GLEN STREET AND ALBERTA AVENUE
MELVIN AVENUE: BETWEEN GLEN STREET AND DEAD END OF MELVIN AVENUE
PARISH AVENUE: BETWEEN VICTORY BLVD. AND CANNON AVENUE
BURKE AVENUE BETWEEN VICTORY BLVD. AND DEAD END OF PRICES LANE
LEROY STREET BETWEEN CANNON AVENUE AND CANNON AVENUE
GLEN STREET: BETWEEN MELVIN AVENUE AND PARISH AVENUE
PRICES LANE: BETWEEN CANNON AVENUE AND DEAD END OF BURKE AVENUE
Together With All Work Incidental Thereto

BOROUGH OF STATEN ISLAND

CITY OF NEW YORK

Contractor

Dated _____, 20__
