



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

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LONG ISLAND CITY, NEW YORK 11101-3045  
TELEPHONE (718) 391-1000  
WEBSITE [www.nyc.gov/buildnyc](http://www.nyc.gov/buildnyc)

**VOLUME 3 OF 3**

**SCHEDULE A  
ADDENDA NOS. 1 TO 5**

FOR FURNISHING ALL LABOR AND MATERIALS NECESSARY AND REQUIRED FOR:

**PROJECT ID: SEN002169**

**FOR THE CONSTRUCTION OF COMBINED SEWERS AND  
APPURTENANCES IN: YORK AVENUE BETWEEN EAST 61ST STREET AND  
EAST 63RD STREET; AND EAST 62ND STREET BETWEEN YORK AVENUE  
AND 1ST AVENUE**

**INCLUDING SEWER, WATER MAIN, STREET LIGHTING AND TRAFFIC  
WORK**

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

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

**DECEMBER 19, 2014**

15-085



## SPECIFICATIONS AND STANDARDS OF NEW YORK CITY

The following New York City Department of Transportation (NYCDOT) reference documents are available on-line at:

[http://www.nyc.gov/html/ddc/html/pubs/pubs\\_infrastdts.shtml](http://www.nyc.gov/html/ddc/html/pubs/pubs_infrastdts.shtml) 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, November 1, 2010
2. NYCDOT Standard Highway Details of Construction, July 1, 2010
3. NYCDOT Division of Street Lighting Specifications
4. NYCDOT Division of Street Lighting Standard Drawings
5. NYCDOT Standard Specifications for Traffic Signals
6. NYCDOT Standard Drawings for Traffic Signals

The following reference documents for New York City Department of Environmental Protection (NYCDEP) are available on-line at:  
[http://www.nyc.gov/html/ddc/html/pubs/pubs\\_infrastdts.shtml](http://www.nyc.gov/html/ddc/html/pubs/pubs_infrastdts.shtml) 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. Waqar Ahmad, Tel. (718) 391-2056

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://www.nyc.gov/html/ddc/html/pubs/pubs\\_infrastdts.shtml](http://www.nyc.gov/html/ddc/html/pubs/pubs_infrastdts.shtml) 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
2. Specifications for Trunk Main Work, dated July 2014
3. Standards for Green Infrastructure, latest version, available only on-line at: [http://www.nyc.gov/html/dep/pdf/green\\_infrastructure/bioswales-standard-designs.pdf](http://www.nyc.gov/html/dep/pdf/green_infrastructure/bioswales-standard-designs.pdf)

Water main work material specifications are available at the Department of Environmental Protection, 59-17 Junction Boulevard, 3rd Floor Low-Rise Building, Flushing, N.Y. 11373-5108.  
Contact: Mr. Tarlock Sahansra, P.E., Tel. (718) 595-5302  
E-mail: TSAHANSRA@DEP.NYC.GOV

Standard Specifications and Drawings for Fire Department Communications facilities of New York City are available at 87 Union Street, Engineering Office, Brooklyn, N.Y. 11231-1416.  
Contact: Mr. Ed Durkin, Tel. (718) 624-3752

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

(NO TEXT ON THIS PAGE)

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 6.03.1a - Removal Of Abandoned Gas Facilities With Possible Coal Tar Wrap. All Sizes. (For Con Edison Work Only)**

### **1. Description:**

Under this section the Contractor shall provide all labor, material, equipment, insurance and, incidentals required to prepare abandoned gas mains, services and appurtenances thereof located within the street shown on contract plans, owned by the gas company operating in the project area (facility operator), for removal due to interference with proposed City work. These abandoned gas facilities were, at one time, used for or in connection with or to facilitate the conveying, transportation, distribution or furnishing of gas (natural, manufactured or a combination of both) for light, heat, or power, but does not include property used solely for or in connection with business of selling, distribution or furnishing of gas in enclosed containers. Such preparation for removal shall include only abandoned gas facilities that interfere with (i.e. cause additional work) City work. These gas facilities may be coated with Coal Tar Wrap which may contain asbestos or PCB's and so, may require special handling and disposal methods as specified in Con Edison - ASBESTOS MANAGEMENT MANUAL, CHAPTER 6 - ASBESTOS WORK PROCEDURES, SECTION 06.04 - COAL TAR WRAP REMOVAL. For under 25' (feet) in length and an approved NYC-DEP variance for over 25' (feet).

### **2. Determination Of Operating Status Of Gas Facilities:**

The Contractor shall notify facility operator, as required by New York State Industrial Code 753. Gas Facilities shall not be removed without the approval of the facility operator whose authorized representative shall certify in writing (specific facility or area wide facilities certification) and in a timely manner acceptable to the Resident Engineer that abandoned facilities are free of combustible gas and any other environmental contaminants prior to removal. The Resident Engineer shall rely on the facility operator's certification. The facility operator may request the excavation of test pits (See Section 6.07) for this determination ahead of City work and Contractor shall provide safe access, facilitate and permit facility operator to enter test pit excavations for the purpose of testing gas facilities. However, the facility operator may prefer to make this test during performance of City work in order to issue the above certification. This shall be permitted provided that it is agreed that additional costs, if any, resulting from this choice shall be a matter of adjustment between the Contractor and the facility operator only, and at no cost the City contract. Should such investigation result in the determination that the abandoned gas facilities do not contain Coal Tar Warp then the removal of said facilities shall be covered under separate item (See Section 6.03).

### **3. Requirements:**

The Contractor shall excavate abandoned gas facility sufficiently, either in it's entirety, or at locations determined by Contractor to allow the removal of Coal Tar Wrap (if present on the abandoned gas facility) and to facilitate the safe extraction of manageable lengths of abandoned pipe without damage to adjacent facilities, utilities or city structures either parallel to or crossing above or below abandoned gas facility. The Contractor is to allow access to the designated cutting points within the Contractors trench by authorized Con Edison personnel who will remove the Coal Tar Wrap as per Con Edison and/or NYC-DEP approved procedures. This access shall conform to all applicable codes, rules & regulations. This work by Con Edison personnel shall be performed in a timely fashion and shall not unduly impede the Contractors progress and/or productivity. Upon completion of the coating removal, the Contractor shall be allowed to cut, burn or grind the gas facility and remove the section of abandoned pipe. Contractor shall designate a specific site to stockpile those removed pipes. The facility operator will be responsible to provide trucking and disposal services with its own personnel and shall remove the stockpiled pipes during off hours or during such time as agreed to by the Contractor. Since the pipe removed will remain the property of the facility operator and is to be disposed of by the facility operator, the facility operator shall be responsible for any required notifications, filings, dump charges and incidentals associated with the disposal of abandoned gas facilities found to contain Coal Tar Wrap.

### **4. Method Of Measurement:**

Abandoned gas facility removal shall be measured for payment per linear foot of pipe and appurtenances removed.

## 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.

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.

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



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

## 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.

#### **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.

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.

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

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

## **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

**EP-7 GAS COST SHARING  
STANDARD SPECIFICATIONS**

TABLE OF CONTENT

**I - NOTICE TO ALL BIDDERS; GAS COST SHARING WORK**

**II - GENERAL PROVISIONS; GAS COST SHARING WORK**

1. General
2. Gas Interferences And Accommodations
  - 2a. Water Main Accommodations
  - 2b. Sewer Accommodations
3. Quantity Overruns, EP-7 Funded Bid Items
4. Changes And Extra Work
5. Excavation
6. Backfilling And Street Restoration
7. Non-Responsive Bids
8. Minimum Clearances
9. Work By Facility Operator
10. Materials Furnished By Facility Operator
11. Liability And Insurance
12. Width And Depth Of Excavation
13. Depth And Crossing Angles Of Gas Facilities
14. Maintenance Of Traffic For Gas Work
15. Relocated Gas And Temporary Systems Installation
16. Role Of Company Inspector
17. Coordination With Gas Company

**III - TECHNICAL SECTION**

- SECTION 6.01 - Trench Crossings; Support And Protection Of Gas Facilities And Services.
- SECTION 6.02 - Extra Excavation For The Installation Of Catch Basin Sewer Drain Pipes With Gas Interferences.
- SECTION 6.02.1 - Extra Excavation For The Installation Of Catch Basin Sewer Drain Pipes With Upstream Inverts Greater Than Six (6) Feet.
- SECTION 6.03 - Removal Of Abandoned Gas Facilities. All Sizes.
- SECTION 6.03.1 - Removal Of Abandoned Gas Facilities With Possible Coal Tar Wrap. All Sizes.
- SECTION 6.04 - Adjust Hardware To Grade Using Spacer Rings/Adaptors. (Street Repaving.)
- SECTION 6.05 - Adjust Hardware To Grade By Resetting. (Road Reconstruction.)
- SECTION 6.06 - Special Care Excavation And Backfilling.
- SECTION 6.07 - Test Pits For Gas Facilities.

**IV - STANDARD SKETCHES; GAS COST SHARING WORK**

- NO. 1 - Support Requirements For Gas Mains And Services Crossing Excavation Greater Than 4'-0" Wide At Any Angle
- NO. 1A - Support Requirements For Gas Mains Over 16" Diameter Up To And Including 48" Diameter Crossing Excavation At Any Angle
- NO. 2 - Typical Methods Of Measurement For Gas Crossings
- NO. 3 - Utility Crossings During Catch Basin Chute Connection Pipe Installation
- NO. 4 - Utility Crossings During Catch Basin Chute Connection Pipe Installation (Extra Depth)
- NO. 5 - Gas Main Encroachment On And/Or Parallel To Excavation Of Unsheeted Trench

**V - PRELIMINARY GAS WORK TO BE PERFORMED BY FACILITY OPERATOR**

**VI - LISTING OF APPROXIMATE LOCATIONS OF EP-7 BID ITEMS QUANTITIES**



**ATTACH TO CONTRACT DOCUMENTS**

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

**PROJECT ID: SEN002169**

**FOR THE CONSTRUCTION OF COMBINED SEWERS AND APPURTENANCES IN: YORK AVENUE  
BETWEEN EAST 61<sup>ST</sup> STREET AND EAST 63<sup>RD</sup> STREET; AND EAST 62<sup>ND</sup> STREET BETWEEN YORK  
AVENUE AND 1<sup>ST</sup> AVENUE**

**INCLUDING SEWER, WATER MAIN, STREET LIGHTING AND TRAFFIC WORK**

**Together With All Work Incidental Thereto**

**BOROUGH OF MANHATTAN**

**ADDENDUM NO. 3**

**DATED: December 19, 2014**

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**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.**

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**GAS COST SHARING (EP-7) STANDARD SPECIFICATIONS**

OCMC FILE NO: MEC10-303 AMENDMENT #1  
Page 3 of 3  
CONTRACT NO: SEN002169  
PROJECT: CONSTRUCTION OF COMBINED SEWERS IN YORK AVENUE

**SPECIAL NOTES**

**NOTE 1:** CONTRACTOR WILL BE REQUIRED TO INSTALL NO STANDING ANYTIME TEMPORY CONSTRUCTION SIGNAGE.

**NOTE 2:** CONTRACTOR MAY BE REQUIRED TO REMOVE PORTIONS OF SIDEWALK AND PAVE, IN ORDER TO MAINTAIN THE MINIMUM NUMBER OF TRAVEL LANES AS INDICATED IN SECTION B ITEMS 1 THROUGH 5 OF THIS DOCUMENT.

**NOTE 3:** AN MPT PLAN SHALL BE SUBMITTED TO THE NYCDOT OCMC UNIT A MINIMUM OF FOUR WEEKS PRIOR TO WORK FOR OUR REVIEW, COMMENTS AND APPROVAL. THIS TRAFFIC PLAN SHALL INCLUDE THE MPT MITIGATIONS FOR NYPD AGENTS, VMS LOCATIONS, CCTV PLACEMENT LOCATIONS, TRAFFIC LANES AND WORK ZONE LAYOUT AND PEDESTRIAN TRAFFIC FLOW. THE NECESSARY CONSTRUCTION SIGNAGE AND PAVEMENT MARKINGS (INCLUDING DOUBLE YELLOW, WHITE SKIP LINES AND TURNING LANES) MUST BE IDENTIFIED.

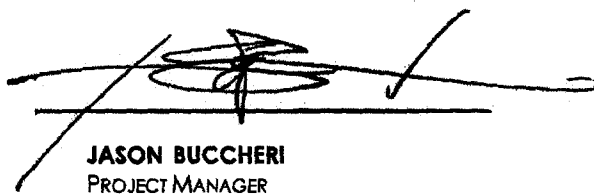
**C. GENERAL NOTES**

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.
5. THE PERMITEE SHALL ADHERE TO THE NYCDOT BUREAU OF BRIDGES' SPECIAL PROVISIONS FOR LANDSCAPE PROTECTION, MAINTENANCE AND RESTORATION, ITEMS 1.18.15 THROUGH 1.18.19, WHENEVER AND WHEREVER ANY OF THE PERMITEE'S ACTIVITIES OCCUR WITHIN A LIMITED ACCESS ARTERIAL HIGHWAY RIGHT - OF - WAY.
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 P. NOTO  
EXECUTIVE DIRECTOR  
OCMC-STREETS

JPN/jb



JASON BUCCHERI  
PROJECT MANAGER  
OCMC-STREETS

OCMC FILE NO: MEC10-303 AMENDMENT #1  
Page 2 of 3  
CONTRACT NO: SEN002169  
PROJECT: CONSTRUCTION OF COMBINED SEWERS IN YORK AVENUE

**B. MAINTENANCE AND PROTECTION OF TRAFFIC**

**1. WATER MAIN(s) ON YORK AVE FROM EAST 61 ST TO EAST 64 ST SEGMENTS ONLY**

- WORKING HOURS ON THE SEGMENTS OF YORK AVENUE SHALL BE AS FOLLOWS:
  - WORK 9AM- 4PM, MONDAY TO FRIDAY.
  - WORK 9AM- 4PM SATURDAY AND SUNDAY.
- MAINTAIN FOUR 10FT LANES FOR VEHICULAR TRAFFIC, TWO IN EACH DIRECTION.
- NO IMPACT ON INTERSECTIONS AND CROSS STREETS MONDAY THRU FRIDAY.
- MAINTAIN MINIMUM 5 FOOT CLEAR SIDEWALK AT ALL TIMES.

NOTE: NO STANDING ANYTIME TEMPORARY CONSTRUCTION REGULATIONS SHALL BE INSTALLED AND MAINTAINED FOR THE PROJECTS DURATION ON BOTH EAST AND WEST SIDES OF YOURK AVENUE.

**2. SEWERS ON YORK AVE FROM EAST 61 ST TO EAST 64 ST SEGMENTS ONLY**

- WORKING HOURS ON THE SEGMENTS OF YORK AVENUE SHALL BE AS FOLLOWS:
  - WORK 9AM- 3PM, MONDAY TO FRIDAY; 9AM-4PM SATURDAY AND SUNDAY.
- NO IMPACT ON INTERSECTIONS AND CROSS STREETS MONDAY THRU FRIDAY.
- MAINTAIN THREE 11 FT LANES FOR VEHICULAR TRAFFIC DURING WORKING HOURS.
- DURING NON-WORKING MAINTAIN FOUR 10FT LANES FOR VEHICULAR TRAFFIC, TWO IN EACH DIRECTION.
- MAINTAIN MINIMUM 5 FOOT CLEAR SIDEWALK AT ALL TIMES.

NOTE: NO STANDING ANYTIME TEMPORARY CONSTRUCTION REGULATIONS SHALL BE INSTALLED AND MAINTAINED FOR THE PROJECTS DURATION ON BOTH EAST AND WEST SIDES OF YOURK AVENUE.

**3. YORK AVE FROM EAST 63 ST TO EAST 64 ST**

- AS WRITTEN ABOVE WITH THE FOLLOWING STIPULATIONS ADDED.
- FULL WIDTH OF ROADWAY SHALL BE OPENED TO TRAFFIC WHEN WORK IS NOT OCCURING.

NOTE 1: ALL WORK WHICH IMPACTS YORK AVE B/T EAST 63 ST & EAST 64 ST DECKED/ PLATED BY THE END OF WORKING HOURS EACH SUNDAY.

NOTE 2: NO STANDING ANYTIME TEMPORARY CONSTRUCTION REGULATIONS SHALL BE INSTALLED AND MAINTAINED FOR THE PROJECTS DURATION ON BOTH EAST AND WEST SIDES OF YORK AVENUE.

**4. INTERSECTIONS**

- **WORK HOURS SHALL BE AS FOLLOWS: WORK 9AM- 10PM SATURDAY AND SUNDAY.**
- FULL WIDTH OF ROADWAY SHALL BE OPENED TO TRAFFIC OTHER TIMES.
- MAINTAIN MINIMUM 5 FOOT CLEAR SIDEWALK AT ALL TIMES

YORK AVENUE:

- DURING WATER MAIN WORK SEE SECTION B1 FOR ROADWAY STIPULATIONS
- DURING SEWER WORK SEE SECTION B2 FOR ROADWAY STIPULATIONS.

EAST 61, 62 & 63 STREETS:

- MAINTAIN ONE 13 FOOT MOVING LANE FOR TRAFFIC ON ONE WAY STREETS; AND TWO 11 FT LANES FOR TRAFFIC ON TWO WAY STREETS.
- NO CLOSURES OR WORK ON FDR DRIVE ENTRANCE/EXIT RAMPs ARE PERMITTED AT ANYTIME.

NOTE 1: ALL WORK WHICH IMPACTS INTERSECTIONS SHALL BE DONE DURING STIPULATED WEEKEND HOURS ONLY, THEN DECKED/ PLATED BY 10 PM EACH SUNDAY.

**5. EAST 62 STREET BETWEEN YORK AVENUE AND 1<sup>ST</sup> AVENUE**

- WORK HOURS SHALL BE AS FOLLOWS: WORK 9AM- 10PM SATURDAY AND SUNDAY .
- MAINTAIN ONE 13 FOOT MOVING LANE FOR TRAFFIC.
- FULL WIDTH OF ROADWAY SHALL BE OPENED TO TRAFFIC OTHER TIMES.
- MAINTAIN MINIMUM 5 FOOT CLEAR SIDEWALK AT ALL TIMES.

NOTE: ALL WORK WHICH IMPACTS EAST 62 STREET SHALL BE DONE DURING STIPULATED WEEKEND HOURS ONLY, THEN DECKED/ PLATED WHEN WORK IS NOT OCCURING.



OCMC TRAFFIC STIPULATIONS

September 29, 2014

OCMC FILE NO: MEC10-303 AMENDMENT#1  
CONTRACT NO: SEN002169  
PROJECT: CONSTRUCTION OF COMBINED SEWERS IN YORK AVENUE  
LOCATION(S): YORK AVE BETWEEN EAST 61 STREET & EAST 64 STREET  
EAST 62 STREET BETWEEN YORK AVE & 1<sup>ST</sup> AVE

**NOTE: THIS AMENDMENT(#1) SUPERCEDES THE ORIGINAL STIPULATION SHEET MEC10-303 DATED JANUARY 21, 2011**

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**

1. **EMBARGOES** - A CONSTRUCTION EMBARGO WILL APPLY TO THOSE LOCATIONS BELOW WHICH FALL WITHIN THE **HOLIDAY EMBARGO** OR ANY OTHER SPECIAL EVENT EMBARGOES AS PUBLISHED BY THE BUREAU OF PERMIT MANAGEMENT AND CONSTRUCTION CONTROL.  
**NOTE:** THE HOLIDAY EMBARGO WILL BE IN AFFECT FOR THIS PROJECT, ALL WORK INCLUDING STORAGE OF MATERIAL SHALL BE PROHIBITED, AND THE ROADWAY SHALL BE CLEARED AND FREE OF PLATING. THE NYC MARATHON EMBARGO AND THE 5 BORO BIKE TOUR EMBARGO WILL ALL BE IN AFFECT FOR THIS PROJECT.
2. **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 PROCEED WITH CAUTION", AND ALSO POST A SIGN AT THE WORK ZONE STATING "CONSTRUCTION IN BIKE LANE PROCEED WITH CAUTION". SUCH SIGNS SHALL BE ORANGE, 3' X 3', DIAMOND-SHAPED WITH 4" BLACK LETTERING. SIGNS SHALL BE POSTED IN ACCORDANCE WITH THE FEDERAL MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
3. **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.
4. **METERS** - THE CONTRACTOR MAY NOT REMOVE OR RELOCATE PARKING METERS WITHOUT FIRST OBTAINING APPROVAL FROM NYCDOT PARKING METER DIVISION AT 718-894-8651.
5. **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.
6. **AUTHORIZED PARKING** - PRIOR TO PERFORMING WORK WHICH IMPACTS AUTHORIZED PARKING, THE CONTRACTOR SHALL SUBMIT IN WRITING, AND COPY OCMC-STREETS, A REQUEST TO OCCUPY SPACE CURRENTLY USED BY AUTHORIZED VEHICLES. APPROVAL MUST BE RECEIVED FROM AUTHORIZED PARKING PRIOR TO OCCUPYING THESE AREAS.
7. **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.
8. **ENHANCED MITIGATIONS**
  - o **NYPD TRAFFIC AGENTS** ARE REQUIRED FOR THIS PROJECT: ONE AGENT AT EACH INTERSECTION ON YORK AVENUE FROM EAST 59 STREET TO EAST 64 STREET, AND ON FIRST AVENUE AT EAST 61 ST, EAST 62 ST AND EAST 63 ST. NINE (9) POSTS PLUS RELIEF; ON POST FROM 7AM-8PM MONDAY - FRIDAY AND 9AM- 10PM SATURDAY AND SUNDAY.
  - o **TWO CLOSED-CIRCUIT TELEVISION (CCTV) CAMERAS** MUST BE PLACED CLOSE TO AND WITHIN THE WORKSITE PROJECT LIMITS TO CAPTURE PEDESTRIAN AND VEHICULAR TRAFFIC FLOW. INSTALLATION OF THESE CAMERAS MUST BE COORDINATED WITH THE NYCDOT TRAFFIC MANAGEMENT CENTER.
  - o **ENHANCED MITIGATIONS FOR PEDESTRIAN FLOW**, INCLUDING METAL FENCING, SHALL BE PROVIDED TO ENSURE PEDESTRIANS STAY WITHIN THEIR DESIGNATED PATH/ROUTE. FLAGGERS SHALL BE PROVIDED TO ASSIST WITH PEDESTRIANS AT THE DESIGNATED CROSSWALK AREAS. THESE FLAGGERS SHALL BE ASSIGNED TO THIS FUNCTION ONLY.
  - o **SIX VARIABLE MESSAGE SIGNS (VMS)** SHALL BE PROVIDED FOR THIS PROJECT. THE LOCATIONS AND MESSAGES SHALL BE RECOMMENDED BY NYCDDC AND THEIR CONTRACTOR A MINIMUM OF TWO WEEKS PRIOR TO WORK COMMENCING, FOR OCMC REVIEW AND APPROVAL.
  - o **"NO STANDING ANYTIME-TEMPORARY CONSTRUCTION" SIGNS** AND TEMPORARY PAVEMENT MARKINGS SHALL BE INSTALLED AND MAINTAINED AS WARRANTED BY THE MAINTENANCE AND PROTECTION OF TRAFFIC (MPT) REQUIRED TO FACILITATE TRAFFIC MOVEMENTS THROUGH THE WORK ZONE. ALL TEMPORARY SIGNS AND PAVEMENT MARKINGS SHALL BE REMOVED UPON COMPLETION OF THE PROJECT.
  - o **COMMUNITY OUTREACH** SHALL BE PROVIDED FOR THE DURATION OF THE PROJECT.

NYC Department of Transportation  
Bureau of Permit Management and Construction Control  
55 Water Street - 7<sup>th</sup> Floor, New York, NY 10041  
T: 212.839.9621 F: 212.839.8970  
[www.nyc.gov/dot](http://www.nyc.gov/dot)

**NO TEXT ON THIS PAGE**

**D. AMENDMENTS 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, Paragraph 13. Special Fittings:, Page 5;**  
**Add the following to Paragraph 13:**

The steel reducer shall have a length of seven (7) feet for every twelve (12) inches reduction in diameter.

**END OF ADDENDUM NO. 2**

**This Addendum consists of thirteen (13) pages plus three (3) pages of attachments.**

- (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 AF-R       | Asphaltic Concrete Wearing Course, 2" Thick  | (For 2" asphaltic concrete wearing course overlay from curb to curb or edge to edge.)   |
| 4.02 CA         | Binder Mixture   | (For binder mixture base course over trenches and cutbacks; binder mixture top filler course under asphaltic concrete wearing course when <u>no</u> overlay is required; binder mixture top course when overlay is required; binder mixture in Type A and B Keys; and binder mixture to fill in roadway depressions and to provide a leveling course prior to overlay where ordered.) |
| 4.04 H          | Concrete Base For Pavement, Variable Thickness For Trench Restoration, (High-Early Strength) | (For concrete base course over trenches and cutbacks.)  |
| 4.05 AX         | High-Early Strength Reinforced Concrete Pavement (Bus Stop)                                  | (For reinforced concrete pavement at bus stops.)  |

issuance of the Original Policy. The Original Policy must be submitted to MTA RIM within thirty (30) days of the Binder Approval.

- (e) If a Certificate of Insurance is submitted, it must: (1) be provided on the Permitter Certificate of Insurance Form or MTA Certificate of Insurance Form for Joint Agency Agreements; (2) be signed by an authorized representative of the insurance carrier or producer and notarized; (3) disclose any deductible, self-insured retention, sub-limit, aggregate limit or any exclusions to the policy that materially change the coverage; (4) indicate the Additional Insureds and Named Insureds as required herein, along with a physical copy of the Additional Insured Endorsement (I.S.O. Form CG 20 26 07/04 version or equivalent), as applicable and the endorsement(s) must include policy number(s); (5) reference the Contract by number on the face of the certificate; and (6) expressly reference the inclusion of all required endorsements.
- (f) The minimum amounts of insurance required in the detail description of policies (A), (B), (C), and (D) above shall not be construed to limit the extent of the Permittee's liability under this Agreement.
- (g) If, at any time during the period of this Agreement, insurance as required is not in effect, or proof thereof is not provided to the Permitter, the Permitter shall have the options to: (i) direct the Permittee to suspend work or operation with no additional cost or extension of time due on account thereof; or (ii) treat such failure as an Event of Default.

- (4) **Refer to Subsection 10.30 - Contractor To Provide For Traffic**, Page I-15:  
**Add** the following to **Subsection 10.30**:

(1) Traffic Stipulations:

The Contractor shall refer to the Traffic Stipulations (three (3) pages) that are attached to the end of this addendum, and as directed by the Engineer.

- (5) **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 York Avenue between East 61<sup>st</sup> Street and East 63<sup>rd</sup> Street (including all intersections) and East 62<sup>nd</sup> Street between York Avenue and 1<sup>st</sup> Avenue, the restoration shall be as follows:
  - (a) The permanent restoration over the **trench width and cutbacks only** shall consist of a top course of a minimum of three (3) inches of binder mixture on a base course of a minimum of nine (9) inches of high-early strength concrete, to match the existing pavement as directed by the Engineer.
  - (b) Finally an overlay of two (2) inches of asphaltic concrete wearing course shall be installed over the entire width of the roadway from **curb to curb** or **edge to edge** of existing roadway.
- (2) 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.



exposure. The limits and type of insurance provided shall be satisfactory to the Permittee and will be confirmed to the parties prior to the start of the work.

(2) General Requirements Applicable To Insurance Policies:

- (a) All of the insurance required by this Article shall be with Companies licensed or authorized to do business in the State of New York with an A.M. Best Company rating of not less than A-/VII or better and reasonably approved by the Permittee/MTA and shall deliver evidence of such policies.
- (b) Except for Workers Compensation, all references to forms and coverages referred to above shall be the most recent used by the Insurance Services Office, Inc. (ISO") or equivalent forms approved by the Insurance Department of the State of New York, provided, however, that excess coverages may be written on forms reasonably acceptable to Permittee containing provisions other than those contained in ISO forms but otherwise conforming in substance to the requirements of this Article.
- (c) The Permittee or its Contractor performing the work shall furnish evidence of all policies before any work is started to the permittee:

For NYCT Contract Inspection  
C/O Mr. John Malvasio  
Director, MOW Engineering  
130 Livingston Street, Room 8044F  
Brooklyn, NY 11201  
Telephone: (718) 694-1358

These policies must: (i) be written in accordance with the requirements of the paragraphs above, as applicable; (ii) be endorsed in form acceptable to include a provision that the policy will not be canceled, materially changed, or not renewed, unless otherwise indicated herein, at least thirty (30) days prior written notice to the Permittee c/o MTA Risk and Insurance Management (MTA RIM) Department - Standards, Enforcement & Claims Unit, 2 Broadway - 21st floor, New York, NY 10004; and (iii) state or be endorsed to provide that the coverage afforded under the contractor's policies shall apply on a primary and not on an excess or contributing basis with any policies which may be available to the Permittee/MTA, and also that the contractor's policies, primary and excess, must be exhausted before implicating any Permittee/MTA policy available. (iv) In addition, contractor's policies shall state or be endorsed to provide that, if a subcontractor's policy contains any provision that may adversely affect whether contractor's policies are primary and must be exhausted before implicating any Permittee/MTA policy available, contractor's and subcontractor's policies shall nevertheless be primary and must be exhausted before implicating any Permittee/MTA policy available. Except for Professional Liability, policies written on claims made basis are not acceptable. At least two (2) weeks prior to the expiration of the policies, contractor shall endeavor to provide evidence of renewal or replacement policies of insurance, with terms and limits no less favorable than the expiring policies. Except as otherwise indicated in the detailed coverage paragraphs below, self insured retentions and policy deductibles shall not exceed \$100,000, unless such increased deductible or retention is approved by Permittee/MTA. The Permittee shall be responsible for all claim expense and loss payments within the deductible or self-insured retention. The insurance monetary limits required herein may be met through the combined use of the insured's primary and umbrella/excess policies.

- (d) Certificates of Insurance may be supplied as evidence of policies of the above policies, except for Policy (D) Railroad Protective Liability Insurance Policy. However, if requested by the Permittee, the Permittee shall deliver to the Authority, within forty-five (45) days of request, a copy of such policies, certified by the insurance carrier as being true and complete. The Railroad Protective Liability Insurance Policy must be provided in the form of the Original Policy. A detailed Insurance Binder may be provided, ACORD or Manuscript Form, pending

(1) The Permittee at its sole cost and expense shall carry or cause to be carried and shall maintain at all times during the period of performance under this Agreement policies of insurance as herein below set forth below:

- (A) Workers' Compensation Insurance - (including Employer's Liability Insurance) with limits as specified in Schedule "A", which limit may be met by a combination of primary and excess insurance meeting the statutory limits of New York State. The policy shall be endorsed to include Longshoreman's and Harbor Workers' Compensation Act/Maritime Coverage Endorsement and/or Jones Act Endorsement when applicable.
- (B) Commercial General Liability Insurance - (I.S.O. 2001 Form or equivalent) approved by Permitter in the Permittee's name with limits of liability as specified in Schedule "A" for each occurrence on a combined single limit basis for injuries to persons (including death) and damages to property. The limits may be provided in the form of a primary policy or combination of primary and umbrella/excess policy. When the minimum contract amounts can only be met when applying the umbrella/excess policy; the Umbrella/Excess Policy must follow form of the underlying policy and be extended to "drop down" to become primary in the event primary limits are reduced or aggregate limits are exhausted. Such insurance shall be primary and non-contributory to any other valid and collectable insurance and must be exhausted before implicating any Permitter/MTA policy available.

Such policy should be written on an occurrence form; and shall include:

- Contractual coverage for liability assumed by the Permittee under this agreement;
- Personal and Advertising Injury Coverage;
- Products-Completed. Operations;
- Independent Contractors Coverage;
- "XCU" coverage (Explosion, Collapse, and Underground Hazards) where necessary;
- Contractual Liability Exclusion, applicable to construction or demolition operations to be performed within 50 feet of railroad tracks, must be voided, where necessary; and,
- Additional Insured Endorsement (I.S.O. Form CG 20 26 07/04 version or equivalent) approved the Permitter naming:

New York City Transit Authority (NYCTA), the Manhattan and Bronx Surface Transit Operating Authority (MaBSTOA), the Staten Island Rapid Transit Operating Authority (SIRTOA), MTA Capital Construction Co., the Metropolitan Transportation Authority (MTA) including its subsidiaries and affiliates, and the City of New York (as Owner).

- (C) Business Automobile Liability Insurance Policy - (I.S.O. Form CA 00 01 10 01 or equivalent) approved by the Permitter is required if Permittee's vehicle enters Permitter property. The insurance must be in the name of the Permittee or its contractor entering the Permitter property with limits of liability in the amount specified in Schedule "A" for claims for bodily injuries (including death) to persons and for damage to property arising out of the ownership, maintenance or use of any owned, hired or non-owned motor vehicle.
- (D) Railroad Protective Liability Insurance policy shall be required as specified in Schedule "A".
- (E) Environmental/Pollution Exposures:

In the event environmental or pollution exposures exist, the Permittee shall require the environmental contractor or sub-contractor to provide the applicable insurance covering such

## (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. Daniel Grulich at (718) 760-6927.

## (5) N.Y.C. TRANSIT AUTHORITY

- (a) The Contractor shall notify Outside Projects at least seven (7) days prior to the start of construction.

The Contractor shall contact:

Mr. Mohamed Adam, P.E.  
Project Engineer-Outside Projects  
New York City Transit  
2 Broadway, 7th Floor  
New York, N.Y. 10004  
Attention Ms. Alina Avadanei  
Telephone No. (646) 252-3641

- (b) The Contractor is advised that bus routes as well as bus stops, within the scope of this project may be affected during construction operations. The Contractor shall notify the Transit Authority at least two (2) weeks prior to the start of construction, in order to make the necessary arrangements as required under the NYC TRANSIT GENERAL NOTES included in **Section 10.25, paragraph (A)**, and **Section 10.25 paragraph (B)** of this addendum.

Arrangements shall be made through:

Ms. Sarah Wyss  
Director Of Short Range, Bus Service Planning (SRB)  
New York City Transit  
2 Broadway, 17<sup>th</sup> Floor  
New York, N.Y. 10004  
Telephone No. (646) 252-5517  
sarah.wyss@nyct.com

- (c) In addition, the Contractor is advised that construction operations might affect subway lines and stations; and NYCT facilities (i.e. manholes, ducts, etc.). The Contractor shall notify the Transit Authority as required and specified in **Section 10.25 paragraph (A)** and **Section 10.25 paragraph (B)** of this addendum.

- (3) **Refer to Subsection 10.25 - Contractor To Carry Out Agreement Between City And Railroad Company Or Property Owner(s), Page I-14:**  
**Add the following to Subsection 10.25:**

**(A) NYC TRANSIT GENERAL NOTES**

For NYC TRANSIT notes see the contract drawings.

**(B) NYC TRANSIT NSURANCE REQUIREMENTS**

**N.Y.C. TRANSIT INSURANCE:** The Contractor (Permittee) shall indemnify and save harmless the City of New York and the New York City Transit (Permitter) in accordance with the following "Insurance Requirements" and proof that the necessary insurance is in effect will be required before work can commence:

**NYCT "OUTSIDE CONTRACT" INSURANCE REQUIREMENTS**

**C. AMENDMENTS TO THE STANDARD SEWER AND WATER MAIN SPECIFICATIONS**

- (1) **Refer** to **Subsection 10.15 - Notice To Utility Companies, Etc., To Remove Structures Occupying Place Of Sewers, Water Mains Or Appurtenances**, Page I-11:

**Add** the following to **Subsection 10.15**:

- (1) CONSOLIDATED EDISON COMPANY OF NEW YORK (CON EDISON)

There are CON EDISON facilities in the area of construction. The Contractor shall notify CON EDISON at least seventy-two (72) hours prior to the start of construction by contacting Ms. Theresa Kong at (212) 460-4834.

- (2) NATIONAL GRID

There are NATIONAL GRID facilities in the area of construction. The Contractor shall notify NATIONAL GRID at least seventy-two (72) hours prior to the start of construction by contacting Mr. Neville Jacobs Jr. at (718) 963-5612.

- (3) VERIZON

There are VERIZON facilities in the area of construction. The Contractor shall notify VERIZON at least seventy-two (72) hours prior to the start of construction by contacting Mr. Aubrey Makhanlall at (718) 977-8165.

- (4) TIME WARNER CABLE OF NEW YORK CITY

There are TIME WARNER CABLE facilities in the area of construction. The Contractor shall notify TIME WARNER CABLE at least seventy-two (72) hours prior to the start of construction by contacting Mr. John Piazza at (718) 888-4261.

- (5) RCN TELECOM SERVICES OF NEW YORK

There are RCN TELECOM SERVICES facilities in the area of construction. The Contractor shall notify RCN TELECOM SERVICES at least seventy-two (72) hours prior to the start of construction by contacting Mr. Joseph Maisonet at (718) 861-7361.

- (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. James Garin, P.E., Director, Engineering 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. Nick Varone at (718) 624-4194.

- (3) N.Y.C. DEPARTMENT OF TRANSPORTATION

The Contractor shall notify Mr. Steve Galgano, P.E. Chief of Signal/Street Lighting Operations, 34-02 Queens Blvd., Long Island City, N.Y. 11101 at (718) 786-3550, at least seventy-two (72) hours prior to the start of construction.

- Upon the complete purchase and field installation, the Contractor shall be paid 50% of the amount bid for each camera satisfactorily installed.
- Upon the complete field inspection and system integration at the Traffic Management Center (TMC), 28-11 Queens Plaza North, and verifying that the system is completely operational, the Contractor shall be paid 20% of the amount bid for each camera.
- Upon completion of the project and successful acceptance, the Contractor shall be paid the remaining 30% of the unit price bid for each camera.

*Payment will be made under:*

| Item No. | Item Description  | Pay Unit |
|----------|---|----------|
| T-93000  | FURNISH AND INSTALL COMPLETE DOME CCTV CAMERA SYSTEM ON CITY-OWNED UTILITY POLE | EACH     |

The Contractor must complete the work under this section prior to the start of any other work under this project which may restrict the flow of traffic, unless otherwise permitted by the Engineer.

#### **1.5 INTERPRETATION OF APPARENT OMISSIONS**

The apparent silence of the NYCDOT Standard Highway Specifications and these detail specifications as to any detail, or the apparent omission from them of a detailed description concerning any work to be done and materials to be furnished, shall be regarded as meaning that only the best general practice is to prevail and that only the best material and workmanship is used. Interpretations of the specifications shall be made upon that basis.

#### **1.6 CONFLICT**

Should any conflict occur in or between the contract drawings and NYCDOT Standard Highway Specifications, the Contractor shall be deemed to have estimated on the more expensive way of doing the work, unless the Contractor shall have asked for and obtained a decision in writing from NYCDOT before the submission of bid as to what shall govern.

#### **1.7 OMISSION OF DETAILS**

All work called for in the specifications but not shown in the contract drawings in their present form, or vice versa, and work not specified in either the contract drawings or in the specifications but involved in carrying out their intent or in the complete and proper execution of the work, is required, and shall be performed by the Contractor as though it were specifically delineated or described.

#### **1.8 ADHERENCE TO LAWS, RULES AND REGULATIONS**

All work performed under this contract shall comply with the New York City Highway Rules 34 RCNY Ch. 2 of the New York City Department Of Transportation. The Contractor shall also adhere to all other applicable laws, rules and regulations including the following:

Sidewalk flags must be fully restored where excavated for the installation of conduit or a foundation.

On non-protected streets trenches of, or less than, 12" in final restoration require a cut back of 6" of the wearing course on both sides of the trench, so that the cut is a minimum of 18" wide.

#### **1.9 METHOD OF MEASUREMENT**

The quantity to be measured for payment shall be the number of Dome Camera Systems installed, to the satisfaction of the Engineer.

#### **1.10 PRICE TO COVER**

The contract unit price bid per each for Item No. T-93000 - FURNISH AND INSTALL COMPLETE DOME CCTV CAMERA SYSTEM ON CITY-OWNED UTILITY POLE shall cover the cost of all labor, materials, plant, equipment, insurance, and incidentals necessary to complete the work under this section, in accordance with the plans, the specifications and the directions of the Engineer. The unit price also includes the cost of maintenance of the CCTV Camera System throughout the duration of the project.

#### **1.11 METHOD OF PAYMENT**

Progress payments for the Dome Network Camera system will be made as follows:

**B. AMENDMENTS TO THE STANDARD HIGHWAY SPECIFICATIONS**

- (1) Refer to Standard Highway Specifications Volume II (November 1, 2010), Page 549:  
Add the following new **Section T-93000**:

**SECTION T-93000 - Furnish And Install Complete Dome CCTV Camera System  
On City-Owned Utility Pole****1. Description****1.1 GENERAL**

Under this Section the Contactor shall be required to furnish and install complete Dome Network IP Camera(s) systems on City-owned utility poles as directed by the Engineer.

The Contractor shall provide a complete, turn-key installation, testing and maintenance for the duration of the contract, including all required electronic devices for the system, all associated mounting hardware, and all associated cabling and integrate those devices into the City's Traffic Management Center. The Contractor shall also furnish and install the associated conduit, cabling, transformers, power supplies, over-current protection devices, uninterruptible power supplies, cabinets, enclosures, mounting racks and other supporting infrastructure elements for all system equipment provided by the Contractor in accordance with the criteria described herein and in other parts of the contract. The Contractor shall provide design, furnish, install, integrate, start up, test, and maintain all materials, equipment, hardware, software, firmware and all associated training.

**1.2 WORK INCLUDED**

The work includes all materials and methods required to Furnish and Install Complete Dome CCTV Camera(s) Systems on City-Owned Utility Poles as per **Section 65001. - Furnished Dome Camera Specifications** and **Section 7.87 - Installation**.

The Contractor shall verify all dimensions and details shown on any contract drawings provided by NYCDOT, Quantities, or any other data received from NYCDOT and shall notify the Engineer in writing of all omissions, conflicts, and discrepancies found therein. Notice of such errors shall be given before the Contractor proceeds with the work.

In order to complete the work within the prescribed schedule and to minimize the inconvenience to the motorist, pedestrians, and the public, the Contractor shall adhere to the procedures and as specified in the contract documents.

The Contractor shall be required to maintain and protect traffic and furnish all safeguards for the protection of persons and property during the installation of the dome camera system.

**1.3 POST-BID SUBMITTALS**

The successful low bidder shall be required to submit the following within thirty (30) days of award:

Evidence of meeting the qualifications described in these specifications.

A list of manufacturers, equipment model numbers, catalog cut sheets, and other descriptive materials for all equipment and components proposed by the Contractor. This information shall, in sufficient detail, demonstrate that the Contractor or Subcontractor who will be performing this work fully understands the equipment requirements and nature of the work to be performed under this contract. All submissions made by the Contractor will be subject to review and approval by the Engineer.

**1.4 TIME OF COMPLETION**

(9) The Contractor is notified that the fuel cost per gallon used in the formula under **Sub-Article 26.2.8** of the Standard Construction Contract for **Extra Work** will be derived from the fuel price index for the United States East Coast published weekly by the United States Energy Information Administration ("USEIA"), and available on its website at <http://www.eia.gov/petroleum/gasdiesel/>. The USEIA published cost per gallon for the applicable fuel on the East Coast for the week in which the first day of each calendar quarter during the contract term occurs (i.e., January 1<sup>st</sup>, April 1<sup>st</sup>, July 1<sup>st</sup> and September 1<sup>st</sup>) will be used in the reimbursement formula for all **Extra Work** invoiced that was performed during that calendar quarter. Should the USEIA stop publishing this fuel price index, the fuel cost per gallon will be determined by reference to a substitute index to be agreed upon by the Contractor and the City.

(10) 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 (718) 786-2236.

(11) 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.

(12) The Contractor shall exercise extreme caution and take all necessary precautions in placing sheeting and excavating to prevent any damage to the existing NYC TRANSIT'S subway structures and its appurtenances during construction work throughout the project area. The Contractor shall take full responsibility to protect the said NYC TRANSIT'S subway structures and its appurtenances and any damage caused by the Contractor's operations shall be made good by the Contractor to the satisfaction of the Engineer at no additional cost to the City.

(13) The Contractor shall submit shop drawings to NYC Transit Authority showing all the details and methods of construction, such as, sheeting and bracing, including the Contractor's procedure and sequence of construction, supporting and/or protection of the existing TA's structures and its appurtenances, with necessary design calculations for approval prior to starting of the construction. The design shall be made by a New York State Licensed Professional Engineer skilled in this type of construction and as further evidenced by the imprint of Professional Engineer's seal and signature on all drawings. The cost of this work shall be deemed included in the price bid for all items of work under this contract.

(14) The Contractor is notified that the existing chamber that is to be modified shall be thoroughly cleaned to the satisfaction of the Engineer. The cost of this work shall be deemed included in the price bid for Item No. 51.71C00000 – MODIFICATION OF EXISTING CHAMBER.



**A. NOTICE TO BIDDERS**

- (1) (A) The Contractor is advised that copies of the Standard Sewer And Water Main Specifications (dated July 1, 2014), Sewer Design Standards (dated (September 2007) Revised January 2009), Specifications For Trunk Main Work (dated July 2014) and Water Main Standard Drawings (latest revisions) are available to all prospective bidders at no cost upon presentation of receipt of purchase of Bid Package at the following location:

Department of Design and Construction  
Division of Infrastructure  
Design Services, Specifications, 3<sup>rd</sup> Floor  
30-30 Thomson Avenue  
Long Island City, NY 11101

(B) The Contractor is advised that copies of the Standard Highway Specifications (Volume I and II) (dated November 1, 2010), Standard Highway Details of Construction (latest revisions), Division of Street Lighting Specifications (latest revisions), Division of Street Lighting Standard Drawings (latest revisions), Standard Specifications for Traffic Signals (latest revisions), and Standard Drawings for Traffic Signals (latest revisions) are available to all prospective bidders for a fee at the following location:

Department of Transportation  
55 Water Street, Ground Floor  
New York City, NY 10041

- (2) 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.
- (3) 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.
- (4) 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.
- (5) 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.
- (6) 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.
- (7) 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.
- (8) 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.

**ATTACH TO CONTRACT DOCUMENTS**

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

**PROJECT ID: SEN002169**

**FOR THE CONSTRUCTION OF COMBINED SEWERS AND APPURTENANCES IN: YORK AVENUE  
BETWEEN EAST 61<sup>ST</sup> STREET AND EAST 63<sup>RD</sup> STREET; AND EAST 62<sup>ND</sup> STREET BETWEEN YORK  
AVENUE AND 1<sup>ST</sup> AVENUE**

**INCLUDING SEWER, WATER MAIN, STREET LIGHTING AND TRAFFIC WORK**

**Together With All Work Incidental Thereto**

**BOROUGH OF MANHATTAN**

**ADDENDUM NO. 2**

**DATED: December 9, 2014**

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**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.**

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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), Specifications For Trunk Main Work of the Department of Environmental Protection (dated July 2014) and the Standard Highway Specifications (Volumes I and II) of the Department of Transportation (dated November 1, 2010) 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. AMENDMENTS TO THE STANDARD HIGHWAY SPECIFICATIONS
- C. AMENDMENTS TO THE STANDARD SEWER AND WATER MAIN SPECIFICATIONS
- D. AMENDMENTS TO THE SPECIFICATIONS FOR TRUNK MAIN WORK

[Added 02-24-2014]

16. Refer to PageS. 480 and 481, Subsection 7.13.2.(B) MAINTENANCE OF STREETS, 4<sup>th</sup> paragraph, beginning with the words "The Contractor shall maintain the traveled way . . . ; Delete the 4<sup>th</sup> paragraph, in its entirety; Substitute the following text:

"The Contractor shall maintain the traveled way in such a condition and conduct operations in such a manner that snow and ice may be readily removed by others as and when necessary, and in such a manner that proper drainage is provided for the melting of snow in the banks resulting from normal plowing. However, the Contractor will not be responsible for snow or ice removal on the pavement or traveled way opened for public usage, except within the limits of the work zone(s) which may include, but is not be limited to, stairways, promenades, esplanade areas, and sidewalk, including those fronting his office and the Engineer's field office all of which will be the responsibility of the Contractor."

Payment for flagperson "A" in Example #2, shall be deemed to be included under other items of work, as appropriate.

Where there is no scheduled item for Crossing Guard, the cost of furnishing Crossing Guards as required shall be deemed included in the unit price bid for the Maintenance and Protection of Traffic item.

*Payment will be made under:*

| Item No. | Item           | Pay Unit           |
|----------|----------------|--------------------|
| 6.52 CG  | CROSSING GUARD | PERSON-HOUR (P/HR) |

## SECTION 6.52 CG Crossing Guard

**6.52CG.1. INTENT.** This section describes the employment of full-time uniformed crossing guards to direct and detour traffic.

**6.52CG.2. DESCRIPTION.** The Contractor shall furnish an adequate number of competent crossing guards to control vehicular and pedestrian traffic when it is necessary to maintain alternating one-way traffic in one lane of a two-way roadway, and at all other locations where construction operations, construction vehicles and equipment, and temporary traffic patterns related to the construction operations require positive temporary traffic control for safe, efficient traffic operations.

**6.52CG.3. METHODS.** All crossing guards, whether paid for under this item or not, shall be proficient in speaking, writing and reading English and adequately trained, as approved by the Engineer, in controlling vehicular and pedestrian traffic at construction sites.

All crossing guards, whether paid for under this item or not, their apparel, hand-signaling devices, and active two-way radios shall be appropriate for use at roadway construction sites as approved by the Engineer.

Prior to the start of crossing guard operations, the Contractor shall provide to the Engineer a list of crossing guards to be used in the contract, identifying the source of crossing guard training for each individual. When requested by the Engineer, crossing guards shall demonstrate their competency in crossing guard procedures. Crossing guards not competent in controlling vehicular and pedestrian traffic procedures to the satisfaction of the Engineer shall be retrained or replaced at once. Each crossing guard paid under this item must be a full-time crossing guard. If any worker performing services under this item is also assigned the task of directing construction equipment (as per attached Example #2, worker acting as a flagperson 'A') or any laborer tasks, then such worker shall be deemed to be subject to the provisions of Labor Law §220 Prevailing Wage Schedule and will not be paid for under this Item.

**6.52CG.4. MEASUREMENT.** The quantity to be measured for payment shall be the number of person-hours of uniformed crossing guard service actually performed, as authorized by the Engineer. Laborers who are not full-time crossing guard will not be measured for payment as crossing guards under this or any other item. Each uniformed crossing guard shall be required to work a minimum of eight (8) hours a day and the Contractor will be given a minimum of twelve (12) hours advanced notice by the Engineer as to when to furnish a crossing guard.

**6.52CG.5. PRICE TO COVER.** The contract price per person-hour shall cover the cost of all labor, materials, equipment, and insurance necessary to employ a uniformed full-time crossing guard, and equip him/her with safety vests, hard hats, and signaling devices, including all other incidental costs necessary to control and detour traffic, as shown on the Contract Drawings, the Examples #1 and #2 on pages 395 and 396 (excluding worker acting as a flagperson "A" in Example #2), or as directed by the Engineer.

The asphalt pavement coating shall only be applied in the correct environmental conditions as instructed by the coating supplier, and as approved by the Engineer.

Refer to the instructions provided by the coating supplier regarding when the painted lane may be opened to traffic. Wait time is typically a function of the dry rate of the coating, and climate conditions.

The Engineer may, at his discretion, require the Contractor to remove all extraneous marks on the pavement made by the agents or employees of the Contractor, or made by others due to improper control or protection of the work area by the Contractor, his agents or employees. Any installation which, in the opinion of the Engineer, is not acceptable, whether by reason of poor workmanship, poor appearance, poor performance, poor materials, improper width or improper alignment, shall be reworked by the Contractor at no cost to the City. The Contractor shall replace rejected installation as directed by the Engineer, within fifteen (15) days after receiving written notification of the rejection of such completed work.

**6.44PO.6. MEASUREMENT.** The quantities to be measured for payment shall be the number of square yards of Lane Pavement Overlay, of each color, placed as specified to the satisfaction of the Engineer.

**6.44PO.7. PRICES TO COVER.** The unit prices bid per square yard of Green Bicycle Lane Pavement Overlay and Red Bus Lane Pavement Overlay shall cover the cost of all labor, materials, plant, equipment, insurance, and necessary incidentals required including, but not limited to, testing, cleaning, preparation of surfaces, and application of the lane pavement overlay materials, all in accordance with the contract plans and specifications, and as directed by the Engineer.

*Payment will be made under:*

| Item No. | Item                                | Pay Unit |
|----------|-------------------------------------|----------|
| 6.44 POG | GREEN BICYCLE LANE PAVEMENT OVERLAY | S.Y.     |
| 6.44 POR | RED BUS LANE PAVEMENT OVERLAY       | S.Y.     |

|                              |   |                      |
|------------------------------|---|----------------------|
| Flexibility:<br>Mandrel Bend | ASTM D-522-93A Flexibility as measured by Mandrel bend<br>0.5mm thick sample passes 10 mm at 21°C<br>0.5mm thick sample passes 125mm at -18°C |                      |
| Chemical<br>resistance       | ASTM D-2486 Modified MEK scrubs<br>16 dry mils, number of scrubs until 50% substrate<br>exposed   | >5000                |
| Adhesion to<br>Asphalt       | ASTM D-4541   | Substrate<br>Failure |
| Friction Wet                 | ASTM E-303 British Pendulum Tester  | >55                  |
| Environmental<br>Sensitivity | EPA 24 ASTM D-3960-05<br>Volatile Organic Compounds   | VOC < 150            |

These properties shall be evidenced by Certificates of Analysis produced by an independent qualified testing facility.

Green Bicycle and Red Bus Lane Pavement Overlays furnished by the following manufacturers, or approved equivalent, are acceptable for use in this contract:

Ennis Paint, Inc.  
1509 S. Kaufman Street  
Ennis, TX 75119

Integrated Pavement Concepts, Inc.  
102-17957 55th Avenue  
Surrey, BC Canada V3S 6C4

Crafco, Inc.  
420 N. Roosevelt Avenue  
Chandler, AZ 85226

**6.44PO.5. METHODS.** The asphalt pavement coating system shall be applied to the pavement in accordance with the manufacturer's specification. In its hardened state the color shall be as specified, and as approved by the Engineer. The material shall present a marking whose color and chemical resistance will not degrade under normal exposure to calcium chloride, sodium chloride or automotive oils and fuels. Color pigments used shall remain stable under exposure to ultra violet light. A minimum of four (4) layers of coating material shall be applied to the pavement surface.

The Contractor shall be required to use the proper equipment in the application of the asphalt pavement coating, as per the recommendation of the coating supplier, and as approved by the Engineer.

Asphalt pavement must be stable, well compacted and generally in excellent condition for the application of the asphalt pavement coating to be successful. The Engineer shall make the final determination as to the suitability of the existing asphalt pavement.

The asphalt pavement surface shall be dry and free from all foreign matter, including but not limited to dirt, dust, de-icing materials, and chemical residue.

**SECTION 6.44 PO  
Lane Pavement Overlay**

**6.44PO.1. DESCRIPTION.** This section describes the furnishing and application of an approved Green Asphalt Pavement Color Scheme along designated bicycle lanes and Brick-Red Asphalt Pavement Color Scheme matching Quest's StreetBondCL Terracotta color along designated Select Bus Service (SBS) lanes, as indicated in the Contract Drawings or as directed by the Engineer.

**6.44PO.2. REFERENCES.**

- A. ASTM D-4541 Standard Test Method for Pull-Off Strength of Coatings Using Portable Adhesion Tester.
- B. ASTM D-4060 Test Method for Abrasion Resistance of Organic Coatings by the Taber Abrasion.
- C. ASTM D-522-93A Standard Test Method for Mandrel Bend Test of Attached Organic Coatings.
- D. ASTM G-155 QUV Accelerated Weathering Environment. Standard Practice for Operating Fluorescent Light Apparatus for UV Exposure of Nonmetallic Materials.
- E. ASTM D-2486 MEK rub test for chemical resistance.
- F. ASTM D-570 Standard Test Method for water absorption of plastics.
- G. ASTM E-303 British Pendulum test for friction.
- H. EPA 24 ASTM D3960-05 Volatile Organic Compounds.

**6.44PO.3. SUBMITTALS.**

- A. A copy of the current year accreditation certificate available from the Contractor or subcontractor who will be performing this work, or written verification from the coating supplier that the Contractor or subcontractor is qualified to perform this Work.
- B. Written and published specification for the application of the selected asphalt pavement coating.
- C. Confirmation of coating color.
- D. Proof of coating performance through a Certificate of Analysis or equivalent document as provided by the Contractor or the coating supplier.

**6.44PO.4. MATERIALS.**

The following table outlines minimum performance properties of a typical asphalt pavement coating.

| Characteristic                              | Test Specification   | Measured result   |
|---|--|---|
| Durability:<br>Taber Abrasion<br>resistance | ASTM D-4060<br>7 day cure, H-10 wheel (wet test)   | < 5.0 g/1000  |
| Water sensitivity                           | ASTM D-570<br>Water absorption after 9 days:<br>Remaining absorption after 1 hour of recovery: | < 10%<br>< 1.0%   |
| Color stability                             | ASTM G-155<br>QUV 2,000 hours (CIE units)  | New York City<br>Bike Lane<br>Green<br>$\Delta E < 1.5$ |
| Color stability                             | ASTM G-155<br>QUV 2,000 hours (CIE units)  | Brick color<br>$\Delta E < 1.5$                         |



[Added 05-24-2013]

13. Refer to Page 366, **Subsection 6.40.2.(C)(c)(1)(m) Software Requirements**, as modified by Article 1 on page A1-2;  
Delete the text under **Subsection (m)**, in its entirety;  
Substitute the following revised text:

"(m) **Software Requirements:** Microsoft Windows 7 Professional SP1, 32 bit; Microsoft Office Professional 2010; Microsoft Project 2010; Adobe Acrobat reader; Anti-Virus software package with 2 year updates subscription; and, either Auto Cad LT or Microsoft Visio Standard Edition, as directed by the Engineer."

[Added 09-04-2013]

14. Refer to Page 384, the end of **Section 6.44 - White and Yellow Thermoplastic ReflectORIZED Pavement Markings**;  
Insert new **SECTION 6.44 PO**, after **Section 6.44**, as contained on the following pages A1-2k through A1-2m.

[Added 02-10-2014]

15. Refer to Pages 393 and 394, **SECTION 6.52 - Uniformed Full-Time Flagperson**;  
Delete **Section 6.52** on pages 393 and 394, but do not delete examples on pages 395 and 396;  
Substitute **SECTION 6.52 CG**, as contained on the following pages A1-2n and A1-2o.

**(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 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, 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 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, 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    |

**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 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.

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.

(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 of all locations baited along with the type and quantity of rodenticide and insecticide bait used. These records will be kept by the City Inspector. A weekly report 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.

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.

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. The baiting exterminator shall also be responsible for posting and maintaining signs announcing the baiting of each particular location.

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 3 mils thick, black plastic. 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 (AMERICAN COCKROACH) CONTROL

Infested sites (e.g., sewers) shall be baited at least 2 times per month with insecticides, or as directed by the Engineer in consultation with the exterminator monitoring the work and the City's Office of Pest Control.

**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.

(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. Contractor shall maintain all monitoring records in the manner described in 7.88.6., Records and Reports.

(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.

**SECTION 7.88 (Revised)**  
**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 (American cockroaches) within the project limit.

**7.88.2. MATERIALS.** All materials shall be approved by the New York State Department of Environmental Conservation and comply with the New York City Health Code for the intended usage.

Rodenticide weatherproof bait blocks shall be multiple dose anticoagulants such as Chlorophacinone or Dephacinone, or single feed rodenticides such as ContraMeal, ContracBait block, Quintox pellets or TalonG pellets, or an approved equivalent.

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 Bureau of Regulatory & Environmental Health Services, Pest Control Office (718-956-7103/4).

Live traps shall be of proper dimensions for trapping rats and shall not be used with poisoned bait.

Insecticide bait shall be a residual type such as phenol methyl carbamate (2%) bait or an approved equivalent.

**(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, product characteristics, typical use, performance, and limitation criteria of all rodent and waterbug pest control materials required.

**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 must be supervised by an exterminator licensed in categories 7A & 8. 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.

[Added 08-09-2012]

9. Refer to Page 366, **Subsection 6.40.2.(C)(c)(2)(b)**, as amended by Article 2 on page A1-2 of this Addendum;  
Delete the text under **Subsection (b)**, in its entirety;  
Substitute the following words: "**(b) (No Text).**"

10. Refer to Page 368, TABLE 6.40-I, ADDITIONAL REQUIREMENTS SPECIFIC REQUIREMENTS;  
Delete the requirements for a Photocopy Machine shown in the 15th row of TABLE 6.40-I, as modified by Article 4 on page A1-2a of this Addendum, in its entirety;  
Substitute the following revised requirements:

|  |   |   |   |   |   |   |
|--|---|---|---|---|---|---|
| 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. | 1 | 1 | 1 | 1 | 1 | 1 |
|--|---|---|---|---|---|---|

[Added 11-26-2012]

11. Refer to Pages 504 through 508, **SECTION 7.88 – Rodent and Waterbug Pest Control**;  
Delete **Section 7.88**, in its entirety;  
Substitute SECTION 7.88 (Revised), as contained on the following pages A1-2d through A1-2i.

[Added 02-08-2013]

12. (NO TEXT)



6. Refer to Page 496, Subsection **7.20.4. METHODS**, last paragraph beginning with the words "When directed by the Engineer, due to the original conditions . . .";  
Add the following sentence to the end of the last paragraph under **Subsection 7.20.4:**

"However, if the owner at his own expense supplies the replacement frame and doors or hatch covers the Contractor shall install the replacement frame and doors or hatch covers under this Item 7.20, as a basement access reset, in lieu of the steel safety closure plate."

[Added 07-16-2012]

7. Refer to Page 365, Subsection **6.40.2.(C)(c)(1) "Personal Computer(s) - Workstation Configuration"**;  
Delete the text under **Subsections (g) and (k)**, in their entirety;  
Substitute the following revised text:

- "(g) I/O Ports: Must have at least one (1) Serial Port, one (1) Parallel Port, and three (3) USB Ports.
- (k) Network Interface: Integrated 10/100/1000 Ethernet card."

8. Refer to Page 366, Subsection **6.40.2.(C)(c)(2) "All field offices requiring computers shall be provided with the following:"**;  
Delete the text under **Subsection (a)**, in its entirety;  
Substitute the following revised text:

- "(a) One (1) broad-band internet service account. Wideband Internet connectivity at a minimum throughput of 15 Mbps download and 5 Mbps upload is required at each field office location with 1-5 staffers. For larger field offices see table below for minimum required upload speeds. Telephone service should be bundled together with Internet connectivity. Because of throughput requirements Verizon FIOS is the preferred connectivity provider where available.

| Office Personnel # | Upload Speeds (Minimum) |
|--------------------|-------------------------|
| 1 - 5              | 5 Mbps                  |
| 6 - 10             | 10 Mbps                 |
| 11 - 15            | 15 Mbps                 |
| 16 - 20 ...        | 20 Mbps                 |

This account will be active for the life of the project. The e-mail name for the account shall be the DDC Field Office/project Id (e.g. FLD K HWK666 McGuinness@earthlink.com)."

3. Refer to Page 367, Subsection 6.40.3. SPECIFIC REQUIREMENTS FOR ENGINEERS FIELD OFFICE (TYPE A, B, C, CU, D OR DU), first paragraph;  
Delete the text in the first paragraph of Subsection 6.40.3., in its entirety;  
Substitute the following revised text:

**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:

4. Refer to Page 368, TABLE 6.40-I, ADDITIONAL REQUIREMENTS SPECIFIC REQUIREMENTS;  
Delete the requirements for a Photocopy Machine shown in the 15th row of TABLE 6.40-I, in its entirety;  
Substitute the following revised requirements:

|   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|
| Photocopying Machine – Stand-alone, heavy duty, electric, dry-process color photocopying type with 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. | 1 | 1 | 1 | 1 | 1 | 1 |
|---|---|---|---|---|---|---|

5. Refer to Page 368, TABLE 6.40-I, ADDITIONAL REQUIREMENTS SPECIFIC REQUIREMENTS;  
Insert the following two additional requirements:

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

2. AMENDMENTS TO STANDARD HIGHWAY SPECIFICATIONS, VOLUME II

[Added 01-25-2012]

1. Refer to Pages 365 and 366, **Subsection 6.40.2.(C)(c)(1) Personal Computer(s) - Workstation Configuration;**

Delete the text under **Subsections (a), (b), (c), (d), (h), (i), and (m),** in their entirety;

Substitute the following revised text:

- "(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: i5-2400 (6MB Cache, 3.1GHz) or faster computer - Single Processor.
- (c) System Ram: Minimum of 4GB (Gigabytes) Dual Channel DDR3 SDRAM at 1333MHz – 2 DIMMSs
- (d) Hard Disk Drive(s): 500 GB (Gigabytes) Serial ATA (7200RPM) w/DataBurst Cache, or larger."
- "(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."
- "(m) Software Requirements: Microsoft Windows 7 Professional SP1, 64 bit; Microsoft Office Professional 2010; Microsoft Project 2010; Adobe Acrobat reader; Anti-Virus software package with 2 year updates subscription; and, either Auto Cad 2012 LT or Microsoft Visio 2010 Standard Edition, as directed by the Engineer."

~~2. Refer to Page 366, **Subsection 6.40.2.(C)(c)(2)(b)** ;  
Delete the text under **Subsection (b)**, which begins with the words  
"(b) One (1) 600 DPI HP Laser Jet . . .", in its entirety;  
Substitute the following revised text:~~

~~"(b) One (1) 600 DPI HP Color Laser Jet all-in-one  
Printer/Scanner/Copier/Fax (twelve (12) pages per minute or  
faster) with one (1) Extra Paper Tray (Legal Size) networked  
to all office computers."~~

26. Refer to Page 183, **Subsection 4.05.9. PRICES TO COVER**, 4<sup>th</sup> line;  
Insert in the fourth line, the words "pigment when specified" between the  
words "specifications, including, but not limited to," and "furnishing and installing...":

27. Refer to Page 183, **Subsection 4.05.9. PRICES TO COVER**;  
Insert the following two new Items to the list of Item Nos. at the  
bottom of **Subsection 4.05.9**:

"4.05 ACP REINFORCED CONCETE PAVEMENT (BUS STOPS)(PIGMENTED) C.Y.

4.05 AXP HIGH-EARLY STRENGTH REINFORCED CONCRETE PAVEMENT  
(BUS STOPS)(PIGMENTED) C.Y."

23. Refer to Page 166, **Subsection 4.05.2. (A)** ;  
Delete **Subsection 4.05.2. (A)** , in their entirety;  
Substitute the following revised **Subsection 4.05.2. (A)** :

"(A) Concrete Pavement shall be of the following types:

- Type 1--Non-reinforced
- Type 2--Reinforced (Unpigmented or pigmented if specified)
- Type 3--High Early Strength Reinforced (Unpigmented or pigmented if specified)

Type 2 and Type 3 pavements shall consist of a concrete surface course, which shall be unpigmented or pigmented if specified, laid on a concrete base course, which may or may not be pigmented at the Contractor's option, while the base course is still plastic, of the thickness shown on the Contract Drawings, with reinforcement placed between the surface and base courses."

24. Refer to Page 166, **Subsection 4.05.3. (A)** ;  
Insert the following new **Subsection 4.05.3. (A1)** :

"(A1) **PIGMENTING**

Where pigmenting is specified, the surface course of the concrete bus pad shall be pigmented with an admixture complying with Section 2.19 and the following requirements:

Where the color of the concrete is required to simulate the red color of the Red Bus Lane Pavement Overlay (Item 6.44 POR in Section 6.44 PO), the surface course concrete shall be integrally pigmented to produce a red color equivalent to Scofield's quarry red.

Except for the use of an air-entraining agent complying with ASTM Designation C 260 and water reducing admixtures complying with ASTM Designation C 494 used in combination with the Pigment Admixture as per the pigment manufacturer's instruction, no other admixtures (including, but not limited to, calcium chloride) shall be used unless stated in writing by the manufacturer of the Pigment Admixture to be of no consequence to the colorfastness of the concrete mixture and is approved by the Engineer.

All pigmented concrete at different locations shall be identical, unless otherwise directed. Variations in color/tint/hue will not be acceptable. Therefore, the same brand and type of cement and the same source and type of aggregate shall be used throughout the project.

Prior to the mix design being made, the cement intended for use shall be checked to determine that its lightness/darkness is similar to the cement used in the original approved sample. The Pigmented Admixture shall be added in the standard proportion specified by the manufacturer."

25. Refer to Page 170, **Subsection 4.05.5. (A) GENERAL** ;  
Insert the following two new paragraphs:

"For pigmented concrete, the Contractor shall within eight weeks of the notice to proceed, submit the name of its proposed roadway installer upon which his bid is based, along with their respective work history experience in placing pigmented concrete. The installer shall have documented experience in working with pigmented concrete.

Prior to making any field samples and the placing of any pigmented concrete, the Contractor, its concrete supplier, installer, cement producer, laboratory, the pigmented admixture's representative, and the Engineer shall meet and agree on the specifications and methods of handling the pigmented concrete."

16. Refer to page 112, **Subsection 3.05.3.(C)**, second paragraph;  
Delete the second paragraph in its entirety;  
Substitute the following paragraph:

"Water shall be potable and drawn from municipal water mains."

17. Refer to page 113, first line of text, beginning with the words  
"condition making up one (1) cubic yard of concrete.";  
Insert the following sentence between the words "condition making up one  
(1) cubic yard of concrete." and "The range of water-cement ratio within which the . . .":

"The calculated yield of the mix shall be within  $\pm$  2% of the Theoretical (1) cubic yard."

18. Refer to Page 113, second paragraph beginning with the words "The  
Contractor may substitute Portland cement . . .";  
Delete the second paragraph under **Subsection 3.05.4.**, in its  
entirety;  
Substitute the following revised paragraph:

"With the exception of high-early strength concrete, the Contractor shall be required to substitute Portland cement with pozzolans (Fly Ash or GGBFS) such that the maximum amount of Portland cement per cubic yard of concrete does not exceed 400 pounds, and with the use of an approved non-corrosive, non-chloride admixture as required to obtain a minimum compressive strength of 3,000 psi in seven (7) days. For high-early strength concrete the Contractor may substitute Portland cement with pozzolans (Fly Ash or GGBFS), pound for pound, up to 20% (or up to 25% for tidal/sea water spray areas) of the weight of cement specified for any concrete mixture provided the Contractor can obtain a minimum compressive strength of 3,000 p.s.i. in three (3) days. The Contractor, immediately following but not later than eight weeks after the date of the Contractor's Notice to Proceed, shall file with the Engineer, Age-Strength data of the job mix he proposes to use for the various ambient temperatures anticipated during the period of concrete placement. This data shall be presented in both tabular and graphical form for those various ambient temperatures with a maximum setting period of seven (7) days for Class B-32 concrete or seventy-two (72) hours for High-Early Strength Concrete."

19. Refer to Page 115, **TABLE 3.05-III - INGREDIENT MATERIALS**;  
Change in the third row, second column, the type of Portland  
Cement from "Type III\*" to read "Type II or Type III\*"

20. Refer to page 132, **Subsection 3.06.3.(D)**;  
Change the words "Water shall be drawn from mains owned by The City of New York." to  
read "Water shall be potable and drawn from municipal water mains."

21. Refer to page 133, **Subsection 3.07.3.(D)**;  
Change the words "Water shall be drawn from mains owned by or supplying water to The  
City of New York." to read "Water shall be potable and drawn from municipal water  
mains."

22. Refer to page 134, **Subsection 3.08.4.(D)**;  
Change the words "Water shall be drawn from mains owned by or supplying water to The  
City of New York." to read "Water shall be potable and drawn from municipal water  
mains."

'Bluestone': Where the color of the concrete is required to simulate the color of dark gray bluestone, the concrete shall be integrally pigmented to produce a gray color equivalent to: Davis Colors No. 884-3%; Lansco Color No. 437 'Strong Black' 5 lbs. per 94 lbs. Light Grey Portland Cement and 3 parts sand; L.M. Scofield 'Cool Black No. 4'; Bayferrox Limestone 330, 2 lbs. per 94 lbs. Light Gray Portland Cement; or an approved equivalent, unless otherwise specified.

'Granite': Where the color of the concrete is required to simulate the color of light to medium gray granite, the concrete shall be integrally pigmented to produce a gray color equal to: Davis Colors No. 884-1%; Lansco Color No. 437 'Strong Black' 2.5 lbs. per 94 lbs. Light Grey Portland Cement and 3 parts sand; L.M. Scofield 'Cool Black No. 1'; Bayferrox Silver 330, 1 lb. per 94 lbs. Light Gray Portland Cement; or an approved equivalent, unless otherwise specified."

**[Added 05-24-2013]**

11. Refer to Page 14, **Subsection 1.06.23. (A) PERMITS**, first paragraph as modified by Article 4 on page A1-1b;  
Add the following new text:

"(d) All necessary permits from the Department of Environmental Protection which may include, but are not limited to, permits for use of City water."

12. Refer to Page 14, **Subsection 1.06.23. (A) PERMITS**, second paragraph;  
Add the following as the third paragraph:

"No fee permits for use of City water necessary to complete roadway pavement reconstruction project in conjunction with installation of sewers and/or water mains, will be issued by the Department of Environmental Protection. However, for all other type projects (such as installation of sidewalks, installation of pedestrian ramps, pavement milling, resurfacing, rehabilitation of retaining walls, and bridge reconstruction type projects) the Contractor will be required to obtain the water use permit at its own cost."

**[Added 08-05-2013]**

13. Refer to page 116, second paragraph up from the bottom of the page, first line;  
Change the words "Concrete of Type IA and IIA shall have..." to read "Concrete of Type IA, IIA and IIIA shall have..."

**[Added 09-04-2013]**

14. Refer to page 100, **Subsection 3.01.3. (C) 1. (c)**;  
Delete the last two lines of text beginning with the words "The proportion of reclaimed asphalt pavement permitted within each mix...";  
Substitute the following sentence: "The proportion of reclaimed asphalt pavement permitted within each mix shall be not less than 30 percent for the top and bottom courses as per Local Law #71 of 2011."

15. Refer to page 110, **Subsection 3.05.2. (A)**, **Table 3.05-I**;  
Insert the following text at the bottom of **Table 3.05-I**:

"Note: The above proportions shown for non-High-Early mixes shall be modified by pozzolan substitutes as per **Subsection 3.05.4.**"

9. Refer to Page 202, **Subsection 4.11.3.(E) GLASS;**  
Add the following new **Subsection 4.11.3.(F) RECYCLED PORCELAIN**  
**AGGREGATE (RPA) :**

“(F) RECYCLED PORCELAIN AGGREGATE (RPA)

All porcelain to be used as RPA shall be crushed by a New York City Department of Environmental Protection (NYCDEP) approved recycling facility to a maximum particle size of 3/8 inch and graded to meet the gradation specified above for use in either fill, backfill or select fill, as may be required. RPA from any other source will not be permitted. The NYCDEP approved recycling facility will also certify that the RPA being furnished is free from organic material and other unsuitable material.

Should the Contractor desire to use RPA in his fill or backfill material, he shall contact Mr. Vasyl Kravchyk at NYCDEP (Tel. No. 718-595-7512) to determine the availability of RPA and from which recycling facility it can be obtained.

The Contractor shall be required to make arrangement with the recycling plant, at least two (2) weeks in advance of when he would need the material, to schedule the time, date and quantity available for pickup. The Contractor shall be required to furnish the recycling facility with a complete list of his trucks involved in transporting the material, which shall include the name of the registered owner (Contractor), Consumer Affairs or DOS Permit numbers, body license plate number, and truck volume. This information must be supplied to the facility prior to the start of picking up the RPA.

Weight ticket receipt slips given by the recycling facility to each truck driver picking up RPA shall be collected by the Contractor and given to the Engineer upon delivering fill or backfill material to the site that contains RPA, and the Contractor agrees and warrants that in obtaining the RPA that such material has originated only from a NYCDEP approved recycling plant and it has not been mixed with porcelain material from any other source.

The Contractor shall be required to transport said material from the approved recycling facility to his yard for storage and mixing with his fill material; however, there is not guarantee that the material will actually be available.

The Contractor is advised that there is no guarantee that RPA will in fact be available for his use from a NYCDEP approved recycling plant and he shall make no claim against the City for loss of anticipated profits should the material not be available upon request by the Contractor.

All excess RPA not used in the fill or backfill shall remain the property of the DDC Contractor.

The Contractor must comply with all rules and regulations of the Department of Transportation and the Department of Environmental Protections governing the use of RPA in its fill and backfill material.”

10. Refer to Pages 218 and 219, **Subsection 4.13.4.(H) PIGMENTING,**  
**first four paragraphs;**  
Delete the first four paragraphs under Subsection 4.13.4.(H), in  
their entirety;  
Substitute the following revised four paragraphs:

“Where pigmentation is specified, the concrete sidewalks shall be pigmented with an admixture complying with the requirements of **Section 2.19** and the following requirements:

‘Commercial Gray’: In commercial districts C4-4 through C4-7, C5 and C6, as defined in the Zoning Resolution of the City of New York, and in areas under the jurisdiction of the Lower Manhattan Development Corporation the color of the concrete shall be integrally pigmented to produce a gray color equivalent to L.M. Scofield ‘Landmarks Grey’ K-157-4; L.M. Scofield ‘Cool Black No. 4’; Davis Colors No. 884-3%; Lansco Color No. 437 ‘Strong Black’ 5 lbs. per 94 lbs. Light Grey Portland Cement and 3 parts sand; Bayferrox NYC Landmark Commission Gray, 3.5 lbs. per 94 lbs. Light Gray Portland Cement; or an approved equivalent, unless otherwise specified.



[Added 07-27-2011]

5. Refer to Page 37, **Subsection 1.06.46.(A) 6. Sign Graphics;**  
Delete article "a." beginning with the words "All visual components of the sign are in an Adobe \*.pdf file, . . ." and ending with the words ". . . DDC to the Contractor (on a CD or via E-mail) for printing.", in its entirety;  
Substitute the following revised article "a":

"a. All visual components of the sign are in an Adobe \*.pdf file, which is provided by the Commissioner's representative. The file is not to be altered for composition, type font or image from the version provided by DDC. The Commissioner's representative shall provide a complete file with data and image. The digital file shall be provided by DDC to the Contractor (on a CD or via E-mail) for printing."

[Added 09-27-2012]

6. Refer to Page 36, **Subsection 1.06.46. Project Sign;**  
Delete the words "Unless otherwise specified in the Special Provisions of the contract, the following shall apply:";  
Substitute the following revised text:

"The Contractor is notified that he shall be required to furnish, install, maintain, and remove, when directed, Construction Project Information Signs (CPIS) as per Sec. 2-02(c)(4) and (5) of the NYC DOT Highway Rule and the cost shall be deemed included under all scheduled items of the contract. In addition, unless otherwise specified in the Special Provisions of the contract, the following Project Sign shall also apply."

[Added 04-08-2013]

7. Refer to Page 200, **Subsection 4.11.2.(B), first paragraph, sixth line;**  
Delete the word "porcelain,".
8. Refer to Page 201, **Subsection 4.11.3.(B) FILL AND BACKFILL, second and third paragraphs;**  
Delete the second and third paragraphs under Subsection 4.11.3.(B), in their entirety;  
Substitute the following revised two paragraphs:

"Glass or Recycled Porcelain Aggregate (RPA) from recycling facilities that meets the requirements of **Subsection 4.11.3.(E)** for Glass and **Subsection 4.11.3.(F)** for RPA shall be considered suitable material for mixing with fill provided the Contractor maintains the gradations specified herein. However, glass shall not be placed in contact with synthetic liners, geogrids, geotextiles or other geosynthetics.

Glass and/or RPA incorporated into fill shall be thoroughly mixed with other suitable material so that glass, RPA or combination of both constitutes no more than 30 percent by volume anywhere in the fill as visually determined by the Engineer."

**[Added 04-18-2011]**

3. Refer to Pages 218 and 219, **Subsection 4.13.4.(H) PIGMENT;**  
Delete the first three (3) paragraphs on page 219:  
Substitute the following revised three (3) paragraphs:

"Where the color of the concrete is required to simulate the color of dark gray bluestone, the concrete shall be integrally pigmented to produce a gray color equivalent to: Davis Colors No. 884-3%; Lansco Color No. 437 "Strong Black" 5 lbs. per 94 lbs. Light Grey Portland Cement and 3 parts sand; L.M. Scofield "Cool Black No. 4"; Bayferrox Limestone 330, 2 lbs. per 94 lbs. Light Gray Portland Cement; or an approved equivalent, unless otherwise specified.

Where the color of the concrete is required to simulate the color of light to medium gray granite, the concrete shall be integrally pigmented to produce a gray color equal to: Davis Colors No. 884-1%; Lansco Color No. 437 "Strong Black" 2.5 lbs. per 94 lbs. Light Grey Portland Cement and 3 parts sand; L.M. Scofield "Cool Black No. 1"; Bayferrox Silver 330, 1 lb. per 94 lbs. Light Gray Portland Cement; or an approved equivalent, unless otherwise specified.

Where the sidewalk is designated to have a saw cut joint finish the color of the concrete shall be integrally pigmented to produce a gray color equivalent to L.M. Scofield "Landmarks Grey" K-157-4; L.M. Scofield "Cool Black No. 4"; Davis Colors No. 884-3%; Lansco Color No. 437 "Strong Black" 5 lbs. per 94 lbs. Light Grey Portland Cement and 3 parts sand; Bayferrox NYC Landmark Commission Gray, 3.5 lbs. per 94 lbs. Light Gray Portland Cement; or an approved equivalent, unless otherwise specified."

**[Added 07-01-2011]**

4. Refer to Page 14, **Subsection 1.06.23.(A) PERMITS;**  
Delete line (b) under the first paragraph;  
Substitute the following text:

"(b) Any planned work requiring a DOT Construction Permit that may potentially be within 100 feet of a bridge structure will be placed on a Bridge Hold. If any proposed work is within 100 feet of a bridge structure, permittees must submit a scaled drawing showing the work and exact location, along with the following:

- Plan layout of the project area.
- The scope of work.
- The contractor's means and methods.
- Indicate if work will be done of the bridge itself or its abutments, and the type of work.

If the work is more than 100 feet away from the bridge structure, permittees may send a certification by e-mail stating so. Either response must be sent to the Division of Bridges at [bridgeshold@dot.nyc.gov](mailto:bridgeshold@dot.nyc.gov) for review and release prior to commencing work. Emergency work will not be placed on hold and shall proceed in accordance with the New York City Highway Rules, section 2-11 (g);

(c) Permits from the Department of Sanitation for use of City landfills;"

1. AMENDMENTS TO STANDARD HIGHWAY SPECIFICATIONS, VOLUME I

The following amendments to the Contract Requirements shall become a part of and apply to the contract:

**[Added 12-09-2010]**

1. Refer to Page 15, **Subsection 1.06.23. (C) CONFORMANCE WITH FEDERAL, STATE AND CITY AGENCIES;**

Add the following new paragraphs:

"The Contractor is notified that all vehicles that are owned, leased or operated by the Contractor or its subcontractors and used in connection with the Project shall comply with the following requirement:

Every truck, tractor, and tractor-trailer or semitrailer combination, having a gross vehicle weight rating of twenty-six thousand pounds or more, and a conventional cab configuration in which more than half of the engine length is forward of the foremost point of the windshield base, and the steering wheel hub is in the forward quarter of the vehicle length shall be equipped with a convex mirror on the front of such vehicle or combination of vehicles. Such convex mirror shall be adjusted so as to enable the operator of such vehicle or combination of vehicles to see all points on an imaginary horizontal line which is three feet above the road, is one foot directly forward from the midpoint of the front of such vehicle or combination of vehicles, and extends the full width of the front of such vehicle or combination of vehicles.

Any vehicle that does not comply with this provision may be prohibited from entering the Project site and/or supplying equipment or materials to the Project. The Contractor shall not be entitled to any damages as a result of such prohibition."

**[Added 01-09-2011]**

2. Refer to Page 240, **Subsection 4.16.5. (B) STUMP REMOVAL;**  
Delete **Subsection 4.16.5. (B) STUMP REMOVAL**, in its entirety:  
Substitute the following revised **Subsection 4.16.5. (B) :**

"(B) STUMP REMOVAL

1. Tree stumps designated to be removed and their roots shall be completely excavated to a minimum depth of three (3) feet below the existing grade. A portable stump cutter may be required in some locations. It may be necessary to remove concrete, asphalt, pavers, and/or other types of material surrounding the base of the stump. All excess debris, including chips from tree stumps, shall be removed and disposed of by the Contractor, away from the site prior to backfilling and the area shall be restored by completion of the workday, to the satisfaction of the Engineer. The disposal of tree stumps by burning in open fires will not be permitted.

2. All voids and excavations left after the removal of the stump and roots shall be backfilled to grade with clean earth fill. Fill shall be placed and compacted to a minimum of 95 percent of Standard Proctor Maximum Density by acceptable methods to the satisfaction of the Engineer. Where paving blocks exist, they are to be reset to the existing grade as directed.

3. Maximum safety and care must be used by Contractor during stump removal. The Contractor shall carefully protect against damage all existing trees, plants, curbs, sidewalks and utilities and other features to remain. The Contractor is responsible for locating and protecting underground utilities from damage during stump removal procedures. During stump grinding operations, plywood must be used to protect adjacent vehicles, real property, and pedestrians. If, when removing stumps, existing sidewalks or curbs are disturbed, the Contractor shall restore and/or reset these sidewalks and curbs, at no additional cost to the City. Restoration work shall be done to match the existing, to the satisfaction of the Engineer. All damaged trees, curbs, sidewalks, real property, vehicles and utilities must be addressed within three (3) days."

ATTACH TO CONTRACT DOCUMENTS

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

PROJECT ID: SEN002169

FOR THE CONSTRUCTION OF COMBINED SEWERS AND APPURTENANCES IN: YORK  
AVENUE BETWEEN EAST 61ST STREET AND EAST 63RD STREET; AND EAST 62ND  
STREET BETWEEN YORK AVENUE AND 1ST AVENUE

INCLUDING SEWER, WATER MAIN, STREET LIGHTING AND TRAFFIC WORK

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

ADDENDUM NO. 1

DATED: February 24, 2014

THIS ADDENDUM IS HEREBY MADE A PART OF THE CONTRACT DOCUMENTS

The New York City Department of Transportation Standard Highway Specifications, dated November 1, 2010, (which include, but are not limited to, "General Conditions", "Basic Materials of Construction", "Combined Materials of Construction", "Construction Methods", "Inspection and Testing of Materials, Adjustments for Deficiencies, and Maintenance", and "Supplemental Construction Methods"), as modified by addenda issued prior to the opening of bids, shall apply to and become a part of the contract.

All references contained herein are to the New York City Department of Transportation, Standard Highway Specifications, dated November 1, 2010. The said Specifications are hereby revised. Included hereunder are the following REVISIONS:

1. Amendments to Standard Highway Specifications, Volume I
2. Amendments to Standard Highway Specifications, Volume II, including Section 7.88 (Revised) and new Section 6.44 PO and 6.52 CG.

**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

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| <p>[OTHER] <span style="float: right;">Art. 22.1.8</span></p> <p><input checked="" type="checkbox"/> Railroad Protection Liability Policy</p> <p>(ISO-RIMA or equivalent form) approved by Permititor covering the work to be performed at the designated site and affording protection for damages arising out of bodily injury or death, physical damage to or destruction of property, including damage to the Insured's own property and conforming to the following:</p> <ul style="list-style-type: none"> <li>• Policy Endorsement CG 28 31 - Pollution Exclusion Amendment is required to be endorsed onto the policy when environmental-related work and/or exposures exist.</li> <li>• Indicate the Name and address of the Contractor to perform the work, the Contract Number and the name of the railroad property where the work is being performed and the Agency Permit.</li> <li>• Evidence of Railroad Protective Liability Insurance, must be provided in the form of the <u>Original Policy. A detailed Insurance Binder (ACORD or Manuscript Form) will be accepted pending issuance of the Original Policy, which must be provided within thirty (30) days of the Binder Approval.</u></li> </ul> | <p><u>\$2,000,000</u> per occurrence</p> <p><u>\$6,000,000</u> annual aggregate</p> <p>Named Insureds:</p> <p>(1) <u>The New York City Transit Authority (NYCTA), Manhattan and Bronx Surface Transit Operation Authority (MaBSTOA), Staten Island Rapid Transit Operation Authority (SIRTOA), MTA Capital Construction Company, Metropolitan Transportation Authority (MTA), including its subsidiaries and affiliates, and the City of New York (as Owner) and all other indemnified parties.</u></p> <p>(2)</p> |
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| <p>[OTHER] <span style="float: right;">Art. 22.1.8</span></p> <p><input checked="" type="checkbox"/> Professional Liability</p> <p>A. The Contractor's Professional Engineer shall maintain and submit evidence of Professional Liability Insurance in the minimum amount of <u>\$1,000,000 per claim</u>. 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> |
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| <p>[OTHER] <span style="float: right;">Art. 22.1.8</span></p> <p><input checked="" type="checkbox"/> Engineer's Field Office</p> <p><b>Section 6.40, Standard Highway Specifications</b></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> |
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| <p>[OTHER] <span style="float: right;">Art. 22.1.8</span></p> <p><input type="checkbox"/> The Following Additional Insurance Must Be Provided:</p> <p><u><b>Umbrella/Excess Liability Insurance</b> - 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.</u></p> |
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| <input type="checkbox"/> Contractors Pollution Liability      Art. 22.1.6    | \$ _____ per occurrence<br>\$ _____ aggregate<br>Additional Insureds:<br>(1) <u>City of New York, including its officials and employees.</u><br>(2)<br>(3)  |
| <input type="checkbox"/> Marine Protection and Indemnity      Art. 22.1.7(a) | \$ _____ each occurrence<br>\$ _____ aggregate<br>Additional Insureds:<br>(1) <u>City of New York, including its officials and employees.</u><br>(2)<br>(3) |
| <input type="checkbox"/> Hull and Machinery Insurance      Art. 22.1.7(b)    | \$ _____ per occurrence<br>\$ _____ aggregate<br>Additional Insureds:<br>(1) <u>City of New York, including its officials and employees.</u><br>(2)<br>(3)  |
| <input type="checkbox"/> Marine Pollution Liability      Art. 22.1.7(c)      | \$ _____ per occurrence<br>\$ _____ aggregate<br>Additional Insureds:<br>(1) <u>City of New York, including its officials and employees.</u><br>(2)<br>(3)  |



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| <input checked="" type="checkbox"/> Workers' Compensation<br><input checked="" type="checkbox"/> Disability Benefits Insurance<br><input checked="" type="checkbox"/> Employers' Liability<br><input type="checkbox"/> Jones Act<br><input type="checkbox"/> U.S. Longshoremen's and Harbor Workers Compensation Act | Art. 22.1.2<br>Art. 22.1.2<br>Art. 22.1.2<br>Art. 22.1.3<br>Art. 22.1.3 | <p>Workers' Compensation, Employers' Liability, and Disability Benefits Insurance: Statutory per New York State law without regard to jurisdiction.</p> <p><b>Note:</b> The following forms are acceptable: (1) New York State Workers' Compensation Board Form No. C-105.2, (2) State Insurance Fund Form No. U-26.3, (3) New York State Workers' Compensation Board Form No. DB-120.1 and (4) Request for WC/DB Exemption Form No. CE-200. The City will not accept an ACORD form as proof of Workers' Compensation or Disability Insurance.</p> <p>Jones Act and U.S. Longshoremen's and Harbor Workers' Compensation Act: Statutory per U.S. Law.</p> <p><input checked="" type="checkbox"/> Additional Requirements:</p> <p>(1) <u>NYCTA "OUTSIDE CONTRACT" INSURANCE REQUIREMENTS: Workers' Compensation Insurance (including Employer's Liability Insurance) with limits of not less than \$2,000,000, which limit may be met by a combination of primary and excess insurance meeting the statutory limits of New York State.</u></p> <p>(2) <u>Two (2) certificates of such insurance shall be furnished to the Director, Risk Management, MTA Risk and Insurance Management Standards, Enforcement and Claims Unit, 2 Broadway, 21<sup>st</sup> Floor, New York, NY 10004.</u></p> |
| <input type="checkbox"/> Builders' Risk  | Art. 22.1.4   | <p><u>100%</u> of Total Value of <b>Work</b></p> <p><b>Contractor</b> the Named Insured; the <b>City</b> both an Additional Insured and one of the loss payees as its interests may appear.</p> <p>If the <b>Work</b> does not involve construction of a new building or gut renovation work, the <b>Contractor</b> may provide an installation floater in lieu of Builders Risk insurance.</p> <p>Note: Builders Risk Insurance may terminate upon <b>Substantial Completion</b> of the <b>Work</b> in its entirety.</p>  |
| <input checked="" type="checkbox"/> Commercial Auto Liability  | Art. 22.1.5   | <p><u>\$2,000,000</u> per accident combined single limit</p> <p>If vehicles are used for transporting hazardous materials, the <b>Contractor</b> shall provide pollution liability broadened coverage for covered vehicles (endorsement CA 99 48) as well as proof of MCS 90.</p> <p>Additional Insureds:</p> <p>(1) <u>City of New York, including its officials and employees.</u></p> <p>(2) <u>The New York City Transit Authority (NYCTA), Manhattan and Bronx Surface Transit Operation Authority (MaBSTOA), Staten Island Rapid Transit Operation Authority (SIRTOA), Metropolitan Transportation Authority (MTA), its subsidiaries and affiliated companies.</u></p> <p>(3)</p>  |

**(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 an X in a box (☒) to left will be required under this contract

| <p align="center"><u>TYPES OF INSURANCE</u><br/>(per Article 22 in its entirety, including listed paragraph)</p> | <p align="center"><u>MINIMUM LIMITS AND SPECIAL CONDITIONS</u></p>   |
|--|--|
| <p>■ Commercial General Liability      Art. 22.1.1</p>   | <p>The minimum limits shall be <u>\$3,000,000</u> per Occurrence and <u>\$6,000,000</u> per Project Aggregate applicable to this <b>Contract</b>.</p> <p>Additional Insureds:</p> <p>(1) <u>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.</u></p> <p>(2) <u>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).</u></p> <p>(3) <u>The New York City Transit Authority (NYCTA), Manhattan and Bronx Surface Transit Operation Authority (MaBSTOA), Staten Island Rapid Transit Operation Authority (SIRTOA), Metropolitan Transportation Authority (MTA), its subsidiaries and affiliated companies. The Contractor shall furnish two (2) certificates of insurance to and the policy shall be endorsed to provide thirty (30) days advance notice to the Director, Risk Management, MTA Risk and Insurance Management Standards, Enforcement and Claims Unit, 2 Broadway, 21<sup>st</sup> Floor, New York, NY 10004, of any material change and/or cancellation.</u></p> <p>(4) <u>Consolidated Edison Company Of New York</u></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 365 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 the 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 the 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-ccds shall be added to the above Final Contract Duration.

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| <p align="center"><b><u>STANDARD HIGHWAY SPECIFICATIONS</u></b><br/> <b><u>SECTION 6.40</u></b><br/> <b><u>LIQUIDATED DAMAGES FOR</u></b><br/> <b><u>ENGINEER'S FIELD OFFICE</u></b></p> <p>If the Contractor fails to satisfactorily provide the field office and all equipment specified in <b>Section 6.40 - Engineer's Field Office</b>, and/or if a cited deficiency exceed seventy two (72) hours after notice from the Engineer in writing, or is permitted to recur, liquidated damages will be assessed in the amount specified herein for each subsequent calendar day or part thereof that a cited deficiency resulting in nonpayment, as described in <b>Section 6.40.5</b>, is not corrected.</p> | <p>For Each Calendar Day of Deficiency: <u>\$200.00</u></p>   |
| <p align="center"><b><u>STANDARD HIGHWAY SPECIFICATIONS</u></b><br/> <b><u>SECTION 6.70</u></b><br/> <b><u>LIQUIDATED DAMAGES FOR</u></b><br/> <b><u>MAINTENANCE AND PROTECTION OF TRAFFIC</u></b></p>   | <p>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: <u>\$250.00</u></p> <p>For each and every hour of failing to open the entire width of roadway to traffic the morning following a night/weekend work operation: <u>\$500.00</u></p> |
| <p align="center"><b><u>STANDARD HIGHWAY SPECIFICATIONS</u></b><br/> <b><u>SECTION 7.13</u></b><br/> <b><u>LIQUIDATED DAMAGES FOR</u></b><br/> <b><u>MAINTENANCE OF SITE</u></b></p> <p>If the Contractor fails to comply, within three (3) consecutive hours after written notice from the Engineer, with the requirements of <b>Section 7.13 - Maintenance of Site</b>, the Contractor shall pay to the City of New York, until such notice has been complied with or rescinded, the sum specified above per calendar day, for each instance of such failure, as liquidated damages and not as a penalty, for such default.</p>  | <p>For Each Calendar Day, for Each Occurrence: <u>\$250.00</u></p>  |

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| <p align="center"><b><u>CONTRACT ARTICLE 24.</u></b><br/><b><u>DEPOSIT GUARANTEE</u></b></p> <p>As security for the faithful performance of its obligations, the <b>Contractor</b>, upon filing its requisition for payment on <b>Substantial Completion</b>, shall deposit with the <b>Commissioner</b> a sum equal to the percentage of the <b>Contract price</b> indicated to the right.</p>   | <p align="center"><u>1%</u> of <b>Contract Price</b></p>  |
| <p align="center"><b><u>CONTRACT ARTICLE 24.</u></b><br/><b><u>PERIOD OF GUARANTEE</u></b></p> <p>Periods of maintenance and guarantee other than the period set forth in <b>Article 24.1</b> are indicated to the right.</p>   | <p align="center">Eighteen (18) Months, excluding Trees<br/>Twenty-Four (24) Months for Tree Planting</p> |
| <p align="center"><b><u>CONTRACT ARTICLE 74.</u></b><br/><b><u>STATEMENT OF WORK</u></b></p> <p>The <b>Contractor</b> shall furnish all labor and materials and perform all <b>Work</b> in strict accordance with the <b>Contract Drawings, Specifications, and all Addenda</b> thereto.</p>  | <p align="center">See <b>Contract Article 74</b></p>  |
| <p align="center"><b><u>CONTRACT ARTICLE 75.</u></b><br/><b><u>COMPENSATION TO BE PAID TO CONTRACTOR</u></b></p> <p>The <b>City</b> shall pay and the <b>Contractor</b> shall accept in full consideration for the performance of the <b>Contract</b>, subject to additions and deductions as provided in <b>Contract Article 75</b>, this said sum being the amount at which the <b>Contract</b> was awarded to the <b>Contractor</b> at a public letting thereof, based upon the <b>Contractor's</b> bid for the <b>Contract</b>.</p> | <p align="center">See <b>Contract Article 75</b></p>  |
| <p align="center"><b><u>CONTRACT ARTICLE 78.</u></b><br/><b><u>PARTICIPATION BY MINORITY-OWNED AND WOMEN-OWNED BUSINESS ENTERPRISES IN CITY PROCUREMENT</u></b></p>   | <p align="center">See M/WBE Utilization Plan in the Bid Booklet</p>                                       |

**SCHEDULE "A"****(GENERAL CONDITIONS TO CONSTRUCTION CONTRACT)**  
**(INCLUDING GENERAL CONDITIONS RELATED TO ARTICLE 22 - INSURANCE)****PART I. REQUIRED INFORMATION**

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| <p align="center"><b><u>INFORMATION FOR BIDDERS SECTION 26</u></b><br/><b><u>BID SECURITY</u></b></p> <p>The <b>Contractor</b> shall obtain a bid security in the amount indicated to the right.</p>   | See Attachment 1 (page A-1 of the Bid Booklet)  |
| <p align="center"><b><u>INFORMATION FOR BIDDERS SECTION 26</u></b><br/><b><u>PERFORMANCE AND PAYMENT BONDS</u></b></p> <p>The <b>Contractor</b> shall obtain performance and payment bonds in the amount indicated to the right.</p>   | See Attachment 1 (page A-1 of the Bid Booklet)  |
| <p align="center"><b><u>CONTRACT ARTICLE 14.</u></b><br/><b><u>DATE FOR SUBSTANTIAL COMPLETION</u></b></p> <p>The <b>Contractor</b> shall substantially complete the <b>Work</b> in the number of calendar days indicated to the right.</p>  | See Page SA-4   |
| <p align="center"><b><u>CONTRACT ARTICLE 15.</u></b><br/><b><u>LIQUIDATED DAMAGES</u></b></p> <p>If the <b>Contractor</b> fails to substantially complete the <b>Work</b> within the time fixed for substantial completion plus authorized time extensions or if the <b>Contractor</b>, in the sole determination of the <b>Commissioner</b>, has abandoned the <b>Work</b>, the <b>Contractor</b> shall pay to the <b>City</b> the amount indicated to the right.</p> | For Each Consecutive Calendar Day Over Substantial Completion Time: <u>\$1,500.00</u> |
| <p align="center"><b><u>CONTRACT ARTICLE 17.</u></b><br/><b><u>SUB-CONTRACTOR</u></b></p> <p>The <b>Contractor</b> shall not make subcontracts totaling an amount more than the percentage of the total <b>Contract</b> price indicated to the right.</p>  | Not to Exceed <u>35%</u> of the <b>Contract Price</b>                                 |
| <p align="center"><b><u>CONTRACT ARTICLE 21.</u></b><br/><b><u>RETAINAGE</u></b></p> <p>The <b>Commissioner</b> shall deduct and retain until the substantial completion of the <b>Work</b> the percent value of the <b>Work</b> indicated to the right.</p>   | <u>5%</u> of the Value of the <b>Work</b>   |
| <p align="center"><b><u>CONTRACT ARTICLE 22.</u></b></p> <p align="center"><b><u>(Per Directions Indicated To The Right)</u></b></p>   | See pages SA-5 through SA-9   |

## **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 excavation 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 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").

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. Shheeting 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.

**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

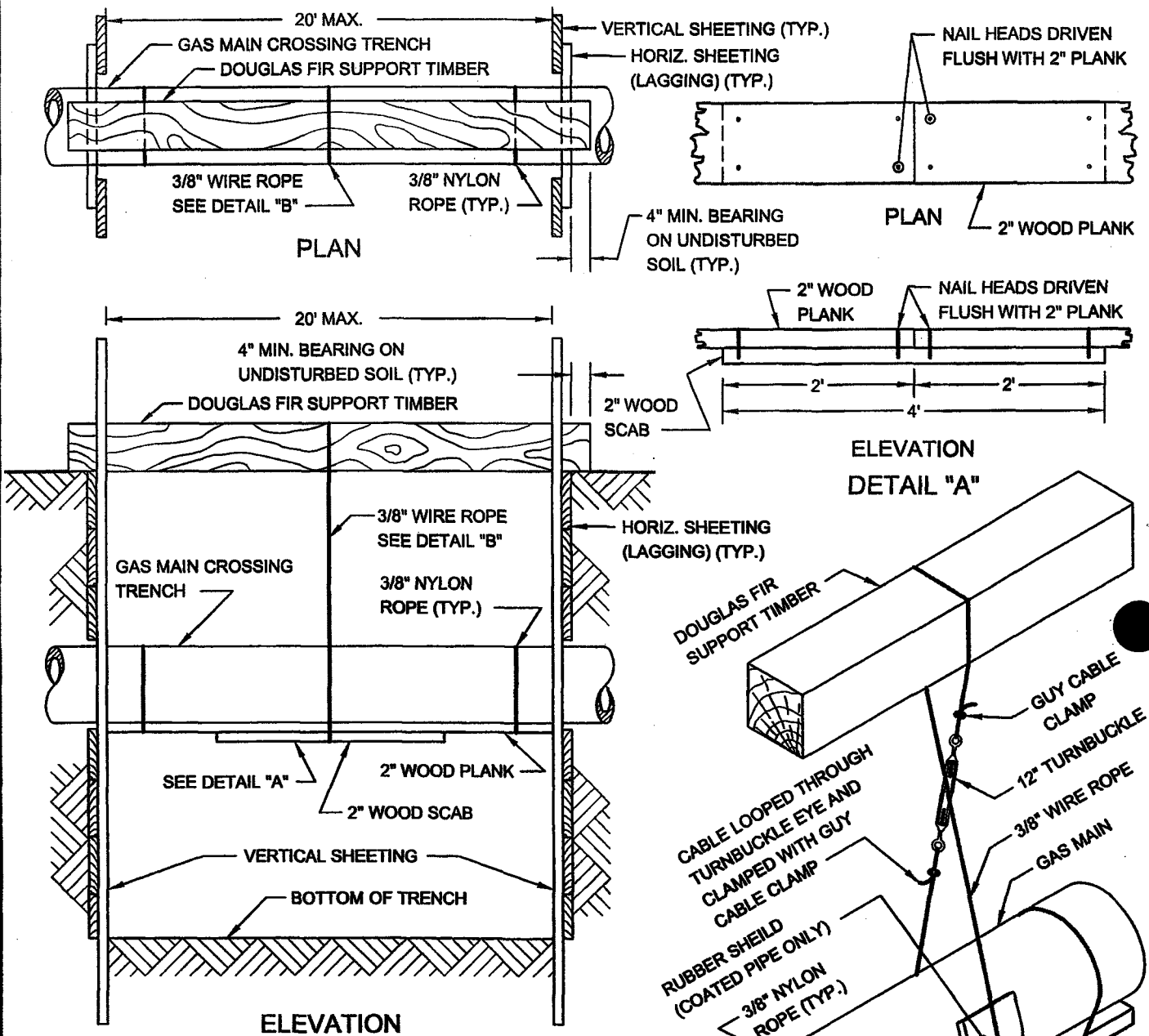
## IV - STANDARD SKETCHES; GAS COST SHARING WORK

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

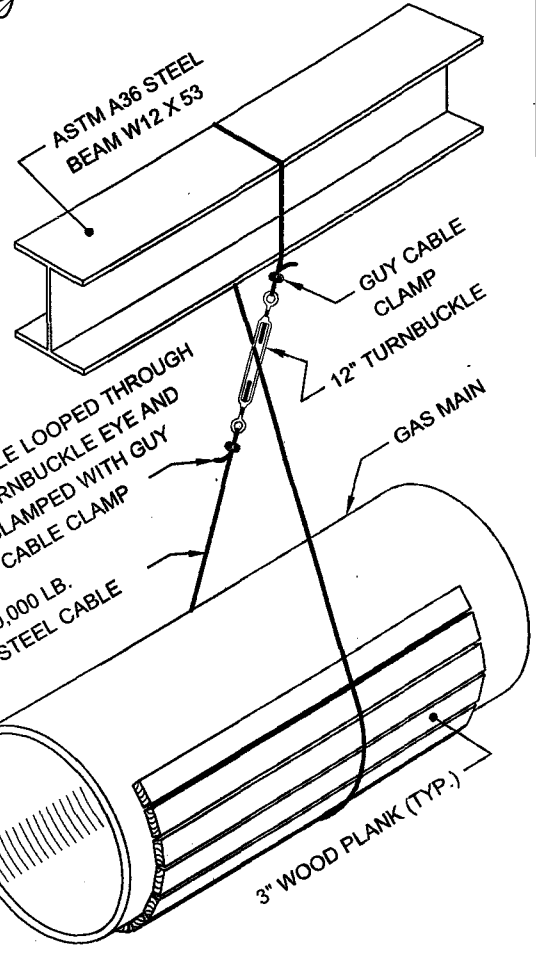
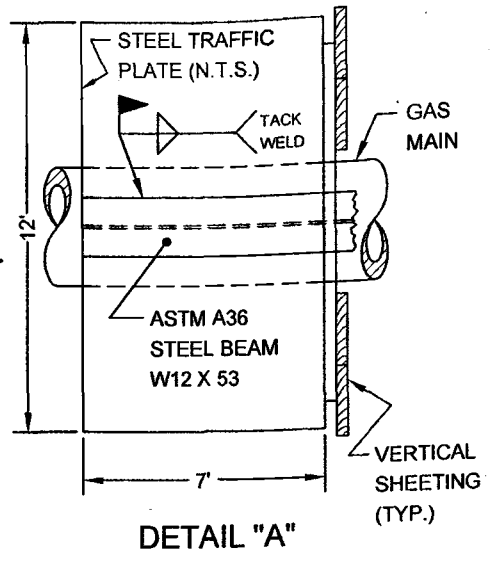
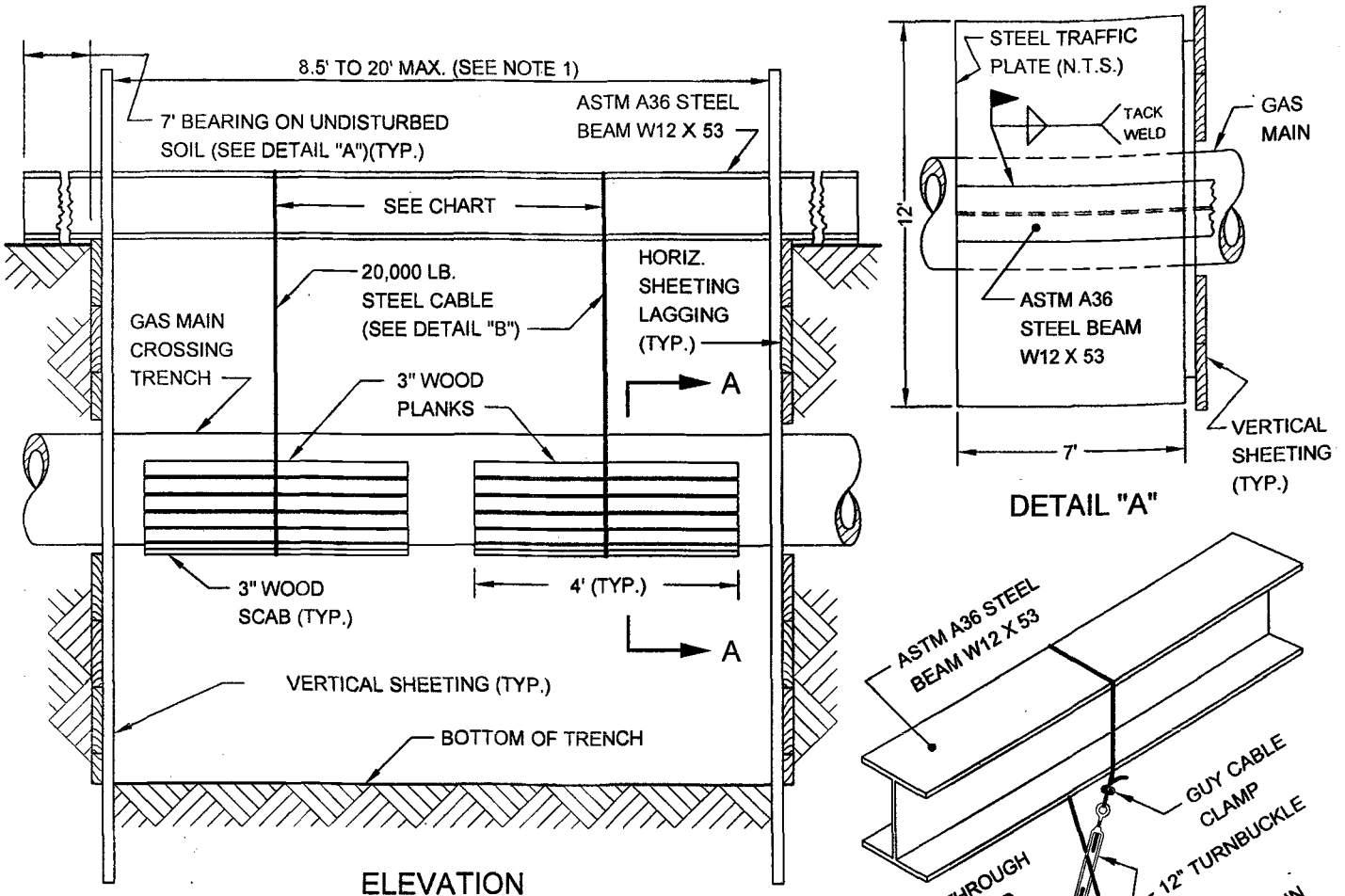


| CABLE SUPPORT |               | TIMBER SUPPORT |             |
|---------------|---------------|----------------|-------------|
| MAIN TYPE     | SPACING       | MAIN SIZE      | TIMBER SIZE |
| CAST IRON     | 4' O.C. MAX.  | UP TO 6"       | 6" X 6"     |
| STEEL         | 10' O.C. MAX. | 8" TO 10"      | 8" X 8"     |
| PLASTIC       | 10' O.C. MAX. | 12" TO 16"     | 10" X 10"   |

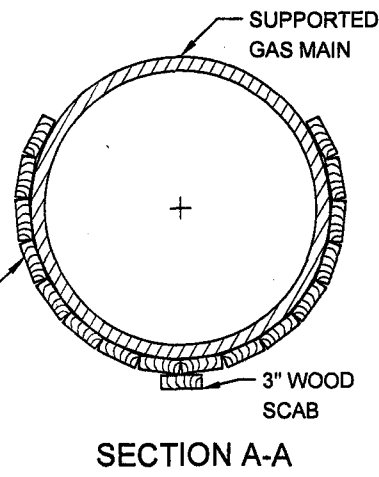
REVISION OCT. 2004 - L. ADRIEN  
 REVISED JUNE 1988 - J. WONG/TW. PATAKNOOP, INC.

# GAS COST SHARING WORK (SKETCH NO. 1A)

SUPPORT REQUIREMENTS FOR GAS MAINS OVER 16" DIAMETER UP TO AND INCLUDING 48" DIAMETER CROSSING EXCAVATION AT ANY ANGLE



| CABLE SUPPORT |               |
|---------------|---------------|
| MAIN TYPE     | SPACING       |
| CAST IRON     | 4' O.C. MAX.  |
| STEEL         | 10' O.C. MAX. |



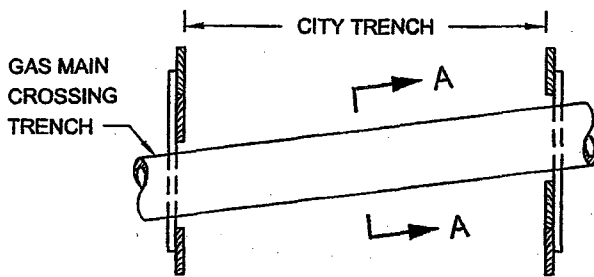
**NOTES:**

- (1) NO SUPPORT IS REQUIRED FOR GAS MAINS OVER 16" DIA. UP TO AND INCLUDING 48" DIA. CROSSING TRENCHES LESS THAN 8.5' WIDE.
- (2) UNDERMINE A MAXIMUM OF 8.5 L.F. OF CAST IRON GAS MAIN AT A TIME.
- (3) SET STEEL CABLE OVER 3" WOOD PROTECTIVE PLANKS AND PLACE AN ADDITIONAL 3" SCAB ON THE BOTTOM OF THE GAS MAIN.
- (4) ADJUST STEEL CABLE UNTIL DEAD WEIGHT OF THE UNDERMINED GAS MAIN HAS BEEN TAKEN UP BY THE OVERHEAD STEEL BEAM SUPPORT.
- (5) ALL SUPPORTS AND STEEL CABLES CAN BE REMOVED ONLY AFTER THE REQUIRED BACKFILL (AROUND AND BELOW GAS MAIN) HAS BEEN COMPACTED IN ACCORDANCE WITH NEW YORK CITY STANDARDS AND AT THE DIRECTIONS OF THE ENGINEER.

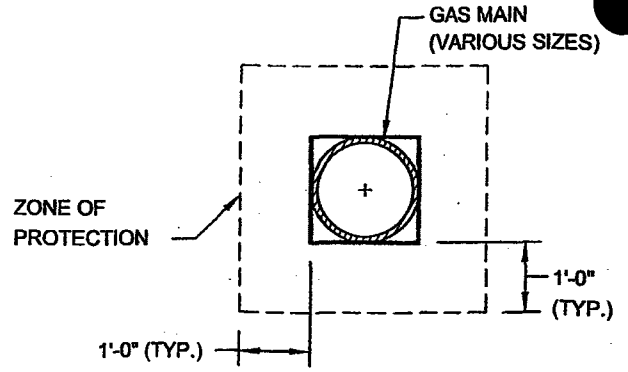
REVISED OCT. 1988 - J. WONG/TW. PATALANO/P. MOY  
ADRIEN

# GAS COST SHARING WORK (SKETCH NO. 2)

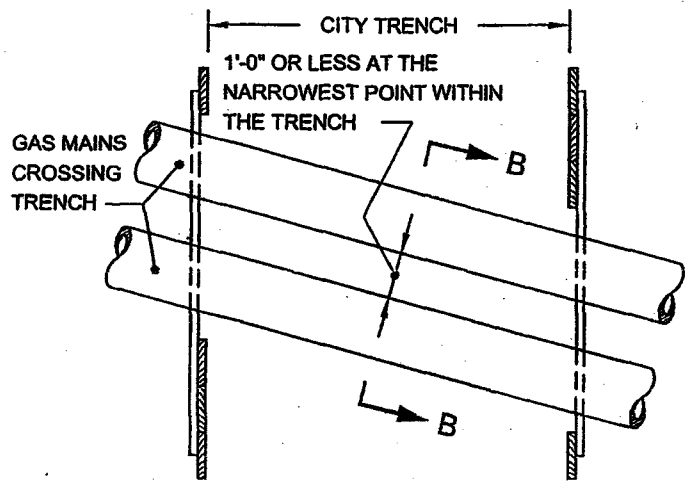
## TYPICAL METHODS OF MEASUREMENT FOR GAS CROSSINGS



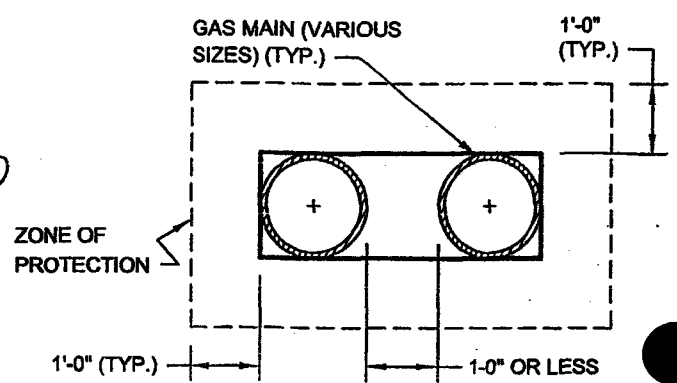
**SINGLE FACILITY CROSSING**



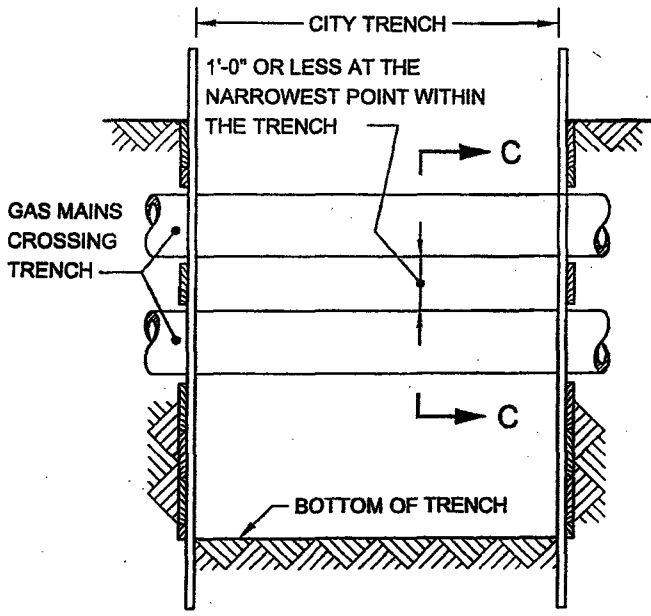
**SECTION A-A**



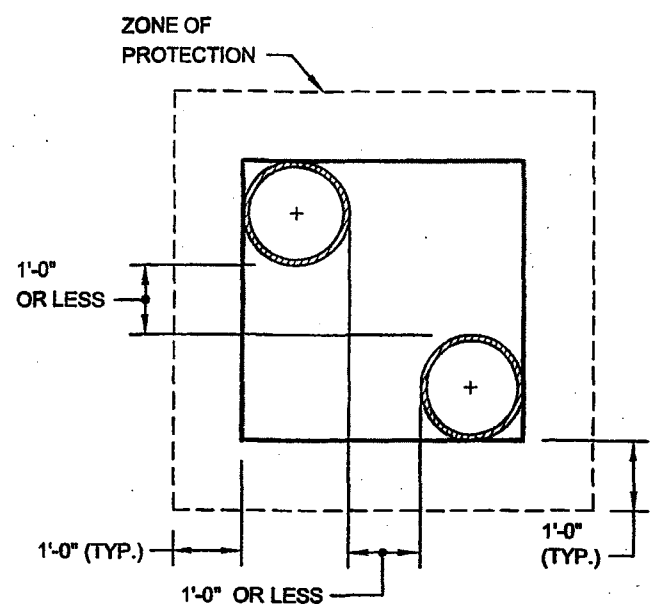
**MULTIPLE FACILITIES  
(GAS MAINS AT SAME ELEVATION)**



**SECTION B-B**



**MULTIPLE FACILITIES  
(ONE CROSSING AT DIFFERENT ELEVATIONS)**



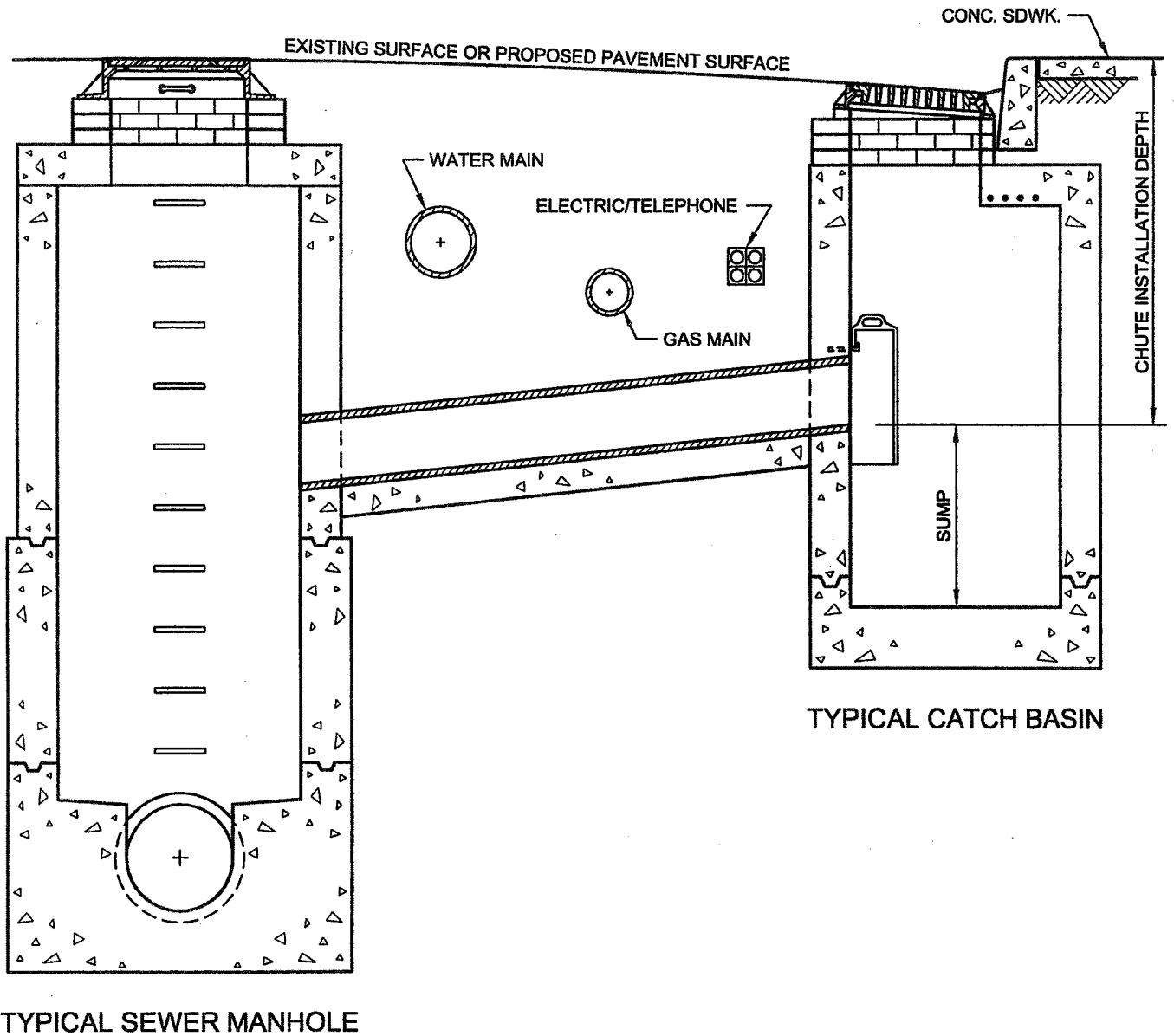
**SECTION C-C**

**NOTE:**  
GAS MAINS MAY OR MAY NOT BE PARALLEL TO EACH OTHER.

REVISED SEPT. 2004 - J. ADRIEN  
REVISED SEPT. 2004 - J. WONGW. PATALANOP, MOY



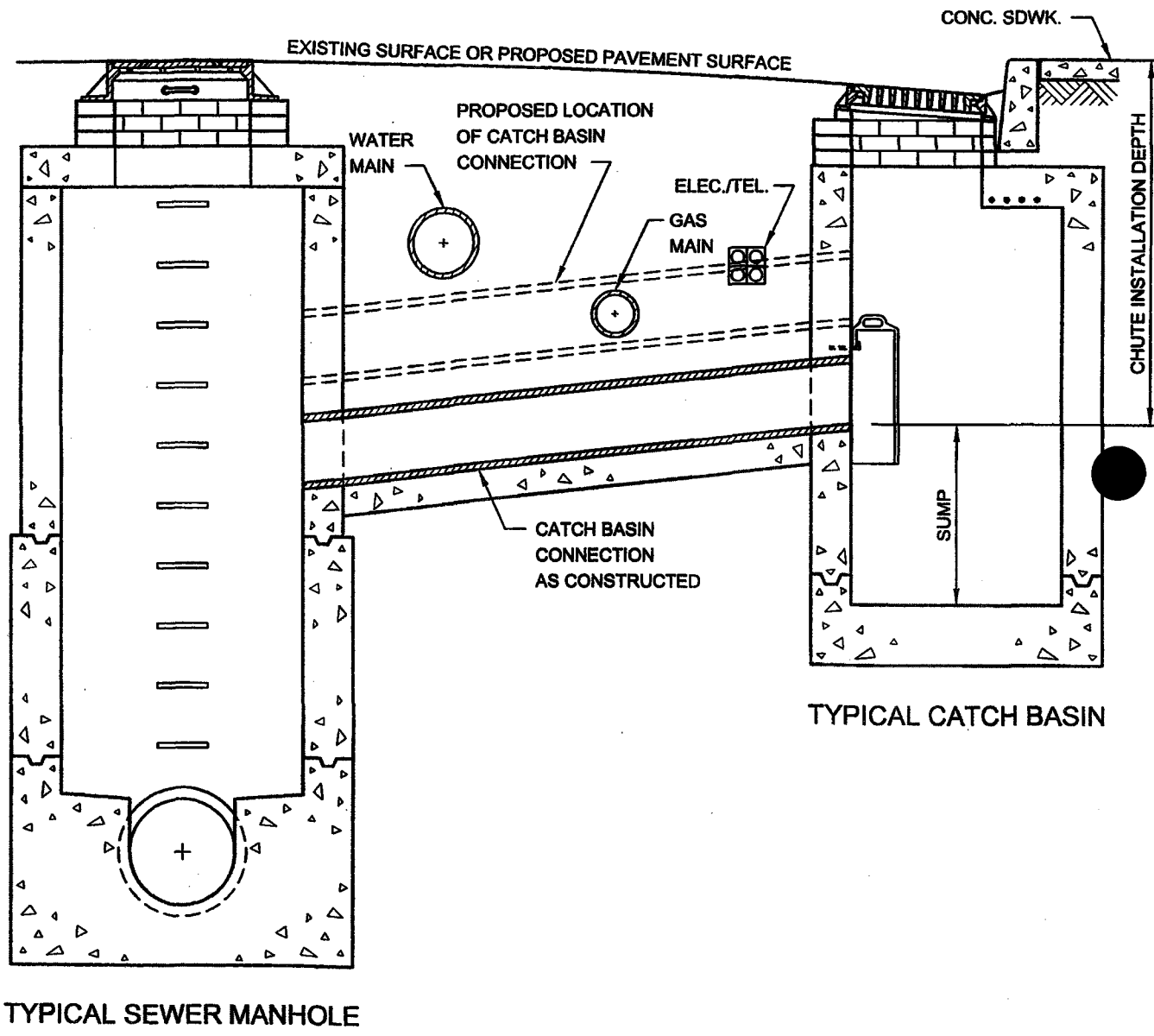
GAS COST SHARING WORK (SKETCH NO. 3)  
UTILITY CROSSINGS DURING CATCH BASIN CHUTE  
CONNECTION PIPE INSTALLATION



REVISED OCT. 2004 - L. ADRIEN  
REVISED OCT. 1988 - J. WONG/W. PATALANOP, MOY

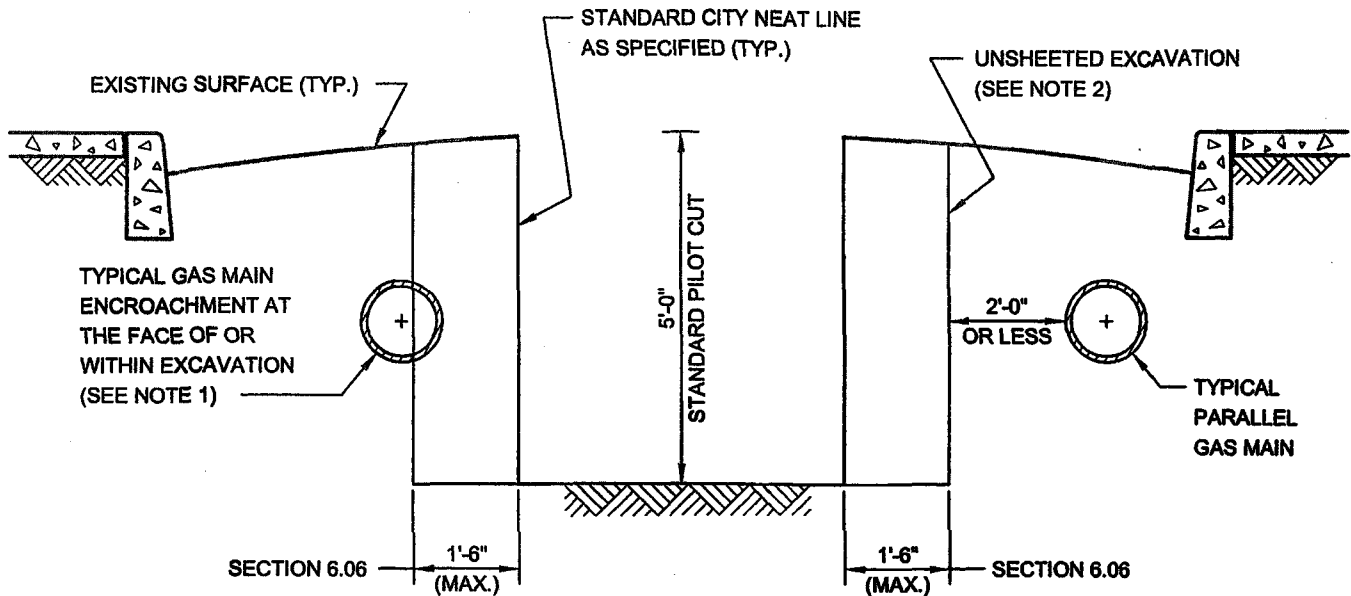
# GAS COST SHARING WORK (SKETCH NO. 4)

## UTILITY CROSSINGS DURING CATCH BASIN CHUTE CONNECTION PIPE INSTALLATION (EXTRA DEPTH)



REVISED OCT. 2004 - L. ADRIEN  
 REVISED OCT. 1988 - J. WONG/W. PATALANOP, INCY

**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.

**NO TEXT THIS PAGE**

**V - PRELIMINARY GAS WORK TO BE PERFORMED BY  
FACILITY OPERATOR.**

**APPLICABLE TO ALL GAS DRAWINGS:**

- ALL RELOCATION WORK SHOWN IN THIS ADDENDUM 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:

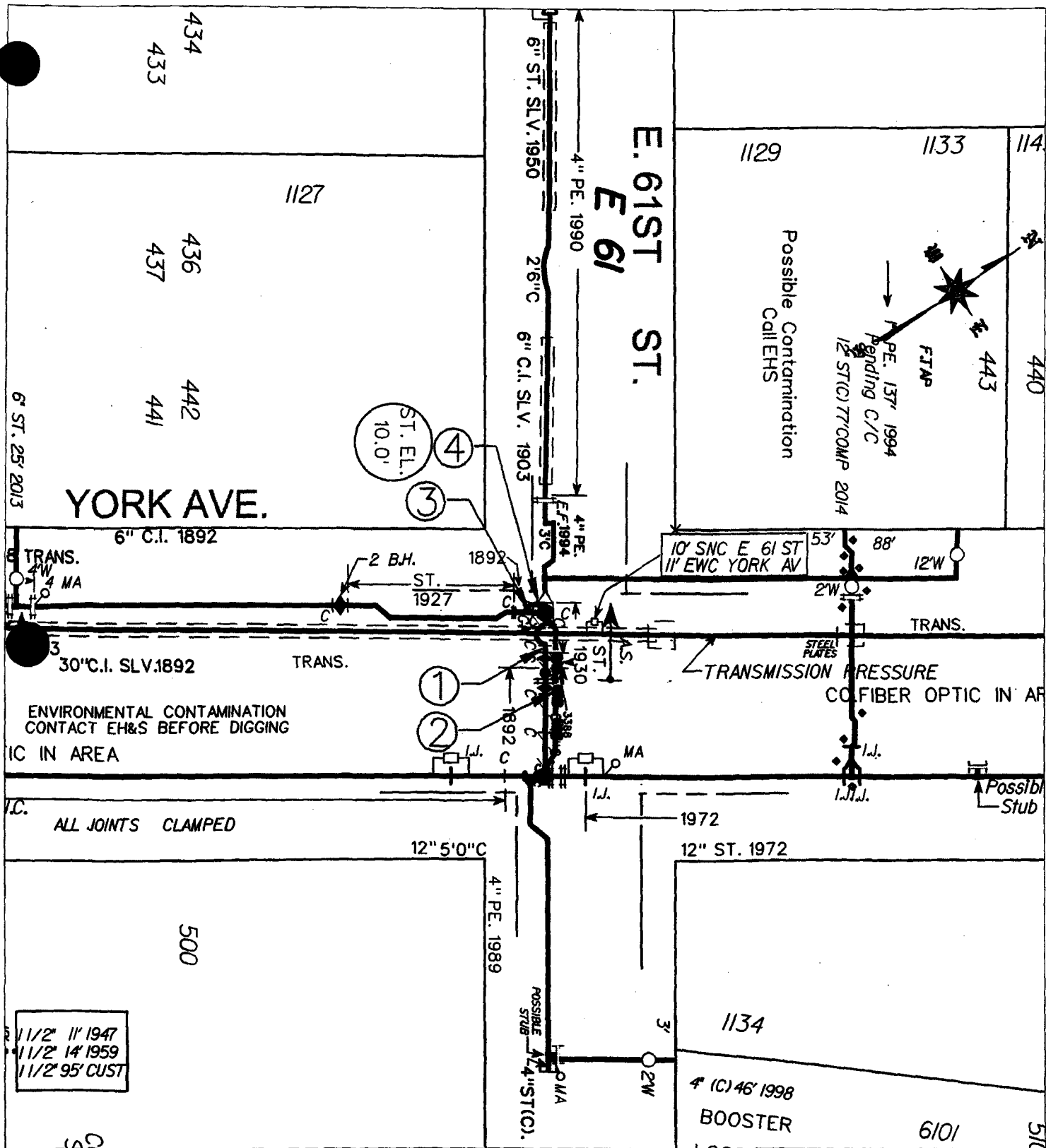
Ms. Theresa Kong  
Con Edison Company  
4 Irving Pl., 17<sup>th</sup> Floor.  
New York, NY 10003  
Tel.: (212) 460-4834

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GAS FACILITY COST ALLOCATION AGREEMENT  
PROJECT NO. SEN 002169  
CAPITAL GAS MAIN INSTALLATION

| SHEET # | LOC. | ON STREET   | FROM                   | TO             | ITEM | SIZE | TYPE | LENGTH   | REIMB LENGTH | REMARKS |     |     |     |     |      |
|---------|------|-------------|------------------------|----------------|------|------|------|----------|--------------|---------|-----|-----|-----|-----|------|
|         |      |             |                        |                |      |      |      |          |              | RET.    |     | +/- |     |     |      |
| 1       | 1    | YORK AVENUE | INT. OF E. 61ST STREET |                |      |      |      |          |              | RET.    | 55  | +/- | 6"  | CI  | 1903 |
| 1       | 1    | "           | "                      |                |      |      |      |          |              | RET.    | 5   | +/- | 6"  | STL | 1930 |
| 1       | 2    | "           | "                      |                | 80i  | 6"   | STL  | 60' +/-  | 60' +/-      |         |     |     |     |     |      |
| 1       | 3    | "           | "                      |                |      |      |      |          |              | RET.    | 10  | +/- | 6"  | CI  | 1892 |
| 1       | 4    | "           | "                      |                | 80i  | 6"   | STL  | 10' +/-  | 10' +/-      |         |     |     |     |     |      |
| 2       | 5    | YORK AVENUE | INT. OF E. 62ND STREET |                |      |      |      |          |              | RET.    | 150 | +/- | 30" | CI  | 1907 |
| 2       | 6    | "           | "                      |                | 80o  | 24"  | STL  | 230' +/- | 230' +/-     |         |     |     |     |     |      |
| 2       | 7    | "           | "                      |                |      |      |      |          |              | RET.    | 150 | +/- | 36" | CI  | 1907 |
| 2       | 8    | "           | "                      |                | 80o  | 24"  | STL  | 320' +/- | 320' +/-     |         |     |     |     |     |      |
| 2       | 9    | "           | "                      | "              |      |      |      |          |              | RET.    | 15  | +/- | 20" | STL |      |
| 2       | 9    | "           | "                      | "              |      |      |      |          |              | RET.    | 55  | +/- | 24" | STL |      |
| 2       | 10   | "           | "                      | "              | 80o  | 24"  | STL  | 140' +/- | 140' +/-     |         |     |     |     |     |      |
| 2,3     | 11   | YORK AVENUE | E. 62ND STREET         | E. 63RD STREET |      |      |      |          |              | RET.    | 10  | +/- | 6"  | CI  | 1892 |
| 2,3     | 11   | "           | "                      | "              |      |      |      |          |              | RET.    | 355 | +/- | 12" | CI  | 1892 |
| 2,3     | 11   | "           | "                      | "              |      |      |      |          |              | RET.    | 30  | +/- | 12" | STL | 1958 |
| 2,3     | 11   | "           | "                      | "              |      |      |      |          |              | RET.    | 5   | +/- | 12" | STL | 1961 |
| 2,3     | 12   | "           | "                      | "              | 80l  | 12"  | STL  | 390' +/- | 390' +/-     |         |     |     |     |     |      |
| 3       | 13   | YORK AVENUE | INT. OF E. 63RD STREET |                |      |      |      |          |              | RET.    | 25  | +/- | 20" | CI  | 1884 |
| 3       | 14   | "           | "                      |                |      |      |      |          |              | RET.    | 60  | +/- | 4"  | STL | 1985 |
| 3       | 15   | "           | "                      |                | 80i  | 6"   | STL  | 90' +/-  | 90' +/-      |         |     |     |     |     |      |
| 3       | 16   | "           | "                      |                |      |      |      |          |              | RET.    | 15  | +/- | 12" | STL | 1932 |
| 3       | 17   | "           | "                      |                | 80l  | 12"  | STL  | 15' +/-  | 15' +/-      |         |     |     |     |     |      |

A3-22A



A3-22B

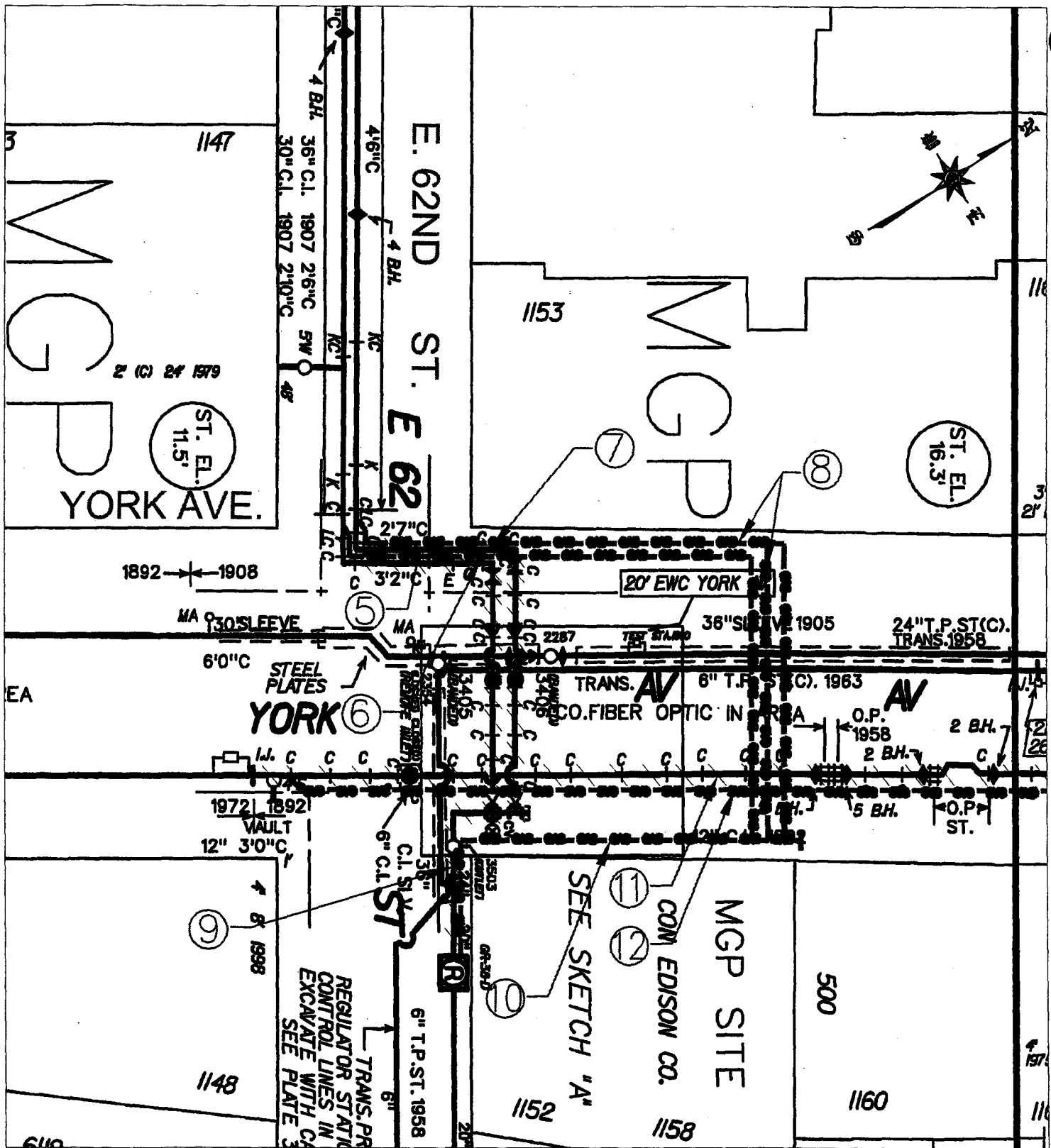
EMBER 2014  
 SCALE = 1 : 50  
 SHEET 1 OF 3



Consolidated Edison Company of New York, Inc.  
 CAPITAL PROJECT: SEN002169/ EP-7  
 COMBINED SEWERS IN YORK AVENUE  
 BOROUGH OF MANHATTAN

MATCH LINE SEE SHEET 1 OF 3

MATCH LINE SEE SHEET 3 OF 3



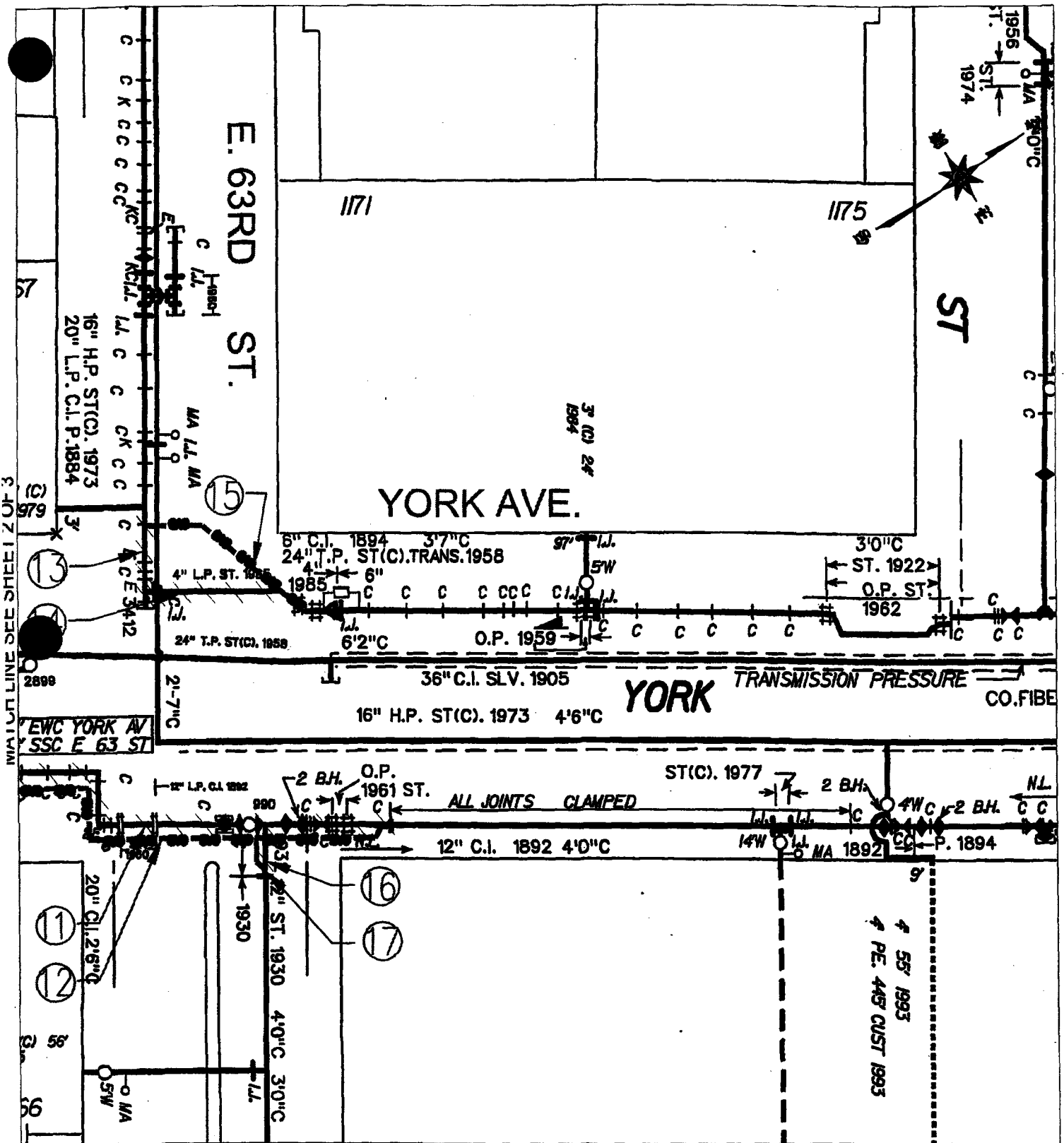
A3-22C

|                |
|----------------|
| NOVEMBER 2014  |
| SCALE = 1 : 50 |
| SHEET 2 OF 3   |



Consolidated Edison Company of New York, Inc.  
 CAPITAL PROJECT: SEN002169/ EP-7  
 COMBINED SEWERS IN YORK AVENUE  
 BOROUGH OF MANHATTAN





SEE SHEET 2 OF 3 FOR CONTINUATION

A3-22D

DECEMBER 2014  
 SCALE = 1 : 50  
 SHEET 3 OF 3



Consolidated Edison Company of New York, Inc.  
 CAPITAL PROJECT: SEN002169/ EP-7  
 COMBINED SEWERS IN YORK AVENUE  
 BOROUGH OF MANHATTAN

**VI - LISTING OF APPROXIMATE LOCATIONS OF EP-7 BID  
ITEMS QUANTITIES**

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**SCOPE OF WORK  
SUPPORT AND PROTECTION  
FOR CONTRACT SEN-002169**

The City of New York Department of Design and Construction is proposing 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.

**6.01.3 - Gas Main Crossing Sewer 36" Thru 42" In Diameter. (Ea.)**

4 in int of York Ave and E 62 St.

**6.01.6H - Gas Main Crossing 6'-0"W x 4'-0"H F.T.R.C. Combined Sewer. (Ea.)**

2 in Int of York Ave and E 62 St.  
3 in York Ave bet E 62 St and E 63 St.

**6.01.7N- Gas Main Crossing 6'-6"W x 4'-0"H F.T.R.C. Combined Sewer. (Ea.)**

1 in York Ave bet E 61 St and E 62 St.

**6.01.8 - Gas Services Crossing Trenches And/Or Excavations. (Ea.)**

2 in Various Locations As Required.

**6.01.9 - Gas Main Crossing Water Main Up To 20" In Diameter (Ea.)**

5 in Int of York Ave and E 61 St.  
4 in York Ave bet E 61 St and E 62 St.  
2 in S/S E 62 St W/O York Ave.  
1 in Int of York Ave and E 62 St.  
8 in York Ave bet E 62 St and E 63 St.  
4 in Int of York Ave and E 63 St.

**6.02 - Extra Excavation For The Installation Of Catch Basin Sewer Drain Pipes With Gas Interferences. (Ea.)**

7 in Various Locations As Required.

**6.03 - Removal Of Abandoned Gas Facilities. All Sizes. (L .F.)**

700 in Various Locations As Required.

**SCOPE OF WORK  
SUPPORT AND PROTECTION  
FOR CONTRACT SEN-002169**

The City of New York Department of Design and Construction is proposing to install sewers and/or water mains and all appurtenances in various locations in The City Of New York along with all work incidental thereto.

**6.03.1A - Removal Of Abandoned Gas Facilities With Possible Coal Tar Wrap. All Sizes.(L.F.)  
(For Con Edison Work Only)**

300 in Various Locations As Required.

**6.04 - Adjust Hardware To Grade Using Spacer Rings / Adaptors (Street Repaving). (Ea.)**

10 in Various Locations As Required.

**6.05 - Adjust Hardware To Grade By Resetting (Road Reconstruction) (Ea.)**

20 in Various Locations As Required

**6.06 - Special Care Excavation And Backfilling (C.Y.)**

240 in various locations as required, including but not limited  
to all gas services crossing unsheathed water main trenches.

**6.06A- Special Care Excavation and Backfilling For Transmission Mains (C.Y.)**

320 in Various Locations As Required.

**6.07 - Test Pits For Gas Facilities (C.Y.)**

120 in Various Locations As Required.

**SCOPE OF WORK  
SUPPORT AND PROTECTION  
FOR CONTRACT SEN-002169**

The City of New York Department of Design and Construction is proposing 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.

**6.08A- Pier And/Or Plate Method Of Protection For Ductile Iron Water Main  
With Less Than 24" Cover. (Ea.)**

2 in Various Locations As Required.

**6.09 - Trench Excavation And Backfill For New Gas Mains & Services  
(To Be Performed By City Contractor). (C.Y.)**

1420 as is Shown on Attached Sketches

SEN002169 - COMBINED SEWERS IN YORK AVENUE, BOROUGH OF MANHATTAN  
Trench Excavation/ Backfill Calculation (Item 6.09)

| SHEET | CAPITAL ITEMS                                      | Trench Dimensions |      |      | (CY)   |
|-------|--|-------------------|------|------|--------|
|       |  | L                 | W    | D    |        |
|       | <b>INSTALL 6" LP STL GAS MAIN</b>                  |                   |      |      |        |
| EP7-1 | YORK AVENUE INT. OF E. 61ST STREET                 | 70.00             | 2.50 | 4.00 | 25.93  |
| EP7-1 | YORK AVENUE INT. OF E. 63RD STREET                 | 90.00             | 2.50 | 4.00 | 33.33  |
|       | <b>INSTALL 12" LP STL GAS MAIN</b>                 |                   |      |      |        |
| EP7-1 | YORK AVENUE BTW. E. 62ND STREET AND E. 63RD STREET | 390.00            | 3.00 | 4.50 | 195.00 |
| EP7-1 | YORK AVENUE INT. OF E. 63RD STREET                 | 15.00             | 3.00 | 4.50 | 7.50   |
|       | <b>INSTALL 24" LP STL GAS MAIN</b>                 |                   |      |      |        |
| EP7-1 | YORK AVENUE INT. OF E. 62ND STREET                 | 690.00            | 5.50 | 6.00 | 843.33 |

|             |                            |                |
|-------------|----------------------------|----------------|
| (A)         | Gas trench volume          | 1105.09        |
| (B)         | Tie in pits volume         | 77.92          |
|             | 9 ea.                      |                |
| (C)         | Test Pits for gas services | 1.78           |
|             | 1 ea.                      |                |
| (A)+(B)+(C) |                            | 1184.79        |
|             | add 20%                    | 236.96         |
|             | <b>Total</b>               | <b>1421.74</b> |
|             | say                        | 1,420 CY       |

SEN-602169

**SECTION 6.08A – Pier and/or Plate Method of Protection for Ductile Iron Water main with less than 24" Cover**

**A. Description:**

Under this item, the Contractor shall provide all labor, materials, equipment, insurance and incidentals required to protect ductile iron water mains that are installed with a cover of 24 inches or less crossing over gas facilities of various sizes. The work shall be performed in accordance with the contract plans, specifications and at the direction of the facility operator(s), upon approval from the Resident Engineer.

**B. Materials:**

The Contractor shall supply all materials (concrete, beams, plates, etc.) necessary to provide the pier and plate method of protection as shown on BWS Standard Drawing No. 46464-Z.

**C. Method of Construction:**

The Contractor shall provide pier and plate protection in accordance with BWS Standard Drawing No. 46464-Z. The Contractor shall support, maintain and accommodate the water main and all other utility facilities during the installation of the pier and plate components. The Contractor shall be solely and totally responsible for the disturbances and/or any damages to such facilities.

**D. Method of Measurement:**

The quantity to be measured for payment shall be each (EA.) location wherein an additional area of square foot (S.F.) of steel plate is required to be installed to protect ductile iron water mains with a cover of 24 inches or less crossing over gas facilities of various sizes, as directed by the Facility Operator(s) upon approval from the Resident Engineer. The additional area of square foot (S.F.) of steel plate shall be in accordance with BWS Standard Drawing No. 46464-Z.

**E. Price to Cover:**

The price shall cover the cost of all supervision, labor, material, equipment, and incidentals necessary to construct the specified method of protection. The work shall also cover the cost to cut, break, and remove additional pavement, additional excavation, sheeting, maintenance of traffic, traffic plates, and to furnish and install additional backfill and pavement restoration. This item does not cover the costs for special care excavation around gas facilities that are covered under separate items.

**F. References:**

1. BWS Standard Drawing No. 46464-Z.

SEN-002169

**SECTION 6.09 - Trench Excavation and Backfill for New Gas Mains and Services  
(To be performed by City Contractor)**

**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.5, General Specification for Backfilling of Trench and Small Openings, which is included in this contract.

**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



SEN-002169

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 drawing EP-7 SECT. 6.09 GAS SPECIALTY CONTRACTOR WORK (Sheet EP7-1 and EP7-2), or as encountered based on existing field conditions.

A3-23G

SEN-002169

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.

SEN-602169



conEdison

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.  
4 IRVING PLACE  
NEW YORK, NY 10003

DISTRIBUTION ENGINEERING  
TOOLS AND STRUCTURES

SPECIFICATION EO-1181  
REVISION 6  
May 2010

EFFECTIVE DATE  
June 1, 2010

GENERAL SPECIFICATION FOR BACKFILLING  
OF TRENCH AND SMALL OPENINGS

FILE: CONSTRUCTION STANDARDS MANUAL NO. 3, SECTION 37

|                 |                       |
|-----------------|-----------------------|
| TARGET AUDIENCE | REGIONAL CONSTRUCTION |
| NESC REFERENCE  | NONE                  |

TABLE OF CONTENTS

1.0 PURPOSE ..... 3

2.0 APPLICATION ..... 3

3.0 DEFINITIONS ..... 3

4.0 REQUIREMENTS ..... 4

    4.1 Compaction ..... 4

    4.2 Density Testing ..... 5

    4.3 Procedure For Electric Duct Backfill ..... 5

    4.4 Procedure For 138kv Cable Pipe Installation ..... 6

    4.5 Procedure For Backfilling Gas Trenches & Small Openings ..... 6

    4.6 Backfilling Concrete Coated & Steel Jacketed Steam Main Trenches 7

5.0 PRECAUTIONS ..... 7

| Specification      | Revision | Rev Date               | Effective Date | Copyright Information                               | Page |
|--------------------|----------|------------------------|----------------|---|------|
| EO-1181            | 6        | 05/01/2010             | 06/01/2010     | 2007-2008 Consolidated Edison Co. of New York, Inc. | 27   |
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SEN-002169

1.0 PURPOSE

This specification details the procedures to be followed in backfilling all Con Edison street openings for electric, gas and steam facilities.

2.0 APPLICATION

This specification applies to all Con Edison Customer Service Areas.

3.0 REFERENCE SPECIFICATION AND DEFINITIONS

- 3.1 The term "Engineer" used in this specification refers to the Distribution Tools & Structures Engineer or his authorized representative.
- 3.2 The term Construction Representative shall mean the Construction Manager, Contract Construction Manager, or his authorized representative.
- 3.3 The terms "Type 3/8", "Type I" and "Type II" shall be as defined in EO-8085.
- 3.4 The term "small opening" shall refer to street openings which are 6' x 5' or smaller.
- 3.5 The term "suitable backfill" shall refer to in-place material excavated from the trench or opening which satisfies the following requirements:
  - 3.5.1 The excavated material shall be free of all broken asphalt pavement, broken concrete, brick, all organic material, and all debris.
  - 3.5.2 The excavated material shall be substantially sandy soil gritty and granular in texture and have a small amount of rocks compared to the total volume of soil. It shall have no rocks greater than 2 inches in size.
  - 3.5.3 The excavated material shall be substantially free of clay like or clayey soil. Clayey soil shall be determined as soil that is powder like in texture when dry and capable of being molded when wet.

| Specification      | Revision | Rev Date               | Effective Date | Copyright Information                               | Page |
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A3-23K

- 3.5.4 Frozen backfill material shall either be removed or broken into small particles before being compacted. Excessively wet material shall be mixed with dry material to reduce moisture content before backfilling.
- 3.5.5 Fill materials, known as "Stone Dust", or "Pond Fill", containing crystalline silica shall not be used as backfill material.
- 3.5.6 If there are any questions as to suitability of the excavated material, the Engineer shall be consulted.
- 3.6 The term "mechanical compaction" shall mean the use of equipment, either impact or plate vibratory, which is designed specifically for soil compaction. The term "hand tamping" shall mean compaction of backfill by means of a plate tamper, which will impart sufficient force to compact the backfill material.
- 3.7 The term "wetted backfill" shall mean backfill material containing sufficient moisture so that when molded by hand it will form a firm shape. If the specimen crumbles it lacks sufficient moisture. If water is squeezed from the specimen it contains too much moisture.

4.0 REQUIREMENTS

4.1 Compaction

- 4.1.1 The term "compacted", for both "mechanical compaction" and "hand tamping", shall mean a minimum level of compaction of 95% of the maximum dry density of the backfill material used as determined by a Standard Proctor Test (ASTM D-698). In lieu of a Standard Proctor Test a "one point" test shall be done by taking a sample of the soil and compacting it using a Standard Proctor mold procedure and determining the maximum in field density that can be obtained and 95% of this value should be used as a comparison to the actual compaction achieved.
- 4.1.2 In lieu of the above, when using "suitable backfill", compaction will be considered adequate if density readings of the compacted fill equal 95% of the readings of the in-place material (i.e. density readings must be taken at the time of excavation to use as reference for compaction). For this type of "before and after" comparison, devices such as the nuclear density tester may be used.

| Specification   | Revision | Rev Date               | Effective Date | Copyright Information                               | Page |
|---|----------|------------------------|----------------|---|------|
| EO-1181   | 6        | 05/01/2010             | 06/01/2010     | 2007-2008 Consolidated Edison Co. of New York, Inc. | 47   |
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## 4.2 Density Testing

- 4.2.1 The sand-cone test, ASTM D1556 or nuclear density tester may be used for all in place density tests. Other methods may be used upon approval of the Engineer.
- 4.2.2 The Construction Representative or Engineer may order as many in-place density tests as he deems necessary to insure proper compaction. If an in-place density test indicates insufficient compaction, the Contractor shall re-compact the area in question until the backfill is compacted to the requirements set forth in paragraph 4.1.1. The Contractor may elect to take additional tests 5 feet on both sides of the test which failed, and average the values of the three readings. If the average value of the three tests meets the compaction requirements, the area in question will be considered sufficiently compacted and no additional compaction will be required. If the average value does not meet the compaction requirements, the Contractor will be required to pay for the two additional in-place density tests and to re-compact the area, which has been determined to be insufficiently compacted. Test after recompaction.

## 4.3 Procedure For Electric Duct Backfill

- 4.3.1 The following backfill procedure shall be used for concrete duct, asbestos cement, and plastic and fibre conduit.
- 4.3.2 Where the ducts are in a rock area, a minimum 4" bed of Type 3/8" backfill shall be placed. It shall be wetted and mechanically compacted to form a firm base for the support of the ducts. Suitable backfill shall be free of stones larger than 2 inches.
- 4.3.3 For concrete conduit, asbestos cement conduit, plastic and fibre conduit encased in concrete, the trench shall be filled with suitable backfill as defined in paragraph 3.5 or Type II material (EO-8085) in 12 inch wetted lifts. Each lift shall be mechanically compacted.
- 4.3.4 For direct buried asbestos cement, plastic and fibre conduit, the trench shall be filled with Type 3/8 material to a level of 12 inches above the ducts. It shall be compacted by hand in a no more than 12 inch wetted lifts. The remaining trench shall be backfilled with suitable backfill or Type II material (EO-8085) in 12 inch wetted lifts mechanically compacted.

| Specification      | Revision | Rev Date               | Effective Date | Copyright Information                               | Page |
|--------------------|----------|------------------------|----------------|---|------|
| EO-1181            | 6        | 05/01/2010             | 06/01/2010     | 2007-2008 Consolidated Edison Co. of New York, Inc. | 57   |
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4.4 Procedure For 138kv Cable Pipe Installation

4.4.1 All installation of 138KV and 345KV cable pipe type feeders shall comply with the requirements set forth in CE-TS-3352.

4.4.2 The requirement for the use of excavated material as "suitable backfill" shall follow the requirements of paragraph 3.5.

4.5 Procedure For Backfilling Gas Trenches & Small Openings

4.5.1 Coated Steel & Plastic Gas Pipe Trenches

- a. A smooth surface shall be excavated in the bottom of the trench and the pipes laid to grade. Where the trench is in a rock area, a minimum of 4 inches of Type 3/8 material shall be placed, wetted and mechanically compacted to form a firm base for the gas pipes.
- b. The trench shall be backfilled with Type 3/8 material to a height of 12 inches above the pipe in a maximum of 12 inch wetted lifts which shall be hand compacted.
- c. The remaining trench shall be backfilled with Type 3/8, Type I, Type II or suitable existing backfill in a maximum of 12 inch wetted lifts, which shall be mechanically compacted.
- d. The density of the compacted backfill shall be tested and accepted or rejected in accordance with paragraph 4.2.2.

4.5.2 Cast Iron, Plastic & Steel Gas Pipe In Small Openings

- a. Backfill material shall be Type 3/8, or suitable existing backfill, which has been segregated to remove all rocks, which may damage the pipe coating.
- b. Openings shall be backfilled to a height of 12 inches above the pipe in a maximum of 12 inch wetted lifts, which shall be hand, compacted. The remainder of the openings shall be backfilled in 12 inch wetted lifts with Type I or Type II or "suitable backfilled" as per paragraph 7 which shall be mechanically compacted.
- c. The density of the compacted backfill shall be tested and

| Specification      | Revision | Rev Date               | Effective Date | Copyright Information                               | Page |
|--------------------|----------|------------------------|----------------|---|------|
| EO-1181            | 6        | 05/01/2010             | 06/01/2010     | 2007-2008 Consolidated Edison Co. of New York, Inc. | 67   |
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SEN-002169

accepted or rejected in accordance with paragraph 4.2.2.

**4.6 Backfilling Concrete Coated & Steel Jacketed Steam Main Trenches**

4.6.1 A smooth surface shall be established in the bottom of the trench and the pipes leveled and laid on a firm base. Where the trench is in a rock area, a minimum of 4 inches of Type I material shall be placed, wetted and mechanically compacted to form a firm base.

4.6.2 The trench shall be backfilled with Type I, or Type II or suitable backfill material in 12 inch wetted lifts, which shall be mechanically compacted.

4.6.3 The backfill shall be tested and accepted or rejected in accordance with paragraph 4.2.2.

**5.0 PRECAUTIONS**

If a work site is found to contain existing fill material that contains or comprised of "Stone Dust" or "pond Fill", the contractor shall cover the material with a 3" layer of sand. If this material is found to be stockpiled at a work site, it shall be covered with a tarpaulin or removed from the work site.

Joseph R. Martin (Signature on File)  
Joseph R. Martin  
Manager  
Tools and Structures  
Distribution Engineering

Marco Meza

|  |  |
|--|--|
| <b><u>REVISION No. 5</u></b><br>Revised section 4.4 (added installation spec.). Due to be reviewed 05/2015 | <b><u>FILE:</u></b><br>Construction Standards Manual 3<br>Section 237 - Subway |
|--|--|

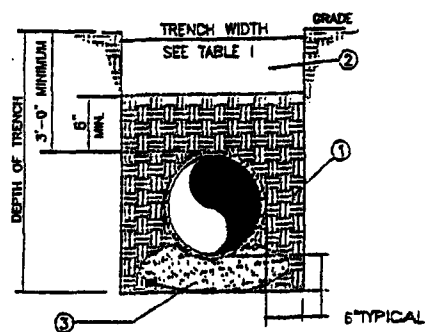
| Specification      | Revision | Rev Date               | Effective Date | Copyright Information                               | Page |
|--------------------|----------|------------------------|----------------|---|------|
| EO-1181            | 6        | 05/01/2010             | 06/01/2010     | 2007-2008 Consolidated Edison Co. of New York, Inc. | 77   |
| Filing Information |          | Construction Standards |                | Manual No. 3, Section 37                            |      |

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A3-23

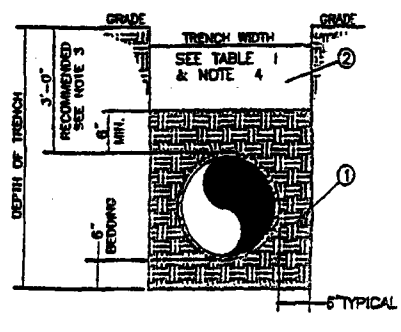
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| REVISIONS          |   |
|--------------------|---|
| R.GROGAN 7/21/88   | 0 |
| M. BALDWIN 2/02/06 | 1 |
| M. BALDWIN 4/04/06 | 2 |
| M. BALDWIN 3/12/08 | 3 |
| P.L.S. 1/28/06     |   |

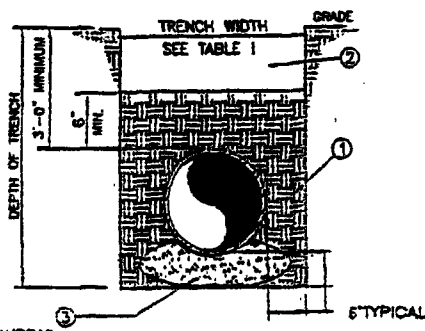


SANDBAG CLASS & STOCK # 000-0075

**STEEL MAIN (DISTRIBUTION)**



**PLASTIC MAIN (DISTRIBUTION)**



SANDBAG CLASS & STOCK # 000-0075

**STEEL MAIN (TRANSMISSION)**

| BILL OF MATERIAL |   |                   |
|------------------|---|-------------------|
| ITEM NO.         | DESCRIPTION                             | SPEC. OR DWG. NO. |
| 1                | 3/8" SAND/CLEAN FILL/ RECYCLED BACKFILL | EO-8085           |
| 2                | SURTABLE BACKFILL                       | EO-1181           |
| 3                | SANDBAG                                 | ASTM C-33         |

| TABLE I       |              |                 |
|---------------|--------------|-----------------|
| SIZE OF MAINS | TRENCH WIDTH | DEPTH OF TRENCH |
| 1 1/2"        | 1'-2"        | 1'-8"           |
| 2"            | 1'-2"        | 1'-8"           |
| 4"            | 1'-2"        | 2'-10"          |
| 6"            | 1'-2"        | 2'-10"          |
| 8"            | 1'-6"        | 4'-4"           |
| 10"           | 1'-6"        | 4'-4"           |
| 12"           | 2'-0"        | 4'-8"           |
| 16"           | 4'-2"        | 4'-10"          |
| 20"           | 4'-2"        | 5'-2"           |
| 24"           | 4'-6"        | 5'-6"           |
| 30"           | 4'-6"        | 5'-6"           |
| 36"           | 4'-6"        | 5'-6"           |
| 42"           | 4'-6"        | 5'-6"           |

**GENERAL NOTES:**

- VARIATIONS IN COVER MAY BE REQUIRED BECAUSE OF SUBSURFACE CONDITIONS INCLUDING DEPTH OF EXISTING FACILITIES. WHEN COVER IS LESS THAN 2'-0" FOR DISTRIBUTION MAINS OR LESS THAN 3'-0" FOR TRANSMISSION MAINS, THE PIPE SHALL BE PROTECTED AS PER DWG. EO-6789-C.
- WHEN SHEETING IS USED, THE "TRENCH WIDTH" DIMENSION SHALL BE MEASURED FROM THE INSIDE OF THE SHEETING.
- DISTRIBUTION MAINS SHOULD BE INSTALLED WITH 3'-0" OF COVER SO AS TO ALLOW THE COVER ON THE SERVICE PIPING TO BE A MINIMUM OF 2'-0".
- WHEN INSTALLING COILED PLASTIC PIPE, THE TRENCH WIDTH CAN BE LESS THAN SHOWN.
- INSTALL A SANDBAG AT 10' INTERVALS

**REFERENCE DWGS & SPECS:**

|                        |            |
|------------------------|------------|
| GAS MAINS INSTALLATION | EO-8085    |
| SHEETING               | EO-18854-B |
|                        | EO-18865-B |
| PROTECTIVE COVER       | EO-6789-C  |
| BACKFILLING            | EO-1181    |
|                        | EO-8085    |

THIS DWG. SUPERSEDES EO-7922

EFFECTIVE DATE 8/21/88

**TRENCH EXCAVATION FOR GAS MAINS UP TO 350 PSIG**

CONSOLIDATED EDISON COMPANY OF N.Y., INC.  
GAS OPERATIONS DEPT.

DATE 7/21/88 DWG. NO. 309495 REV. 3  
LAST REV. 3/12/86

GAS OPERATIONS CONSTRUCTION STDS. VOLUME 2 SECTION 5

End of Addendum No. 3

This addendum consists of fifty-one (51) pages.

A3-23 Q

**ATTACH TO CONTRACT DOCUMENTS**

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

**PROJECT ID: SEN002169**

**FOR THE CONSTRUCTION OF COMBINED SEWERS AND APPURTENANCES IN: YORK AVENUE  
BETWEEN EAST 61<sup>ST</sup> STREET AND EAST 63<sup>RD</sup> STREET; AND EAST 62<sup>ND</sup> STREET BETWEEN YORK  
AVENUE AND 1<sup>ST</sup> AVENUE**

**INCLUDING SEWER, WATER MAIN, STREET LIGHTING AND TRAFFIC WORK**

**Together With All Work Incidental Thereto**

**BOROUGH OF MANHATTAN**

**ADDENDUM NO. 4**

**DATED: December 19, 2014**

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**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.**

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**SPECIFICATIONS FOR  
HANDLING, TRANSPORTATION AND DISPOSAL  
OF NONHAZARDOUS AND POTENTIALLY HAZARDOUS  
CONTAMINATED MATERIALS**

(NO TEXT ON THIS PAGE)

**SPECIFICATIONS FOR  
HANDLING, TRANSPORTATION AND DISPOSAL  
OF NON-HAZARDOUS AND POTENTIALLY HAZARDOUS  
CONTAMINATED MATERIALS**

**Reconstruction of Combined Sewer and Water Main in York Ave**

**Borough of Manhattan**

**DDC Project No. SEN002169**

**Prepared By:**



**NEW YORK CITY DEPARTMENT OF  
DESIGN + CONSTRUCTION**

**30-30 Thomson Avenue, 3<sup>rd</sup> Floor  
Long Island City, New York 11101**

**Date: June 24, 2014**

A4-3

## Table of Contents

|              |   |    |
|--------------|---|----|
| ITEM 8.01 C1 | <u>HANDLING, TRANSPORTING AND DISPOSAL OF NON-HAZARDOUS<br/>CONTAMINATED SOILS</u> .....                  | 1  |
| ITEM 8.01 C2 | <u>SAMPLING AND TESTING OF CONTAMINATED/POTENTIALLY<br/>HAZARDOUS SOILS FOR DISPOSAL PARAMETERS</u> ..... | 7  |
| ITEM 8.01 H  | <u>HANDLING, TRANSPORTING AND DISPOSAL OF HAZARDOUS SOILS</u> .....                                       | 9  |
| ITEM 8.01 S  | <u>HEALTH AND SAFETY</u> .....  | 15 |
| ITEM 8.01 W1 | <u>REMOVAL, TREATMENT AND DISCHARGE/DISPOSAL OF<br/>CONTAMINATED WATER</u> .....                          | 20 |
| ITEM 8.01 W2 | <u>SAMPLING AND TESTING OF CONTAMINATED WATER</u> .....   | 27 |

- Attachments**
1. New York City Department of Environmental Protection Limitations for Effluent to Storm-Sanitary or Combined Sewers Parameters
  2. Applicable Regulations
  3. Definitions
  4. Phase II Subsurface Corridor Investigation Report

## ITEM 8.01 C1 HANDLING, TRANSPORTING AND 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 Administration, Engineering Support Services (ESS) 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 Administration, ESS for review, a Material Handling Plan (MHP). The MHP must be approved by the Program Administration, ESS, 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 Administration, ESS.

#### 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 Administration, ESS 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 Administration, ESS 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 Administration, ESS, 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, plant, equipment, and insurance for excavation, handling, transportation, disposal, documentation, fees, permits, loading, stockpiling, hauling, and any other incidentals necessary to complete all the work as specified herein for handling, transporting, and disposal of non-hazardous contaminated soil.
- B. Final disposal of hazardous soil shall be paid for under Item 8.01 H – Handling, Transporting and Disposal of Hazardous Soils. Disposal of decontamination water shall be paid for under Item 8.01 W1 – Removal, Treatment and Discharge/Disposal of Contaminated Water.
- C. Backfill will be paid for under its respective item as specified in the contract document.
- D. The independent Environmental Consultant shall be paid under Item 8.01 S – Health and Safety.

*Payment will be made under:*

| <u>ITEM NUMBER</u> | <u>ITEM</u>   | <u>PAYMENT UNIT</u> |
|--------------------|---|---------------------|
| 8.01 C1            | Handling, Transporting, and Disposal of Non-Hazardous Contaminated Soil | Tons                |

**ITEM 8.01 C2 SAMPLING AND TESTING OF CONTAMINATED/ POTENTIALLY HAZARDOUS SOIL FOR DISPOSAL PARAMETERS**

**8.01 C2.1 WORK TO INCLUDE**

**A. Description**

The work shall consist of collecting and analyzing representative soil samples for parameters typically requested by the disposal facilities.

**B. Sampling and Laboratory Analysis**

1. At least thirty (30) days prior to the commencement of work, the Contractor's independent Environmental Consultant must submit a Soil Sampling Plan/Field Sampling Plan (SSP/FSP) to the Program Administration, Engineering Support Services (ESS) for review and approval. The plan shall include the name, address, DOH's ELAP status, and telephone numbers of the proposed laboratory. The plan shall also include training and experience of the personnel who will collect the samples.
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 100 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 rush four (4) calendar days turn around time and analytical results must be submitted to Program Administration, ESS within five (5) calendar days after sample collection.
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, plant, equipment, 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/<br>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 Administration, Engineering Support Services (ESS).

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 Administration, ESS for review, a Material Handling Plan (MHP). The MHP must be approved by the Program Administration, ESS, 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 H.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 Administration, ESS 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 Administration, ESS.**
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, plant, equipment, 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 Administration, Engineering Support Services (ESS).

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 Administration, ESS 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, within forty-five (45) calendar days after the contract award, a written HASP as specified herein, to Program Administration, ESS for review and comment. The Contractor shall make all necessary revisions required by Program Administration, ESS and resubmit the HASP to the Program Administration, ESS for acceptance. Start-up work for the project will not be permitted until written acceptance has been issued by the Program Administration, ESS.
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 Administration, Engineering Support Services (ESS) 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 Administration, ESS for review, a Water Handling Plan (WHP). The WHP must be approved by the Program Administration, ESS, 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 Administration, ESS, 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, plant, equipment, 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. 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, plant, equipment, 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**

**New York City Department of Environmental Protection  
Limitations for Discharge To Storm, Sanitary/Combined Sewer**

**NEW YORK CITY DEPARTMENT OF ENVIRONMENTAL PROTECTION**

**BUREAU OF WASTEWATER TREATMENT**

**Limitations for effluent to storm, sanitary or combined sewers**

| Parameter                      | Daily Limit | Units | Sample Type   | Monthly Limit |
|--------------------------------|-------------|-------|---------------|---------------|
| Oil & Grease                   | 15          | mg/l  | Instantaneous |               |
| Total Petroleum Hydrocarbons   | 50          | mg/l  | Instantaneous |               |
| pH Range (Storm sewer)         | 6.5-8.5     | SU's  | Instantaneous |               |
| (Sanitary sewer)               | 5-11        |       |               |               |
| Benzene                        | 134         | ppb   | Instantaneous | 57            |
| Ethyl benzene                  | 380         | ppb   | Instantaneous | 142           |
| Toluene                        | 74          | ppb   | Instantaneous | 28            |
| Xylenes Total                  | 74          | ppb   | Instantaneous | 28            |
| Temperature                    | < 150       | °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 |               |
| Flash Point                    | > 140       | °F    | Instantaneous |               |
| Total Suspended Solids         | 350         | ppm   | Instantaneous |               |
| PCB's Total*                   | 1           | ppb   | Composite     |               |
| Perc (Tetrachloroethylene)     | 20          | ppb   | Instantaneous |               |
| MTBE (Methyl-Tert-Butyl-Ether) | 10          | ppb   | Instantaneous | 10            |
| Naphthalene                    | 47          | ppb   | Instantaneous | 19            |

\* Analysis for PCB's are requested only if both conditions listed below are met:

- 1) If proposed discharge > 10,000 gpd
- 2) If duration of discharge > 10 days

Analysis for PCB's must be conducted by USEPA Method 608 only with MDL = 65ppt

**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**

**RECONSTRUCTION OF WATER MAIN AND COMBINED SEWERS IN YORK AVENUE  
YORK AVENUE BETWEEN EAST 61<sup>ST</sup> STREET AND EAST 63<sup>RD</sup> STREET  
AND EAST 62<sup>ND</sup> STREET 200 FEET WEST OF YORK AVENUE  
MANHATTAN, NEW YORK**

DDC PROJECT NO. SEN002169

WORK ORDER NO. 7396-LIRO-2-7095

CONTRACT REGISTRATION NO. 20101417627

Prepared for:



Bureau of Environmental and Geotechnical Services

30-30 Thomson Avenue, Fifth Floor

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Prepared by:



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703 Lorimer Street

Brooklyn, New York 11211

CONSULTANT PROJECT NO. 10-62-205

MAY 9, 2011

A4-41



**TABLE OF CONTENTS**

**EXECUTIVE SUMMARY .....1**

**1.0 INTRODUCTION.....5**

1.1 SUMMARY OF PREVIOUS ENVIRONMENTAL INVESTIGATIONS .....5

1.2 SCOPE OF WORK ..... 8

**2.0 CORRIDOR INFORMATION.....10**

2.1 CORRIDOR LOCATION, DESCRIPTION AND USE ..... 10

2.2 DESCRIPTION OF SURROUNDING PROPERTIES ..... 10

2.3 CORRIDOR AND REGIONAL TOPOGRAPHIC SETTING ..... 10

2.4 CORRIDOR AND REGIONAL GEOLOGY ..... 10

2.5 CORRIDOR AND REGIONAL HYDROGEOLOGY ..... 11

**3.0 CORRIDOR EVALUATION .....12**

3.1 SOIL QUALITY INVESTIGATION ..... 12

3.2 GROUNDWATER QUALITY INVESTIGATION ..... 13

3.3 LABORATORY ANALYSES ..... 14

3.4 DATA EVALUATION ..... 14

**4.0 FINDINGS .....15**

4.1 FIELD SCREENING ..... 15

4.2 SOIL AND GROUNDWATER LABORATORY ANALYTICAL RESULTS ..... 15

4.2.1 Volatile Organic Compounds (VOCs) in Soil ..... 15

4.2.2 Semi-Volatile Organic Compounds (SVOCs) in Soil ..... 15

4.2.3 Target Analyte List Metals (TAL Metals) in Soil ..... 15

4.2.4 Pesticides in Soil ..... 16

4.2.5 PCBs in Soil ..... 16

4.2.6 Waste Classification of Soil ..... 16

4.2.7 Analysis of NYCDEP Parameters in Groundwater ..... 16

**5.0 CONCLUSIONS AND RECOMMENDATIONS .....17**

**6.0 STATEMENT OF LIMITATIONS.....19**



|                          |   |  |
|--------------------------|---|--|
| <b><u>Tables</u></b>     | 1 | Summary of Environmental Boring Data   |
|                          | 2 | Summary of TCL VOCs Detected in Soil   |
|                          | 3 | Summary of TCL SVOCs Detected in Soil  |
|                          | 4 | Summary of TAL Metals Detected in Soil   |
|                          | 5 | Summary of Pesticides Detected in Soil   |
|                          | 6 | Summary of PCBs Detected in Soil   |
|                          | 7 | Summary of Waste Classification Parameters Detected in Soil                      |
|                          | 8 | Summary of NYCDEP Groundwater Parameters   |
| <br>                     |   |  |
| <b><u>Figures</u></b>    | 1 | Topographic Corridor Location Map  |
|                          | 2 | Sample Location Plan   |
| <br>                     |   |  |
| <b><u>Appendices</u></b> | A | Boring Location Sketches   |
|                          | B | Geologic Boring Logs and Temporary Well Construction Details                     |
|                          | C | Laboratory Analytical Results  |
|                          | D | Geotechnical Investigation Report (Tectonic Engineering and Surveying, May 2010) |



## 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 York Avenue between East 61<sup>st</sup> Street and East 63<sup>rd</sup> Street and East 62<sup>nd</sup> Street 200 feet west of York Avenue, Manhattan, New York (hereinafter referred to as the Corridor). The Corridor is located in the Lenox Hill neighborhood of Manhattan, New York.

LiRo prepared a Phase I Corridor Assessment Report (Phase I CAR) dated November 29, 2010, which presented the results of a survey conducted along the Corridor to assess the presence of potential sources of subsurface contamination within, and in the immediate vicinity of, the Corridor. The Phase I CAR identified 14 sites that had a potential "High" risk and 23 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 reconstruction of the water main and combined sewers. The Phase II SCI consisted of the following components.

- The advancement of six borings to a depth of approximately 20 feet below ground surface (ftbg) or refusal, whichever was encountered first and the field screening of soil samples, including photo-ionization detector (PID) readings and visual and olfactory indicators of contamination (staining, odors).
- The collection of six soil samples, which were analyzed for the following parameters: (1) New York State Department of Environmental Conservation (NYSDEC) Target Compound List (TCL) volatile organic compounds (VOCs); (2) TCL Base Neutral/Acid (BN/A) extractable semi-volatile organic compounds (SVOCs); (3) Target Analyte List (TAL) metals; (3) TCL pesticides; and, (4) TCL polychlorinated biphenyls.
- The collection of two waste characterization soil samples, which were analyzed for: (1) United States Environmental Protection Agency (USEPA) Full Toxicity Characteristics Leaching Procedure (TCLP) parameters; (2) 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 four temporary well points (TWP), the collection of one 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).
- 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) NYSDEC CP-51 Soil Cleanup Guidance Document, dated October 21, 2010; (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 6 NYCRR 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 (approximately 12 to 21.5 ft above mean sea level) to a maximum depth of 20 ftbg consisted predominantly of brown, gray, and black fine to coarse sand, with some silt, gravel and weathered mica schist. According to the Record of Borings prepared by Tectonic Engineering Consultants, PC (TEC), dated May 2010 (Appendix D) mica schist bedrock was encountered in one of the geotechnical borings at a depth of 23 ftbg, however, other geotechnical borings were advanced to depths as great as 35 ftbg with no bedrock encountered.

Field screening identified potential petroleum-impacted soils in two of six boring locations. The highest PID readings were recorded in SB3 from 0 to 5 ftbg and SB6 at approximately 14 ftbg.

No VOCs or SVOCs were detected in the six soil samples collected at concentrations exceeding applicable standards, including Unrestricted or Restricted Use (Track 1 or Track 2) SCOs and/or CP-51 Soil Cleanup Levels (SCLs). However, the field screening combined with the detection of VOCs and SVOCs indicate the presence of fuel related petroleum compounds in the soil.

Several metals were detected in the six soil samples at concentrations exceeding their corresponding applicable standards, including Unrestricted Use (Track 1) SCOs, Restricted Use (Track 2) SCOs, and/or CP-51 Supplemental Soil Cleanup Objectives (SSCOs). The maximum possible TCLP lead concentration in sample SB4 was higher than the RCRA Hazardous Waste Level, however, waste characterization testing indicated non-hazardous lead TCLP results.

Neither pesticides nor PCBs were detected in any of the composite samples collected.

DRO and GRO were detected in the two waste characterization samples collected. However, there are no regulatory standards for DRO and GRO.

The two waste characterization soil samples did not exhibit evidence of hazardous waste characteristics.

Lead exceeded the corresponding NYCDEP Sewer Discharge Limitations in samples SB2-GW and SB6-GW. TSS exceeded the corresponding Discharge Limitations in all four samples.

### Conclusions

Based on the evaluation of the field screening data, the laboratory analytical results, and a comparison to applicable regulatory standards, the following conclusions are presented.

- Field screening identified potential petroleum-impacted soils in borings SB3 and SB6. Two possible sources, the historic Con-Edison manufactured gas plant (MGP) located on the west side of York Avenue between East 61st Street and East 63<sup>rd</sup> Street and a current Mobil service station located at 1132 York Avenue, are present in the corridor.





- Laboratory analytical results identified fuel-related VOCs at locations on 62<sup>nd</sup> Avenue that are likely attributed to the Con-Edison MGP located on the west side of York Avenue between East 61<sup>st</sup> Street and East 63<sup>rd</sup> Street and a current Mobil service station located at 1132 York Avenue. SVOCs were detected at all locations and are also likely attributable to the Con-Edison MGP facility, to releases from other "High" and "Moderate" risk site identified in the corridor or to historic fill material placed on the Corridor. The VOC and SVOC concentrations did not exceed any of the guidance criteria.
- Laboratory analytical results identified metals at elevated levels relative to Unrestricted Use (Track 1) SCOs, Restricted Use (Track 2) SCOs, and/or CP-51 SSCOs throughout the Corridor. The presence of the elevated concentrations of metals in subsurface soils in the Corridor are likely indicative of the presence of historic fill material placed at the Site or the former York Avenue Fan Plant, located at York Avenue and East 60<sup>th</sup> Street which historically generated lead waste..
- The subsurface soils did not exhibit hazardous waste characteristics based upon the waste characterization analysis.
- Groundwater samples contained concentrations of lead and/or TSS that exceeded the NYCDEP Sewer Discharge Criteria. The presence of lead in the groundwater may be attributed to a nearby historic property, MTA NYCT York Avenue Fan Plant, located at York Avenue and East 60<sup>th</sup> Street which historically generated lead waste. The presence of elevated levels of TSS in the groundwater is attributed to the fact that the (unfiltered) samples were collected from TWPs and not permanent monitoring wells. However, it should be noted that the groundwater samples collected from TWPs are considered to be more representative of conditions to be encountered during construction activities.

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 petroleum-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 petroleum-impacted soil and metals concentrations above Unrestricted Use (Track 1) SCOs, Restricted Use (Track 2) SCOs, and/or CP-51 SSCOs, 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 DER-10 Regulations. The CAMP requires real-time monitoring for particulates (i.e., dust) at the downwind perimeter of each designated work area when certain activities are in progress at contaminated sites. The CAMP is intended to provide a measure of protection for the 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 the New York State Department of Health (NYSDOH) to ensure proper applicability.
- Dewatering may be necessary during construction activities in the Corridor. Since lead and TSS were detected in groundwater samples at concentrations exceeding the NYCDEP Sewer Discharge Limitations, groundwater may require pre-treatment prior to discharge. Therefore, should dewatering



be necessary during construction activities within the Corridor, the contractor should be required to obtain a NYCDEP sewer discharge permit.

- In addition, if discharge into storm sewers is required during dewatering, it must be done under the appropriate NYSDEC State Pollutant Discharge Elimination System (SPDES) permit. Additional sampling and laboratory analysis will be required to satisfy NYSDEC requirements prior to discharge into storm sewers.
- 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 Occupational Safety and Health Administration (OSHA), the NYSDOH, and any other applicable regulations. The HASP should identify the possible locations and risks associated with the potential contaminants that may be encountered, and the administrative and engineering controls that will be utilized to mitigate concerns (i.e., dust control procedures for metals).



## 1.0 INTRODUCTION

On behalf of the NYCDDC, LiRo conducted a Phase II SCI of York Avenue between East 61<sup>st</sup> Street and East 63<sup>rd</sup> Street and of East 62<sup>nd</sup> Street 200 feet west of York Avenue, Manhattan, New York (hereinafter referred to as the Corridor). The Corridor is located in the Lenox Hill neighborhood of Manhattan, New York. Infrastructure improvements, consisting of the reconstruction of the water main and combined sewers, are proposed for the Corridor. The Phase II SCI was conducted on February 26 and February 27, 2011 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 CAR dated November 29, 2010, which presented the results of a survey conducted along the Corridor to assess the presence of potential sources of subsurface contamination within, and in the immediate vicinity of, the Corridor. The survey also included a review of fire insurance maps to document historical use and a limited review of the New York State databases to identify sites that are known to be contaminated.

The Phase I CAR identified 14 sites that had a Final "High" risk and 23 sites that had a Final "Moderate" risk to impact the subsurface of the Corridor and recommended advancing a total of 17 borings, installing temporary well points and collecting soil and groundwater samples to assess potential impacts. The "High" and "Moderate" risk sites consist of, but are not limited to, Con Edison, a cancer center, an automotive dealership, a gasoline station, and various dry cleaners. A detailed list, including the nature of the potential concern, is as follows.

#### HIGH RISK SITES

1. Con Edison York Avenue Former MGP, West side of York Avenue between E. 61<sup>st</sup> St. and E. 63<sup>rd</sup> St. and E. 62<sup>nd</sup> St. between York and 200 feet west of York: gas manufacturing facility;
2. Manhole 48444, 48044, York Avenue and 61<sup>st</sup> St.: NYSDEC listed spill;
3. Memorial Sloan-Kettering Cancer and Mercedes Dealership, 1133 York Ave.: an out-of-service underground storage tank (UST);
4. 1161 York Ave.: NYSDEC listed spill;
5. Con Edison, Mobil SS, MH 48451 and MH 48453, E. 62<sup>nd</sup> St. and York Ave.: hazardous waste generator and NYSDEC listed spills;
6. 1129 York Ave.: former gas manufacturing facility (this address is a portion of Site 1, Con Edison York Avenue MGP);
7. Mobil SS, East side of York between E. 61<sup>st</sup> St. and E. 62<sup>nd</sup> St.: NYSDEC listed spill (1132 York Avenue);
8. Vault #1370, E. 63<sup>rd</sup> St. and York Ave.: NYSDEC listed spill;



9. Lady Dubonnet Cleaners, 1165 York Ave.: formerly generated chlorinated solvent waste;
10. Berkely Sutton Cleaners and Laundry, 1157 York Ave.: formerly generated chlorinated solvent waste;
11. Solow Management Corp., 1113 York Ave.: unregistered USTs;
12. Mobil, 1124 1<sup>st</sup> Ave.: closed in-place UST prior to current UST closure regulations;
13. 404-418 E. 61<sup>st</sup> St.: former gasoline station; and,
14. Sutton Terrace, 450 E. 63<sup>rd</sup> St.: active USTs and formerly generated hazardous waste.

MODERATE RISK SITES

15. 421 E. 60<sup>th</sup> St.: Closed in-place UST in 1998 and former ignitable waste generator;
16. Expert Cleaners and Flush Truck, 1154 1<sup>st</sup> Ave.: generator of chlorinated solvent waste and NYSDEC listed spill;
17. Solow Management Corp/Kenny Parking, 420-424 E. 61<sup>st</sup> St.: hazardous waste generator, closed in-place USTs, and NYSDEC listed spills;
18. Hess, 1175 York Ave.: NYSDEC listed spill;
19. Manhole 53353, E. 62<sup>nd</sup> St. and 1<sup>st</sup> Ave.: NYSDEC listed spills;
20. St. Tropez Cleaners, 1157 1<sup>st</sup> Ave.: formerly generated chlorinated solvent waste;
21. Madam Bonete Cleaners, 1147 1<sup>st</sup> Ave.: formerly generated chlorinated solvent waste;
22. Dry Cleaners , 412 E. 60<sup>th</sup> St.: current dry cleaners;
23. Dry Cleaners, 1170 1<sup>st</sup> Ave.: current dry cleaners;
24. Dry Cleaners, 400 E. 64<sup>th</sup> St.: current dry cleaners;
25. Dry Cleaners, 421 E. 65<sup>th</sup> St.: current dry cleaners;
26. MTA NYCT York Ave. Fan Plant, York and E. 60<sup>th</sup> St.: formerly generated lead waste;
27. Con Ed, 59<sup>th</sup> St. and York Ave.: formerly generated PCB waste;
28. 62<sup>nd</sup> St. and First Associates, LTD, 400 E. 62<sup>nd</sup> St.: formerly generated hazardous waste;



29. Edison Price Inc., 409 E. 60<sup>th</sup> St.: formerly generated ignitable waste;
30. Con Edison, 1122 1<sup>st</sup> Ave.: shipped and received hazardous waste;
31. Con Edison, 429 E. 65<sup>th</sup> St.: shipped and received hazardous waste;
32. Con Edison, 435 E. 65<sup>th</sup> St.: shipped and received hazardous waste;
33. Franklin D. Roosevelt Dr. and E. 60<sup>th</sup> St.: heliport;
34. Manhole 59549, Adjacent to E. 64<sup>th</sup> St. and York Ave.: NYSDEC listed spill;
35. Con Edison, 415 E. 63<sup>rd</sup> St.: shipped and received hazardous waste;
36. Con Edison, 514 E. 60<sup>th</sup> St.: current hazardous waste generator; and,
37. Golden State Holding, 408 E. 64<sup>th</sup> St.: closed UST.

Based on a site walk-over with the NYCDDC Project Manager prior to drilling activities, the scope of work was revised to include the installation of nine soil borings. Five of the nine borings were intended to be fitted for use as TWPs in the event groundwater was identified. At the time of drilling activities on February 26 and February 27, 2011, the total number of borings and TWPs was revised to include a total of six borings and four TWPs. The decrease in the proposed number of soil borings was based upon the NYCDDC Project Managers' knowledge of the area, the presence of underground utilities, on-going utility installation activities in certain areas of the corridor, and the presence of an underground parking garage.

A geotechnical investigation was previously conducted at the Site by Tectonic Engineering and Surveying (TES) on behalf of the NYCDDC on May 6, 2010. The geotechnical investigation consisted of the advancement of six soil borings. Four of the geotechnical borings were advanced on the westerly side of York Avenue while two were advanced along the easterly side of York Avenue. Soil encountered during the geotechnical investigation consisted of brown, gray, and black fine gravel, fine to coarse sand, and silt. According to the Record of Borings prepared by TEC, mica schist bedrock was encountered in one of the geotechnical borings at a depth of 23 ftbg, however, other geotechnical borings were advanced to depths as great as 35 ftbg with no bedrock encountered. A copy of the geotechnical investigation report is included as Appendix D of this Phase II SCI report.



## 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 New Hyde Park, New York. Oversight of drilling activities was performed by LiRo. Laboratory analyses were provided by CHEMTECH Consulting Group (CHEMTECH) of Mountainside, New Jersey, a 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 February 26 and 27, 2011 and consisted of the following components.

- The advancement of six borings (SB1 through SB6) to a depth of 20 ftbg, or refusal, whichever was 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 five feet using a hand auger and/or a vacuum excavator. Soil samples were collected using 5-foot long, 2-inch diameter Macro Core stainless steel samplers equipped with polyvinyl chloride (PVC) liners. A site specific Health and Safety Plan (HASP) was prepared prior to commencing field work.
- Field screening, classification, and identification of soils from the ground surface to the bottom of each boring. Soil samples were visually classified in the field using the Unified Soil Classification System (USCS). Field screening consisted of visual and olfactory indicators of impacts as well as screening with a PID.
- The collection of one composite and one grab sample from the six soil borings identified as both "High" and "Moderate" risk boring locations (SB1 through SB6). The composite samples were comprised of soil from the entire boring column. The grab samples were collected from the 6-inch interval exhibiting evidence of petroleum impacts (highest PID reading) (i.e., SB3 and SB6), from just above the water table if no evidence of petroleum impacts were detected (i.e., SB1 and SB2), or from the bottom 6-inch interval in each boring (i.e., SB4 and SB5).
- Laboratory analysis of the composite samples for: (1) TCL BN/A extractable SVOCs by USEPA Method 8270; (2) TAL metals by USEPA Method 6010B; (3) TCL pesticides by USEPA Method 8081A; and, (4) TCL PCBs by USEPA Method 8082.
- Laboratory analysis of the grab samples for TCL VOCs by USEPA Method 8260.
- The installation of four TWPs in borings SB1, SB2, SB3, and SB6, and the collection of one 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 teflon 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 NYCDEP Sewer Discharge Criteria.



- The collection of two composite waste characterization (WC) samples as follows.
  - WC-A: composited of soil aliquots from borings SB1 through SB6 (grade to bottom).
  - WC-B: composited of soil aliquots from borings SB1 through SB6 (grade to bottom).
  
- Laboratory analysis of the waste characterization samples for: (a) Full TCLP by USEPA Method SW846; (b) RCRA Characteristics (ignitability, reactivity, and corrosivity) by USEPA Method SW846; and, (c) TPHC DRO/GRO by USEPA Method 8015B.



## 2.0 CORRIDOR INFORMATION

### 2.1 Corridor Location, Description and Use

The Corridor is located in the Lenox Hill neighborhood of Manhattan, New York. The Corridor consists of York Avenue between East 61<sup>st</sup> Street and of East 63<sup>rd</sup> Street and of East 62<sup>nd</sup> Street 200 feet west of York Avenue, Manhattan, New York. The Corridor location is shown on Figure 1. The Corridor segments are characterized primarily by residential and commercial uses. Residential properties include apartment buildings, a hotel, and a university. Commercial properties include a gasoline station, a university, and medical offices. The Metropolitan Transit Authority (MTA) New York City Transit E Subway line runs along East 63<sup>rd</sup> Street at York Avenue. Various dry cleaners are also located within the vicinity of the Corridor.

### 2.2 Description of Surrounding Properties

The area surrounding the Corridor is generally residential and commercial in nature. Current and/or historical surrounding property uses of potential environmental concern include, but are not limited to, various dry cleaners, former Con Edison facilities, a heliport, a former fan plant, and a former Mobil station.

### 2.3 Corridor and Regional Topographic Setting

Based on a review of the United States Geological Survey (USGS.) 7.5-Minute Quadrangle Map, Central Park, New York, dated 1979, the elevation of the Corridor is approximately 18 to 22 feet above mean sea level (MSL). The topography of the immediate Corridor area is generally flat with a gentle slope toward sea level from west to east. A copy of the topographic map is presented in Figure 1.

### 2.4 Corridor and Regional Geology

Based on the Summary of the Hydrogeology of the Five Boroughs of New York City, the area's geology is expected to consist of high-grade metamorphic bedrock consisting of a sequence of Cambrian and Ordovician age gneiss, schistose-gneiss, and marble. The bedrock is characterized by numerous faults and fractures, many of which are transmissive and contain groundwater. Depth to bedrock ranges from surface to as great as 100 ftbg. In general, areas of higher topography are characterized by shallower bedrock. In addition, depth to bedrock is generally greater along the East and Hudson Rivers.

Unconsolidated sediments overlie the bedrock and consist of Pleistocene aged sand, gravel, and silty clays deposited by glacial-fluvial activity. In addition, Holocene age river and tidal deposits are present along the coastline of Manhattan.

The subsurface soils encountered during this Phase II SCI from grade to a maximum depth of 20 ftbg consisted predominantly of brown, gray, and black fine to coarse sand, with some silt, gravel and weathered mica schist. Sampler refusal was encountered in SB1, SB3, SB4, and SB6 at depths ranging from 11 to 19 ftbg. The Record of Borings (Appendix D) showed mica schist bedrock in one of the geotechnical borings at a depth of 23 ftbg, however, other geotechnical borings were advanced to depths as great as 35 ftbg with no bedrock encountered.





## 2.5 Corridor and Regional Hydrogeology

Regional groundwater flow direction is generally controlled by regional topography with groundwater flow from higher to lower elevations. Along the coastline of Manhattan, groundwater elevations and flow can also be tidally influenced, resulting in groundwater elevation fluctuations. The nearest surface water body is the East River (West Channel) located approximately 0.1 miles east.

Based on observations made during the Phase II SCI, the depth to groundwater ranged from 7.41 at SB3 to 14.85 ftbg at SB6. Groundwater was not encountered at SB4 or SB5. Based on the proximity of the West Channel to the Corridor, groundwater flow direction is anticipated to be east/southeast. Groundwater flow directions may also 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 six soil borings, the installation of four TWP's, 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 TWP's 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 and Appendix B.

#### 3.1 Soil Quality Investigation

Six borings (SB1 through SB6) were advanced to a depth of 20 ftbg, or refusal, whichever was encountered first, using a Geoprobe direct push drill rig. Prior to direct push advancement, borings were cleared to a depth of five ftbg using a hand auger and/or a vacuum excavator. Soil samples were collected using 5-foot long, 2-inch diameter Macro Core stainless steel samplers equipped with PVC liners. 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. A map depicting each boring location is included in Appendix A. Boring logs are provided in Appendix B. The locations of the borings are described below.

- **SB1** – Advanced in the vicinity of “High” risk sites Nos. 2, 3, 6, 11, and 13 and located on East 61<sup>st</sup> Street, 31.7 feet west of the northwest corner of East 61<sup>st</sup> Street and York Avenue and 7.8 feet north of the curb line, in the sidewalk.
- **SB2** – Advanced in the vicinity of “High” risk site Nos. 1, 2, 3, 5, 6, 7, and 12 and located on York Avenue, 84.5 feet north of the northwest corner of East 61<sup>st</sup> Street and York Avenue and 14.9 feet west of the curb line, in the sidewalk.
- **SB3** – Advanced in the vicinity of “High” risk site Nos. 1, 5, 8, and 12 and located on East 62<sup>nd</sup> Street, 37.25 feet west of the southwest corner of East 62<sup>nd</sup> Street and York Avenue and 4.6 feet south of the curb line, in the sidewalk.
- **SB4** – Advanced in the vicinity of “High” risk site Nos. 4, 8, 9, 10, 12, and 14 and located on East 62<sup>nd</sup> Street, 201.5 feet west of the northwest corner of East 62<sup>nd</sup> Street and York Avenue and 4 feet north of the curb line, in the sidewalk.
- **SB5** – Advanced in the vicinity of “High” risk site Nos. 1, 5, 7, and 8 and located on East 62<sup>nd</sup> Street, 16.7 feet east of the southeast corner of East 62<sup>nd</sup> Street and York Avenue and 9.4 feet south of the curb line, in the sidewalk.



- **SB6** – Advanced in the vicinity of “High” risk site Nos. 2, 7, 11, and 13 and located on East 61<sup>st</sup> Street, 20.75 feet east of the southeast corner of East 61<sup>st</sup> Street and York Avenue and 9.6 feet south of the curb line, in the sidewalk.

Continuous soil samples were collected from each of the borings at 5-foot intervals. Upon sample retrieval, the soils were classified and examined for visual evidence (i.e., staining, discoloration) and any olfactory indications (i.e., odors) of contamination. In addition, a PID was used to screen the soil for VOC vapors.

In order to identify representative conditions relative to the presence of 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 six borings (SB1 through SB6).

In order to identify representative conditions relative to the presence of VOCs, grab soil samples were collected from the 6-inch interval exhibiting evidence of petroleum impacts (highest PID reading) (i.e., SB3 and SB6), from just above the water table if no evidence of petroleum impacts were detected (i.e., SB1 and SB2), or from the bottom 6-inch interval in each boring (i.e., SB4 and SB5).

In order to identify representative conditions for disposal purposes, WC samples were collected as follows.

- WC-A: composited of soil from borings SB1 through SB6 (grade to bottom).
- WC-B: composited of soil from borings SB1 through SB6 (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.

### 3.2 Groundwater Quality Investigation

As groundwater may be encountered within the depths associated with the future excavation, four groundwater samples were collected for screening and laboratory analysis during the soil boring activities. TWP's were installed in soil borings SB1, SB2, SB3, and SB6. Groundwater was encountered between 7.41 ftbg at SB3 and 14.85 ftbg at SB6. For the installation of the TWP's at SB1, SB2, SB3, and SB6, the Geoprobe unit was advanced to a depth of 19 ftbg, 20 ftbg, 11 ftbg, and 15.5 ftbg, respectively, which is approximately 0.5 to 8 feet into the encountered water table. The TWP's consisted of a section of three-quarter inch diameter schedule 40 PVC screen and riser. A groundwater sample was collected from each TWP for screening and laboratory analysis via dedicated Teflon 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.



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. 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 TCL VOCs by Method 8260. The boring composite soil samples were analyzed for: (1) TCL BN/A extractable SVOCs by USEPA Method 8270; (2) TAL metals by USEPA Method 6010B; (3) TCL pesticides by USEPA Method 8081A; and, (4) TCL PCBs by USEPA Method 8082.

The waste characterization soil samples were analyzed for: (1) USEPA Full TCLP parameters; (2) RCRA Characteristics (ignitability, reactivity, and corrosivity); and, (3) 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 CP-51 Soil Cleanup Guidance Document, dated October 21, 2010; (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 6 NYCRR Part 371. 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 6 NYCRR 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 identified the potential presence of petroleum-impacted soils at two of the six boring locations. PID readings and/or petroleum odors were identified at SB3 and SB6. The highest PID reading was recorded at SB3 from 0 to 5 ftbg at 175 parts per million (ppm). Elevated PID readings were also detected in SB6 with the highest reading recorded at 150 ppm at approximately 14 ftbg. No petroleum staining was observed in the borings. 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

VOC were detected at relatively low concentrations in four of the six samples collected. The VOC concentrations were not above any regulatory standards. The detected compounds included common laboratory contaminants (acetone and methylene chloride) that are not likely representative of subsurface conditions; and fuel-related compounds that were detected adjacent to the "High" risk site on E. 62<sup>nd</sup> Street at SB3 and SB4. Refer to Table 2 for a summary of VOC detections.

###### 4.2.2 Semi-Volatile Organic Compounds (SVOCs) in Soil

SVOC were detected at relatively low concentrations in all six composite samples collected. The SVOC concentrations were not above any regulatory standards in any of the six composite samples collected. Most of the detected SVOC are polycyclic aromatic hydrocarbons (PAH), and may be residuals from releases of petroleum products at the MGP and other corridor spill sites; or indicative of the presence of historic fill material placed at the Site. Refer to Table 3 for a summary of SVOC detections.

###### 4.2.3 Target Analyte List Metals (TAL Metals) in Soil

Metals were detected in all six composite samples collected. Arsenic, beryllium, chromium, cobalt, copper, iron, magnesium, nickel, zinc, lead and mercury were detected above their corresponding Part 375 Unrestricted Use (Track 1) SCOs, Restricted Use (Track 2) SCOs, and/or CP-51 Supplemental Soil Cleanup Objectives (SSCOs) in at least one of the six composite samples collected. Soil samples were analyzed for total chromium, however, Part 375 specifies separate SCOs for chromium VI and chromium III. The chromium VI SCO is significantly lower than the chromium III SCO. The total chromium result is not likely representative of the chromium VI concentration in the soil. The maximum possible TCLP lead concentration in sample SB4 was higher than the RCRA Hazardous Waste Level, however, waste characterization testing indicated non-hazardous lead TCLP results. The metals concentrations are likely indicative of the presence of historic fill material placed at the Site or the former York Avenue Fan Plant, located at York Avenue and East 60<sup>th</sup> Street which historically generated lead waste. Refer to Table 4 for a summary of TAL metals detections.



#### **4.2.4 Pesticides in Soil**

Pesticides were not detected in any of the six composite samples collected. Refer to Table 5 for a summary of pesticides detections.

#### **4.2.5 PCBs in Soil**

PCBs were not detected in any of the six composite samples collected. Refer to Table 6 for a summary of PCB detections.

#### **4.2.6 Waste Classification of Soil**

Ignitability (flash point), reactivity (cyanide and sulfide), corrosivity (pH), and all the TCLP parameters were within the acceptable RCRA ranges for both waste characterization samples. 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 7 for a summary of waste classification parameters detected in soil.

#### **4.2.7 Analysis of NYCDEP Parameters in Groundwater**

The four groundwater samples (SB1-GW, SB2-GW, SB3-GW, and SB6-GW) were analyzed for the parameters required by the NYCDEP Limitations for Effluent to Sanitary or Combined Sewers. Lead exceeded the corresponding NYCDEP Sewer Discharge Limitations in samples SB2-GW and SB6-GW. TSS exceeded the corresponding Discharge Limitations in all four samples. The presence of lead in the groundwater may be attributed to a nearby historic property, MTA NYCT York Avenue Fan Plant, located at York Avenue and East 60<sup>th</sup> Street which historically generated lead waste. This facility may have also resulted in the release of lead to the surrounding environment. The presence of TSS in the groundwater is attributed to the fact that the (unfiltered) samples were collected from TWPs and not a permanent monitoring well. However, it should be noted that groundwater samples collected from TWPs are considered to be more representative of conditions to be encountered during construction activities.

All other parameters were within NYCDEP Sewer Discharge Criteria. However, based on the results for lead and TSS, groundwater does not meet NYCDEP Sewer Discharge Criteria and may require pre-treatment prior to discharge. Refer to Table 8 for a summary of selected NYCDEP parameters in groundwater.



## 5.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the evaluation of the field screening data, the laboratory analytical results, and a comparison to applicable regulatory standards, the following conclusions are presented.

- Field screening identified potential petroleum-impacted soils in borings SB3 and SB6. Two possible sources, including the two historic Con-Edison MGP facilities located at the southwest corner of York Avenue and East 62<sup>nd</sup> Street and on the east side of York Avenue between East 59<sup>th</sup> Street and East 60<sup>th</sup> Street and a current Mobil service station located on the east side of York Avenue between East 61<sup>st</sup> Street and East 62<sup>nd</sup> Street, are present in, or near, the corridor.
- Laboratory analytical results identified fuel-related VOCs at locations on 62<sup>nd</sup> Avenue that are likely attributed to the Con-Edison MGP facility located on the southwest corner of York Avenue and East 62<sup>nd</sup> Street and the current Mobil service station located on the east side of York Avenue between East 61<sup>st</sup> Street and East 62<sup>nd</sup> Street. SVOCs were detected at all locations and are also likely attributed to the Con-Edison MGP facility and Mobil station. The SVOCs may also be attributed to historic fill material placed on the Corridor. The VOC and SVOC concentrations did not exceed any of the guidance criteria.
- Laboratory analytical results identified metals at elevated levels relative to Unrestricted Use (Track 1) SCOs, Restricted Use (Track 2) SCOs, and/or CP-51 SSCOs throughout the Corridor. The presence of the elevated concentrations of metals in subsurface soils in the Corridor are likely indicative of the presence of historic fill material placed at the Site or existing source of lead contamination at the former York Avenue Fan Plant.
- The subsurface soils did not exhibit hazardous waste characteristics based upon the waste characterization analysis.
- Groundwater samples contained concentrations of lead and/or TSS that exceeded the NYCDEP Sewer Discharge Criteria. The presence of lead in the groundwater may be attributed to a nearby historic property, MTA NYCT York Avenue Fan Plant, located at York Avenue and East 60<sup>th</sup> Street which historically generated lead waste. This facility may have also resulted in the release of lead to the surrounding environment. The presence of elevated levels of TSS in the groundwater is attributed to the fact that the (unfiltered) samples were collected from TWP's and not permanent monitoring wells. However, it should be noted that the groundwater samples collected from TWP's are considered to be more representative of conditions to be encountered during construction activities.

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 petroleum-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 petroleum-impacted soil and metals concentrations above Unrestricted Use (Track 1) SCOs, Restricted Use (Track 2) SCOs, CP-51 SSCOs, and/or the twenty times RCRA Hazardous Waste Levels, 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 DER-10 Regulations. The CAMP requires real-time monitoring for particulates (i.e., dust) at the downwind perimeter of each designated work area when certain activities are in progress at contaminated sites. The CAMP is intended to provide a measure of protection for the 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 the New York State Department of Health (NYSDOH) to ensure proper applicability.
- Dewatering may be necessary during construction activities in the Corridor. Since lead and TSS were detected in groundwater samples at concentrations exceeding the NYCDEP Sewer Discharge Limitations, groundwater may require pre-treatment prior to discharge. Therefore, should dewatering be necessary during construction activities within the Corridor, the contractor should be required to obtain a NYCDEP sewer discharge permit.
- In addition, if discharge into storm sewers is required during dewatering, it must be done under the appropriate NYSDEC State Pollutant Discharge Elimination System (SPDES) permit. Additional sampling and laboratory analysis will be required to satisfy NYSDEC requirements prior to discharge into storm sewers.
- 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 Occupational Safety and Health Administration (OSHA), the NYSDOH, and any other applicable regulations. The HASP should identify the possible locations and risks associated with the potential contaminants that may be encountered, and the administrative and engineering controls that will be utilized to mitigate concerns (i.e., dust control procedures for metals).





**6.0 STATEMENT OF LIMITATIONS**

The data presented and the opinions expressed in this report are qualified as stated in the attachment to this section of the report.

Report Prepared By:

Amy Hewson  
Senior Environmental Analyst

Report Reviewed By:

Stephen Frank  
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 PCBs DETECTED IN SOIL**

**TABLE 7 – SUMMARY OF WASTE CLASSIFICATION PARAMETERS DETECTED IN SOIL**

**TABLE 8 – SUMMARY OF NYCDEP GROUNDWATER PARAMETERS**

TABLE 1  
FINAL PHASE II SCI  
RECONSTRUCTION OF WATER MAIN AND COMBINED SEWERS IN YORK AVENUE, NEW YORK, NY  
SUMMARY OF ENVIRONMENTAL BORING DATA  
DDC CAPIS ID No. SEN002169  
WORK ORDER NO: 7398-LIRO-2-7095

| Boring No. | Sample ID         | PID (ppm) | Sample Interval (ftbg) | Total VOCs (mg/kg) | Total SVOCs (mg/kg) | Metals Exceed (Yes/No) <sup>1</sup> | Total PCBs (mg/kg) | Total Pesticide (mg/kg) | Depth to Water (ftbg) | Total Depth (ftbg) | Other Comments |
|------------|-------------------|-----------|------------------------|--------------------|---------------------|-------------------------------------|--------------------|-------------------------|-----------------------|--------------------|----------------|
| SB1        | York-SB1-14.5-15' | <1        | 14.5-15                | 0.0019             | NA                  | NA                                  | ND                 | ND                      | 14.33                 | 19                 |                |
| SB1        | York-SB1-0-19'    | <1        | 0-19                   | NA                 | 0.39                | Yes                                 | ND                 | ND                      | 14.33                 | 19                 |                |
| SB2        | York-SB2-14.5-15' | <1        | 14.5-15                | ND                 | NA                  | NA                                  | ND                 | ND                      | 12.11                 | 20                 |                |
| SB2        | York-SB2-0-20'    | <1        | 0-20                   | NA                 | 0.682               | Yes                                 | ND                 | ND                      | 12.11                 | 20                 |                |
| SB3        | York-SB3-2'       | 175       | 2                      | 0.1543             | NA                  | NA                                  | ND                 | ND                      | 7.41                  | 11                 |                |
| SB3        | York-SB3-0-11'    | 175       | 0-11                   | NA                 | 3.43                | Yes                                 | ND                 | ND                      | 7.41                  | 11                 |                |
| SB4        | York-SB4-14.5-15' | <1        | 14.5-15                | 0.203              | NA                  | NA                                  | ND                 | ND                      | Not observed          | 16                 |                |
| SB4        | York-SB4-0-16'    | <1        | 0-16                   | NA                 | 1.25                | Yes                                 | ND                 | ND                      | Not observed          | 16                 |                |
| SB5        | York-SB5-16.5-17' | <1        | 16.5-17                | ND                 | NA                  | NA                                  | ND                 | ND                      | Not observed          | 20                 |                |
| SB5        | York-SB5-0-20'    | <1        | 0-20                   | NA                 | 0.175               | Yes                                 | ND                 | ND                      | Not observed          | 20                 |                |
| SB6        | York-SB6-14.5-15' | 150       | 14.5-15                | 0.011              | NA                  | NA                                  | ND                 | ND                      | 14.85                 | 15.5               |                |
| SB6        | York-SB6-0-15.5'  | 150       | 0-15.5                 | NA                 | 2.019               | Yes                                 | ND                 | ND                      | 14.85                 | 15.5               |                |

**Notes:**

1. Metal(s) exceeds NYSDEC Part 375 Unrestricted SCO or CP-51 SSCO.

All soil samples were analyzed for Target Compound List (TCL) Volatile Organic Compounds (VOCs), Semi-Volatile Organic Compounds (SVOCs),

Pesticides, PCBs, and Target Analyte List (TAL) Metals.

NA = Not Analyzed

ftbg = feet below grade

ppm = parts per million or mg/kg

mg/kg = milligram/kilogram

A4-65

TABLE 2  
 FINAL PHASE II SCI  
 RECONSTRUCTION OF WATER MAIN AND COMBINED SEWERS IN YORK AVENUE, NEW YORK, NY  
 SUMMARY OF TCL VOCs DETECTED IN SOIL  
 DDC CAPIS ID No. SEN002169  
 WORK ORDER NO: 7396-LIRO-2-7095

| TCL VOC             | Unrestricted Use<br>(Track 1)<br>Soil Cleanup<br>Objectives (SCOs) | Restricted Use<br>(Track 2)<br>Soil Cleanup<br>Objectives (SCOs) | CP-51 Soil<br>Cleanup Levels<br>(SCLs) | Sample ID, Depth, and Date Collected |                           |                     |                           |                           |                           |
|---------------------|--|--|--|--------------------------------------|---------------------------|---------------------|---------------------------|---------------------------|---------------------------|
|                     |  |  |  | York-SB1-14.5-15                     | York-SB2-14.5-16          | York-SB3-2          | York-SB4-14.5-15          | York-SB5-16.5-17          | York-SB6-14.5-15          |
|                     |  |  |  | 14.5-15 ftbg<br>2/27/2011            | 14.5-15 ftbg<br>2/27/2011 | 2 ftbg<br>2/28/2011 | 14.5-15 ftbg<br>2/27/2011 | 16.5-17 ftbg<br>2/27/2011 | 14.5-15 ftbg<br>2/27/2011 |
| Acetone             | 0.05   | 100  | NS                                     | ND                                   | ND                        | ND                  | ND                        | ND                        | 0.011                     |
| Methylene Chloride  | 0.05   | 100  | NS                                     | 0.0019 J                             | ND                        | ND                  | ND                        | ND                        | ND                        |
| Toluene             | 0.7  | 100  | 0.7                                    | ND                                   | ND                        | 0.0013 J            | 0.021                     | ND                        | ND                        |
| Cyclohexane         | NS   | NS   | NS                                     | ND                                   | ND                        | 0.039               | ND                        | ND                        | ND                        |
| Methylcyclohexane   | NS   | NS   | NS                                     | ND                                   | ND                        | 0.1                 | ND                        | ND                        | ND                        |
| Benzene             | 0.06   | 4.8  | 0.06                                   | ND                                   | ND                        | 0.0018 J            | 0.045                     | ND                        | ND                        |
| Ethylbenzene        | 1  | 41   | 1                                      | ND                                   | ND                        | 0.006               | 0.038                     | ND                        | ND                        |
| <i>o</i> -Xylene    | NS   | NS   | NS                                     | ND                                   | ND                        | 0.0013 J            | 0.054                     | ND                        | ND                        |
| Isopropylbenzene    | NS   | NS   | 2.3                                    | ND                                   | ND                        | 0.0049 J            | 0.011                     | ND                        | ND                        |
| <i>m/p</i> -Xylenes | NS   | NS   | NS                                     | ND                                   | ND                        | ND                  | 0.034                     | ND                        | ND                        |
| Xylene (Total)      | 0.26   | 100  | 0.26                                   | ND                                   | ND                        | 0.0013 J            | 0.068                     | ND                        | ND                        |
| Total VOCs          | NS   | NS   | NS                                     | 0.0019                               | ND                        | 0.1543              | 0.203                     | ND                        | 0.011                     |

All concentrations are reported in parts per million (ppm or mg/kg)  
 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  
 ftbg = feet below grade  
 SCOs = Soil Cleanup Objectives as per the NYSDEC Regulations 6 NYCRR Subpart 375-6 Remedial Program Soil Cleanup Objectives (December 14, 2006)  
 SCLs = Soil Cleanup Levels as per NYSDEC CP-51 Soil Cleanup Guidance Document, Table 2 (October 21, 2010)

**BOLD** = Concentration exceeds NYSDEC CP-51 SCLs  
*Shading* = Concentration exceeds Unrestricted Use (Track 1) Soil Cleanup Objectives  
*italicized* = Concentration exceeds Restricted Use (Track 2) Soil Cleanup Objectives

A4-66

TABLE 3  
 FINAL PHASE II SCI  
 RECONSTRUCTION OF WATER MAIN AND COMBINED SEWERS IN YORK AVENUE, NEW YORK, NY  
 SUMMARY OF TCL SVOCs DETECTED IN SOIL  
 DDC CAPIs ID No. SEN002169  
 WORK ORDER NO: 7396-LIRO-2-7095

| TCL SVOC               | Unrestricted Use<br>(Track 1)<br>Soil Cleanup<br>Objectives (SCOs) | Restricted Use<br>(Track 2)<br>Soil Cleanup<br>Objectives (SCOs) | CP-51 Soil Cleanup<br>Levels (SCLs) | Sample ID, Depth, and Date Collected |                       |                       |                       |                       |                         |
|------------------------|--|--|-------------------------------------|--------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-------------------------|
|                        |  |  |                                     | York-SB1-0-19                        | York-SB2-0-20         | York-SB3-0-11         | York-SB4-0-16         | York-SB5-0-20         | York-SB6-0-15.5         |
|                        |  |  |                                     | 0-19 fbg<br>2/27/2011                | 0-20 fbg<br>2/27/2011 | 0-11 fbg<br>2/27/2011 | 0-16 fbg<br>2/27/2011 | 0-20 fbg<br>2/27/2011 | 0-15.5 fbg<br>2/27/2011 |
| Benzaldehyde           | NS   | NS   | NS                                  | ND                                   | ND                    | 0.48                  | ND                    | ND                    | ND                      |
| Benzo(a)anthracene     | 1  | 1  | 1                                   | 0.051 J                              | 0.062 J               | 0.11 J                | 0.12 J                | ND                    | 0.17 J                  |
| Benzo(a)pyrene         | 1  | 1  | 1                                   | ND                                   | ND                    | 0.17 J                | 0.13 J                | ND                    | 0.17 J                  |
| Benzo(b)fluoranthene   | 1  | 1  | 1                                   | 0.055 J                              | 0.057 J               | 0.23 J                | 0.14 J                | ND                    | 0.23 J                  |
| Benzo(k)fluoranthene   | 0.8  | 3.9  | 0.8                                 | ND                                   | ND                    | 0.08 J                | 0.09 J                | ND                    | 0.082 J                 |
| Benzo(e,h,i)perylene   | 100  | 100  | 100                                 | ND                                   | ND                    | 0.24 J                | 0.12 J                | ND                    | 0.13 J                  |
| Chrysene               | 1  | 3.9  | 1                                   | ND                                   | 0.063 J               | 0.15 J                | 0.12 J                | ND                    | 0.19 J                  |
| Dimethylphthalate      | NS   | NS   | NS                                  | 0.12 JB                              | 0.12 JB               | 0.13 JB               | 0.11 JB               | 0.12 JB               | 0.15 JB                 |
| Fluoranthene           | 100  | 100  | 100                                 | 0.079 J                              | 0.13 J                | 0.22 J                | 0.061 J               | ND                    | 0.20 J                  |
| Indeno(1,2,3-cd)pyrene | 0.5  | 0.5  | 0.5                                 | ND                                   | ND                    | 0.16 J                | 0.066 J               | ND                    | 0.097 J                 |
| Naphthalene            | 12   | 100  | 12                                  | ND                                   | ND                    | 0.54                  | ND                    | ND                    | ND                      |
| 2-Methylnaphthalene    | NS   | NS   | NS                                  | ND                                   | ND                    | 0.34 J                | ND                    | ND                    | ND                      |
| Phenanthrene           | 100  | 100  | 100                                 | ND                                   | 0.12 J                | 0.33 J                | 0.073 J               | ND                    | 0.17 J                  |
| Pyrene                 | 100  | 100  | 100                                 | 0.085 J                              | 0.13 J                | 0.23 J                | 0.16 J                | 0.056 J               | 0.34 J                  |
| Total SVOCs            | NS   | NS   | NS                                  | 0.39                                 | 0.682                 | 3.43                  | 1.25                  | 0.178                 | 2.019                   |

Notes:

All concentrations are reported in parts per million (ppm or mg/kg)

ND = Compound not detected above method detection limit (see attached lab report for md's)

NS = No Standard

J = Compound detected below the quantitation limit

B = Compound was detected in an associated laboratory blank

fbg = feet below grade

SCOs = Soil Cleanup Objectives as per the NYSDEC Regulations 8 NYCRR Subpart 375-6 Remedial Program Soil Cleanup Objectives (December 14, 2006)

SCLs = Soil Cleanup Levels as per NYSDEC CP-51 Soil Cleanup Guidance Document, Table 3 (October 21, 2010)

**BOLD** = Concentration exceeds NYSDEC CP-51 SCLs

**Shading** = Concentration exceeds Unrestricted Use (Track 1) Soil Cleanup Objectives

**italicized** = Concentration exceeds Restricted Use (Track 2) Soil Cleanup Objectives

A4-67

TABLE 4  
 FINAL PHASE II SCI  
 RECONSTRUCTION OF WATER MAIN AND COMBINED SEWERS IN YORK AVENUE, NEW YORK, NY  
 SUMMARY OF TAL METALS DETECTED IN SOIL  
 DDC CAPIS ID No. SEN002169  
 WORK ORDER NO: 7396-LIRO-2-7095

| Target Analyte<br>List Metal | Unrestricted<br>Use (Track 1)<br>Soil Cleanup<br>Objectives<br>(SCOs) | Restricted Use<br>(Track 2)<br>Soil Cleanup<br>Objectives<br>(SCOs) | RCRA<br>Hazardous<br>Waste<br>Levels (mg/L) | CP-51<br>Supplemental Soil<br>Cleanup<br>Objectives<br>(SSCOs) -<br>Residential | Sample ID, Depth, and Date Collected |               |               |               |               |                 |
|------------------------------|---|---|---|---|--------------------------------------|---------------|---------------|---------------|---------------|-----------------|
|                              |   |   |   |   | York-SB1-0-19                        | York-SB2-0-20 | York-SB3-0-11 | York-SB4-0-16 | York-SB5-0-20 | York-SB6-0-15.5 |
|                              |   |   |   |   | 0-19 ftbg                            | 0-20 ftbg     | 0-11 ftbg     | 0-16 ftbg     | 0-20 ftbg     | 0-15.5 ftbg     |
|                              |   |   |   |   | 2/27/2011                            | 2/27/2011     | 2/27/2011     | 2/27/2011     | 2/27/2011     | 2/27/2011       |
| Aluminum                     | NS  | NS  | NS  | NS  | 8,300                                | 14,000        | 11,600        | 10,400        | 2,960         | 10,600          |
| Antimony                     | NS  | NS  | NS  | NS  | ND                                   | ND            | ND            | 2.86          | ND            | ND              |
| Arsenic                      | 13  | 16  | 5   | NS  | 3.73                                 | 8.06          | 2.06          | 7             | 0.72 J        | 3.34            |
| Barium                       | 350   | 400   | 100   | NS  | 69.6                                 | 130           | 107           | 185           | 23            | 114             |
| Beryllium                    | 7.2   | 72  | NS  | NS  | 0.57                                 | 1.17          | 0.99          | 4.35          | 0.2 J         | 0.56            |
| Calcium                      | NS  | NS  | NS  | NS  | 4,940                                | 530           | 3,800         | 7,610         | 2,910         | 6,810           |
| Chromium<br>(total)          | 1/30*   | 22/36*  | 5   | NS  | 15.5                                 | 35.9          | 26.7          | 58.2          | 0.25          | 24.1            |
| Cobalt                       | NS  | NS  | NS  | 30  | 5.99                                 | 12.1          | 8.84          | 192           | 2.16          | 7.26            |
| Copper                       | 50  | 270   | NS  | NS  | 18.2                                 | 40.5          | 34            | 421           | 6.79          | 30.8            |
| Iron                         | 2,000   | NS  | NS  | 2,000   | 16,300                               | 30,400        | 23,800        | 42,300        | 5,840         | 18,400          |
| Lead                         | 63  | 400   | 5   | NS  | 55.7                                 | 65.3          | 48.8          | 327           | 14            | 87.5            |
| Magnesium                    | NS  | NS  | NS  | NS  | 4,560                                | 4,560         | 3,740         | 4,230         | 803           | 5,160           |
| Manganese                    | 1,600   | 2,000   | NS  | NS  | 217                                  | 362           | 140           | 1,450         | 116           | 206             |
| Nickel                       | 30  | 310   | NS  | NS  | 12.7                                 | 24.9          | 19.9          | 61.6          | 4.3           | 14.7            |
| Potassium                    | NS  | NS  | NS  | NS  | 2,010                                | 4,840         | 3,200         | 3,520         | 367           | 4,930           |
| Selenium                     | 3.9   | 180   | 1   | NS  | 0.85 J                               | 1.44          | 1.62          | 1.26          | ND            | 0.84            |
| Silver                       | 2   | 180   | 5   | NS  | 0.5 J                                | 1.05          | 0.75          | 1.65          | ND            | 0.69            |
| Sodium                       | NS  | NS  | NS  | NS  | 337                                  | 520           | 378           | 642           | 212           | 584             |
| Thallium                     | NS  | NS  | NS  | NS  | 0.76 J                               | 1.65 J        | 1.22 J        | 0.27 J        | ND            | 1.61 J          |
| Vanadium                     | NS  | NS  | NS  | 100   | 21.1                                 | 42            | 40.3          | 62            | 10.5          | 38.3            |
| Zinc                         | 109   | 10,000  | NS  | NS  | 58.3                                 | 61            | 105           | 2,500         | 23.2          | 78.3            |
| Mercury                      | 0.16  | 0.16  | NS  | NS  | 0.066                                | 0.063         | 0.055         | 0.147         | 0.042         | 0.068           |

Notes:  
 All concentrations are in parts per million (ppm or mg/kg)  
 ND = Compound not detected above method detection limit (see attached lab report for mdfs)  
 NS = No Standard  
 SB = Site Background Concentration  
 J = Compound detected below the quantitation limit  
 ftbg = feet below grade  
 SCOs = Soil Cleanup Objectives as per the NYSDEC Regulations 6 NYCRR Subpart 375-6 Remedial Program Soil Cleanup Objectives (December 14, 2006)  
 RCRA = Toxicity Characteristic Regulatory Levels for Hazardous Waste published in RCRA  
 SSCO = Supplemental Soil Cleanup Objectives as per NYSDEC CP-51 Soil Cleanup Guidance Document, Table 1 - Residential (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) Soil Cleanup Objectives  
Underline = Concentration exceeds twenty time RCRA Hazardous Waste Level  
 \* = Separate SCOs for Chromium VI/Chromium III. The chromium result is a total value that may not be representative of Chromium VI

A4-68

TABLE 5  
 FINAL PHASE II SCI  
 RECONSTRUCTION OF WATER MAIN AND COMBINED SEWERS IN YORK AVENUE, NEW YORK, NY  
 SUMMARY OF PESTICIDES DETECTED IN SOIL  
 DDC CAPIS ID No. SEN002169  
 WORK ORDER NO: 7398-LIRO-2-7095

| TCL Pesticides | Unrestricted Use<br>(Track 1)<br>Soil Cleanup<br>Objectives (SCOs) | Restricted Use<br>(Track 2)<br>Soil Cleanup<br>Objectives (SCOs) | CP-51 Supplemental<br>Soil Cleanup<br>Objectives (SSCOs)<br>Residential | Sample ID, Depth, and Date Collected |                        |                        |                        |                        |                          |
|----------------|--|--|---|--------------------------------------|------------------------|------------------------|------------------------|------------------------|--------------------------|
|                |  |  |   | York-SB1-0-19                        | York-SB2-0-20          | York-SB3-0-11          | York-SB4-0-16          | York-SB5-0-20          | York-SB6-0-15.5          |
|                |  |  |   | 0-19 ftbg<br>2/27/2011               | 0-20 ftbg<br>2/27/2011 | 0-11 ftbg<br>2/27/2011 | 0-16 ftbg<br>2/27/2011 | 0-20 ftbg<br>2/27/2011 | 0-15.5 ftbg<br>2/27/2011 |
| Pesticides     | 1  | NS   | NS  | ND                                   | ND                     | ND                     | ND                     | ND                     | ND                       |

**Notes:**

All concentrations are reported in parts per million (ppm or mg/kg)

ND = Compound not detected above method detection limit (see attached lab report for mdf's)

NS = No Standard

ftbg = feet below grade

SCOs = Soil Cleanup Objectives as per the NYSDEC Regulations 6 NYCRR Subpart 375-6 Remedial Program Soil Cleanup Objectives (December 14, 2006)

SSCOs = Supplemental Soil Cleanup Objectives as per NYSDEC CP-51 Soil Cleanup Guidance Document, Table 1 (October 21, 2010)

**BOLD** = Concentration exceeds NYSDEC CP-51 SSCO's

**Shading** = Concentration exceeds Unrestricted Use (Track 1) Soil Cleanup Objectives

*Italicized* = Concentration exceeds Restricted Use (Track 2) Soil Cleanup Objectives

A4-69



TABLE 6  
FINAL PHASE II SCI  
RECONSTRUCTION OF WATER MAIN AND COMBINED SEWERS IN YORK AVENUE, NEW YORK, NY  
SUMMARY OF PCBs DETECTED IN SOIL  
DDC CAPIS ID No. SEN002189  
WORK ORDER NO: 7396-LIRO-2-7095

| TCL PCBs | Unrestricted Use<br>(Track 1)<br>Soil Cleanup<br>Objectives (SCOs) | Restricted Use<br>(Track 2)<br>Soil Cleanup<br>Objectives (SCOs) | CP-51 Supplemental Soil<br>Cleanup Objectives<br>(SSCOs) - Residential | Sample ID, Depth, and Date Collected |                        |                        |                        |                        |                          |
|----------|--|--|--|--------------------------------------|------------------------|------------------------|------------------------|------------------------|--------------------------|
|          |  |  |  | York-SB1-0-19                        | York-SB2-0-20          | YORKSB3-0-11           | York-SB4-0-16          | York-SB5-0-20          | York-SB6-0-15.5          |
|          |  |  |  | 0-19 ftbg<br>2/27/2011               | 0-20 ftbg<br>2/27/2011 | 0-11 ftbg<br>2/27/2011 | 0-16 ftbg<br>2/27/2011 | 0-20 ftbg<br>2/27/2011 | 0-15.5 ftbg<br>2/27/2011 |
| PCBs     | 0.1  | 1  | NS   | ND                                   | ND                     | ND                     | ND                     | ND                     | ND                       |

**Notes:**

All concentrations are reported in parts per million (ppm or mg/kg)

ND = Compound not detected above method detection limit (see attached lab report for mdl's)

NS = No Standard

ftbg = feet below grade

SCOs = Soil Cleanup Objectives as per the NYSDEC Regulations & NYCRR Subpart 375-6 Remedial Program Soil Cleanup Objectives (December 14, 2006)

SSCOs = Supplemental Soil Cleanup Objectives as per NYSDEC CP-51 Soil Cleanup Guidance Document, Table 1 (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) Soil Cleanup Objectives

A4-70

TABLE 7  
 FINAL PHASE II SCI  
 RECONSTRUCTION OF WATER MAIN AND COMBINED SEWERS IN YORK AVENUE, NEW YORK, NY  
 SUMMARY OF WASTE CLASSIFICATION PARAMETERS DETECTED IN SOIL  
 DDC CAPIIS ID No. SEN002169  
 WORK ORDER NO: 7396-LIRO-2-7095

| Parameter                            | 6 NYCRR Part 371 and RCRA | Well ID and Date Collected           |                                      |
|--------------------------------------|---------------------------|--------------------------------------|--------------------------------------|
|                                      |                           | York-SB1-SB6-SiteComp-A<br>2/27/2011 | York-SB1-SB6-SiteComp-B<br>2/27/2011 |
| VOCs <sup>1</sup>                    | mg/L                      | ND                                   | ND                                   |
| SVOCs <sup>1</sup>                   | mg/L                      | ND                                   | ND                                   |
| PESTs <sup>1</sup>                   | mg/L                      | ND                                   | ND                                   |
| HERBs <sup>1</sup>                   | mg/L                      | ND                                   | ND                                   |
| METALS <sup>1</sup>                  | mg/L                      | mg/L                                 | mg/L                                 |
| Barium                               | 100                       | 0.407 J                              | 0.483 J                              |
| Lead                                 | 5                         | 1                                    | 0.516 J                              |
| PESTICIDES <sup>1</sup>              | mg/L                      | ND                                   | ND                                   |
| PCBs <sup>1</sup>                    | mg/L                      | ND                                   | ND                                   |
| <b>MISC. PARAMETERS (units)</b>      |                           |                                      |                                      |
| Reactivity Sulfide (mg/kg)           | 500                       | <40                                  | <40                                  |
| Reactivity Cyanide (mg/kg)           | 250                       | <0.1                                 | <0.1                                 |
| pH (SU)                              | 2-12.5                    | 9.38                                 | 9.26                                 |
| Ignitability                         | >140 °F                   | No                                   | No                                   |
| TPHC Diesel Range Organics (mg/kg)   | NS                        | 9.447                                | 9.707                                |
| TPHC Gasoline Range Organics (mg/kg) | NS                        | 0.043 J                              | 0.044 J                              |

**Notes:**  
 1 - Analysis conducted using TCLP Procedure  
 NS = No Standard  
 ND = Compound not detected above method detection limit (see attached lab report for mdl's)  
 J = Compound detected below the quantitation limit  
 Shading = Concentration exceeds 6 NYCRR Part 371 and RCRA Toxicity Characteristic Regulatory Levels for Hazardous Waste

A4-71

TABLE 8  
FINAL PHASE II SCI  
RECONSTRUCTION OF WATER MAIN AND COMBINED SEWERS IN YORK AVENUE, NEW YORK, NY  
NYCDEP GROUNDWATER PARAMETERS  
DDC CAVIS ID No. SEN002169  
WORK ORDER NO: 7396-LIRO-2-7095

| Parameter <sup>1</sup>               | NYC DEP Limitations to Sanitary or Combined Sewers |      | Well ID, Date Collected, and Depth to Water |                         |                        |                           |
|--------------------------------------|--|------|---|-------------------------|------------------------|---------------------------|
|                                      |  |      | York-SB1-GW                                 | York-SB2-GW             | York-SB3-GW            | York-SB6-GW               |
|                                      |  |      | 2/27/2011<br>14.33 ftbg                     | 2/27/2011<br>12.11 ftbg | 2/27/2011<br>7.41 ftbg | 2/27/2011<br>Not observed |
| Non-Polar Material <sup>2</sup>      | 50   | mg/L | <5  | <5                      | <5                     | <5                        |
| pH                                   | 5 - 12   | SU's | 7.49  | 6.95                    | 7.32                   | 8.04                      |
| Temperature                          | > 150  | °F   | 51.6  | 51.5                    | 51.5                   | 51.3                      |
| Flash Point - Liquid/Solid           | > 140  | °F   | >150  | >150                    | >150                   | >150                      |
| Cadmium (Instantaneous or Composite) | 2,000 or 690 for composite samples                 | ug/L | ND  | 56.8                    | 0.77 J                 | 34.2                      |
| Chromium Hexavalent (VI)             | 5  | mg/L | <0.01                                       | <0.01                   | <0.01                  | <0.01                     |
| Copper                               | 5,000  | ug/L | ND  | 78.1                    | 52.9                   | 2,270                     |
| Lead                                 | 2,000  | ug/L | ND  | <b>4,100</b>            | 92                     | <b>6,850</b>              |
| Mercury                              | 50   | ug/L | ND  | 7.7                     | 0.29 N                 | 23.3 D                    |
| Nickel                               | 3,000  | ug/L | ND  | 582                     | 43.6                   | 569                       |
| Zinc                                 | 5,000  | ug/L | ND  | 1,270                   | 80.2                   | 1,740                     |
| Benzene                              | 134  | ug/L | ND  | ND                      | 84                     | ND                        |
| Carbontetrachloride                  | NS   | ug/L | ND  | ND                      | ND                     | ND                        |
| Chloroform                           | NS   | ug/L | ND  | ND                      | ND                     | ND                        |
| 1,4 Dichlorobenzene                  | NS   | ug/L | ND  | ND                      | ND                     | ND                        |
| Ethylbenzene                         | 380  | ug/L | ND  | ND                      | 16                     | ND                        |
| MTBE (Methyl-Tert-Butyl-Ether)       | 50   | ug/L | ND  | ND                      | ND                     | ND                        |
| Naphthalene                          | 47   | ug/L | ND  | ND                      | ND                     | ND                        |
| Phenol                               | NS   | mg/L | 0.018 J                                     | <0.05                   | 0.272                  | <0.05                     |
| Tetrachloroethene                    | 20   | ug/L | ND  | ND                      | ND                     | ND                        |
| Toluene                              | 74   | ug/L | ND  | ND                      | 22                     | ND                        |
| 1,2,4 Trichlorobenzene               | NS   | ug/L | ND  | ND                      | ND                     | ND                        |
| 1,1,1 Trichloroethane                | NS   | ug/L | ND  | ND                      | ND                     | ND                        |
| Xylenes (Total)                      | 74   | ug/L | ND  | ND                      | ND                     | ND                        |
| PCBs (Total) <sup>3</sup>            | 1  | ug/L | 0.62  | ND                      | ND                     | ND                        |
| Total Suspended Solids               | 350 <sup>4</sup>                                   | mg/L | <b>1,650</b>                                | <b>6,620</b>            | <b>3,100</b>           | <b>28,300</b>             |
| CBOD <sup>5</sup>                    | NS   | mg/L | <2  | 21                      | 21                     | 4                         |
| Chloride <sup>5</sup>                | NS   | mg/L | 400   | 1140                    | 3,350                  | 1,000                     |
| Total Nitrogen <sup>5</sup>          | NS   | mg/L | ND  | 5.766                   | 30.6                   | 1.92                      |
| Total Solids <sup>5</sup>            | NS   | mg/L | 2,350                                       | 15,400                  | 10,000                 | 45,900                    |

**Notes:**

All concentrations are reported in parts per million (ppm or mg/L) or parts per billion (ppb or ug/L)

NS = No Standard

ND = Compound not detected above method detection limit (see attached lab report for md's)

J = Compound detected below the quantitation limit

SU = Standard unit

N = Spiked sample recovery not within control limits

D = The reported value is from a dilution

ftbg = feet below grade

**BOLD and Shaded = Concentration exceeds NYCDEP Limitations for Effluent to Sanitary or Combined Sewers (daily limit)**

<sup>1</sup> All handling and preservation of collected samples and laboratory analyses of samples was performed in accordance with 40 CFR Part 136.

<sup>2</sup> Analysis for non-polar materials was performed by EPA method 1664.

<sup>3</sup> Analysis for PCBs was performed according to EPA method 608 with method detection limit =<65 parts per trillion.

Analysis for PCBs is required if discharge =>10,000 gallons per day (gpd) and duration of discharge > 10 days.

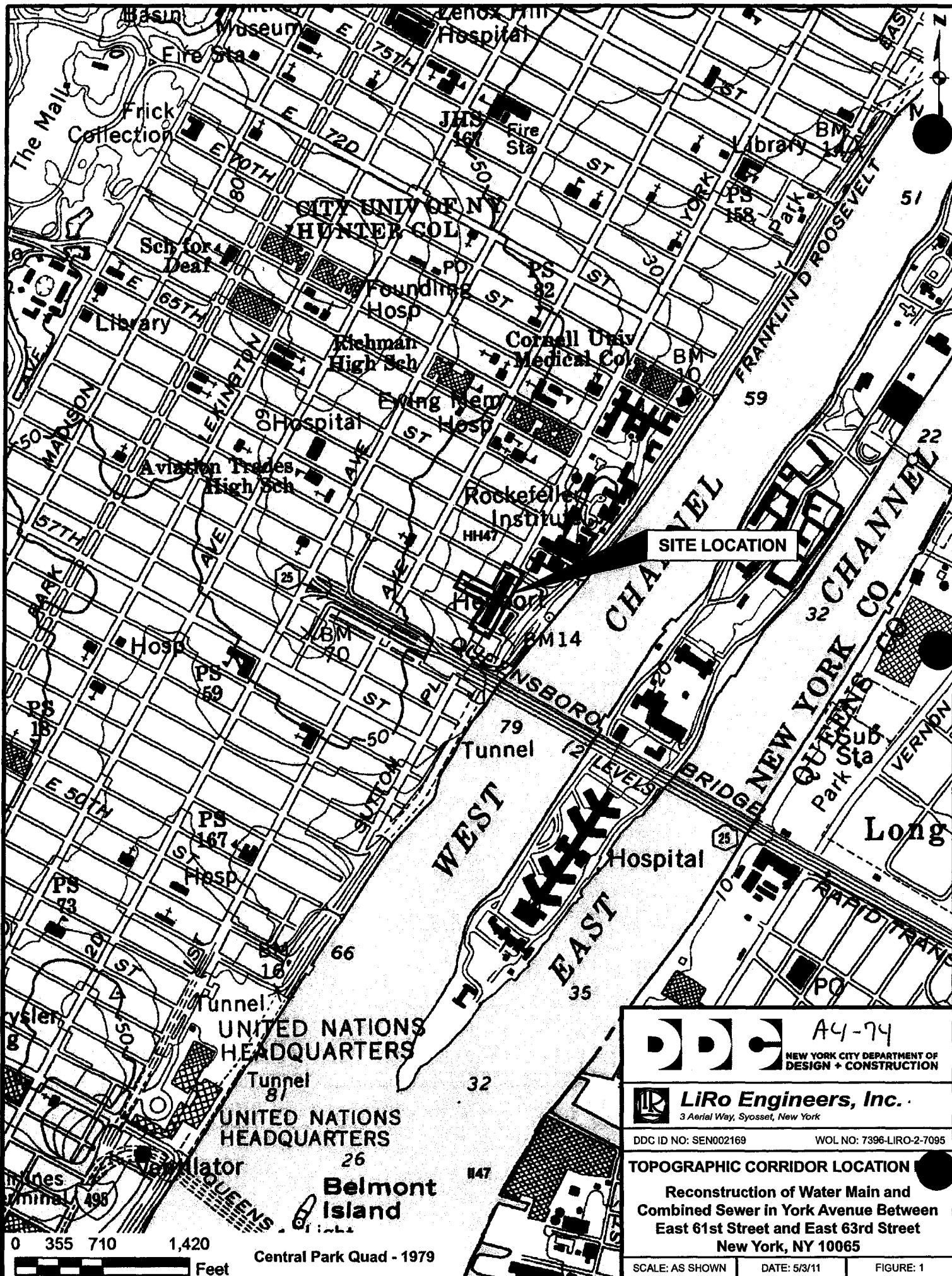
<sup>4</sup> For discharge >= 10,000 gpd, the TSS limit is 350 mg/l. For discharge < 10,000 gpd, the limit is determined on a case by case basis

<sup>5</sup> Analysis for Carbonaceous Biochemical Oxygen Demand (CBOD), Chloride, Total Solids, and Total Nitrogen are required if proposed discharge >= 10,000 gpd

A4-72



**FIGURE 1 - TOPOGRAPHIC CORRIDOR LOCATION MAP**



J:\10-02-2005 DDC BEGS 2010\York Avenue\CAD\York Ave Topo Map.dwg

**DDC** A4-74  
 NEW YORK CITY DEPARTMENT OF  
 DESIGN + CONSTRUCTION

**LiRo Engineers, Inc.**  
 3 Aerial Way, Syosset, New York

DDC ID NO: SEN002169 WOL NO: 7396-LIRO-2-7095

**TOPOGRAPHIC CORRIDOR LOCATION**  
 Reconstruction of Water Main and  
 Combined Sewer in York Avenue between  
 East 61st Street and East 63rd Street  
 New York, NY 10065

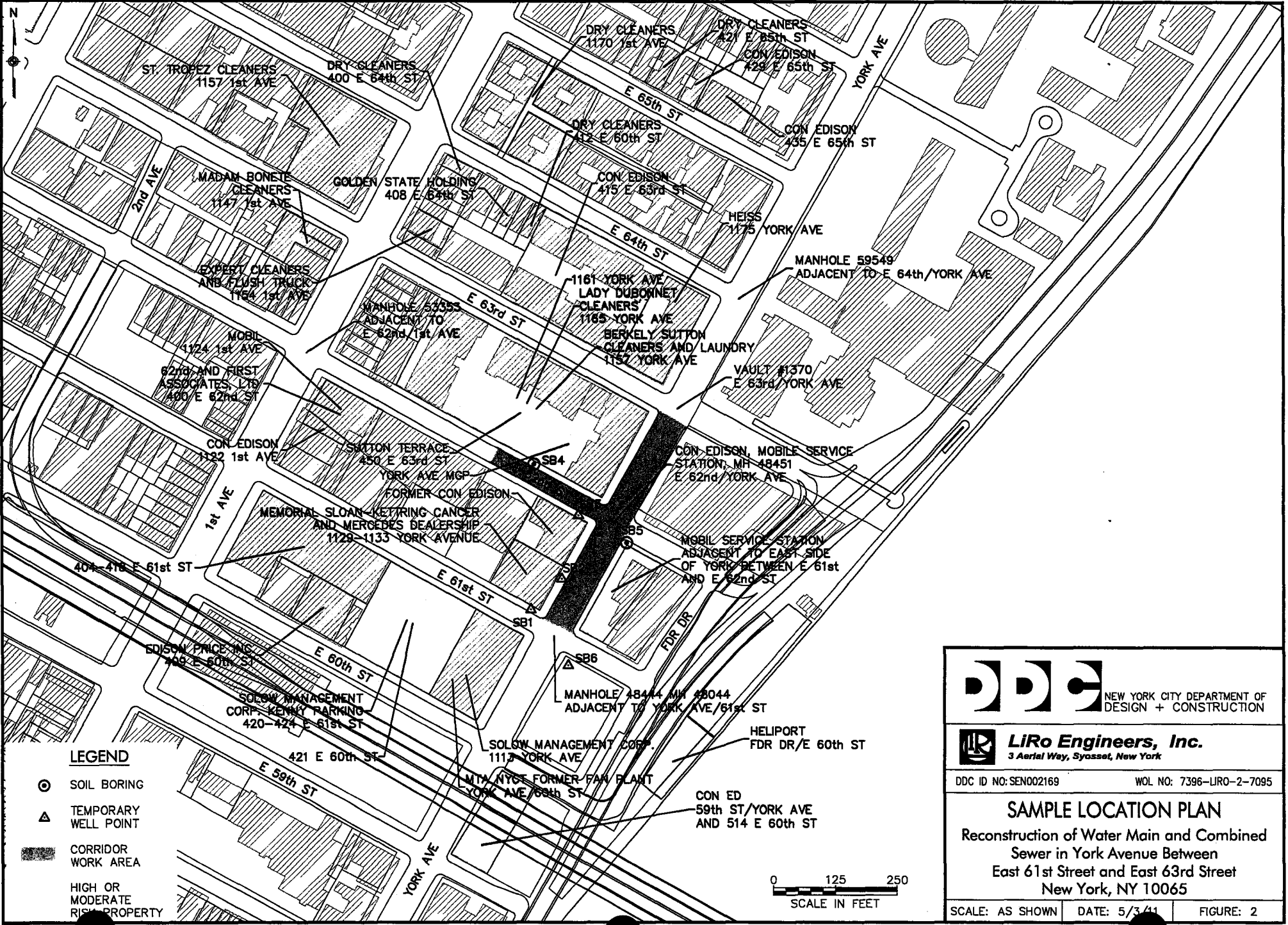
SCALE: AS SHOWN | DATE: 5/3/11 | FIGURE: 1

0 355 710 1,420  
 Feet

Central Park Quad - 1979




**FIGURE 2 – SAMPLE LOCATION PLAN**




**LEGEND**

- SOIL BORING
- △ TEMPORARY WELL POINT
- CORRIDOR WORK AREA
- HIGH OR MODERATE RISK PROPERTY



NEW YORK CITY DEPARTMENT OF DESIGN + CONSTRUCTION



**LiRo Engineers, Inc.**  
3 Aerial Way, Syosset, New York

DDC ID NO: SEN002169

WOL NO: 7396-LIRO-2-7095

**SAMPLE LOCATION PLAN**

Reconstruction of Water Main and Combined Sewer in York Avenue between East 61st Street and East 63rd Street  
New York, NY 10065

SCALE: AS SHOWN

DATE: 5/3/11

FIGURE: 2

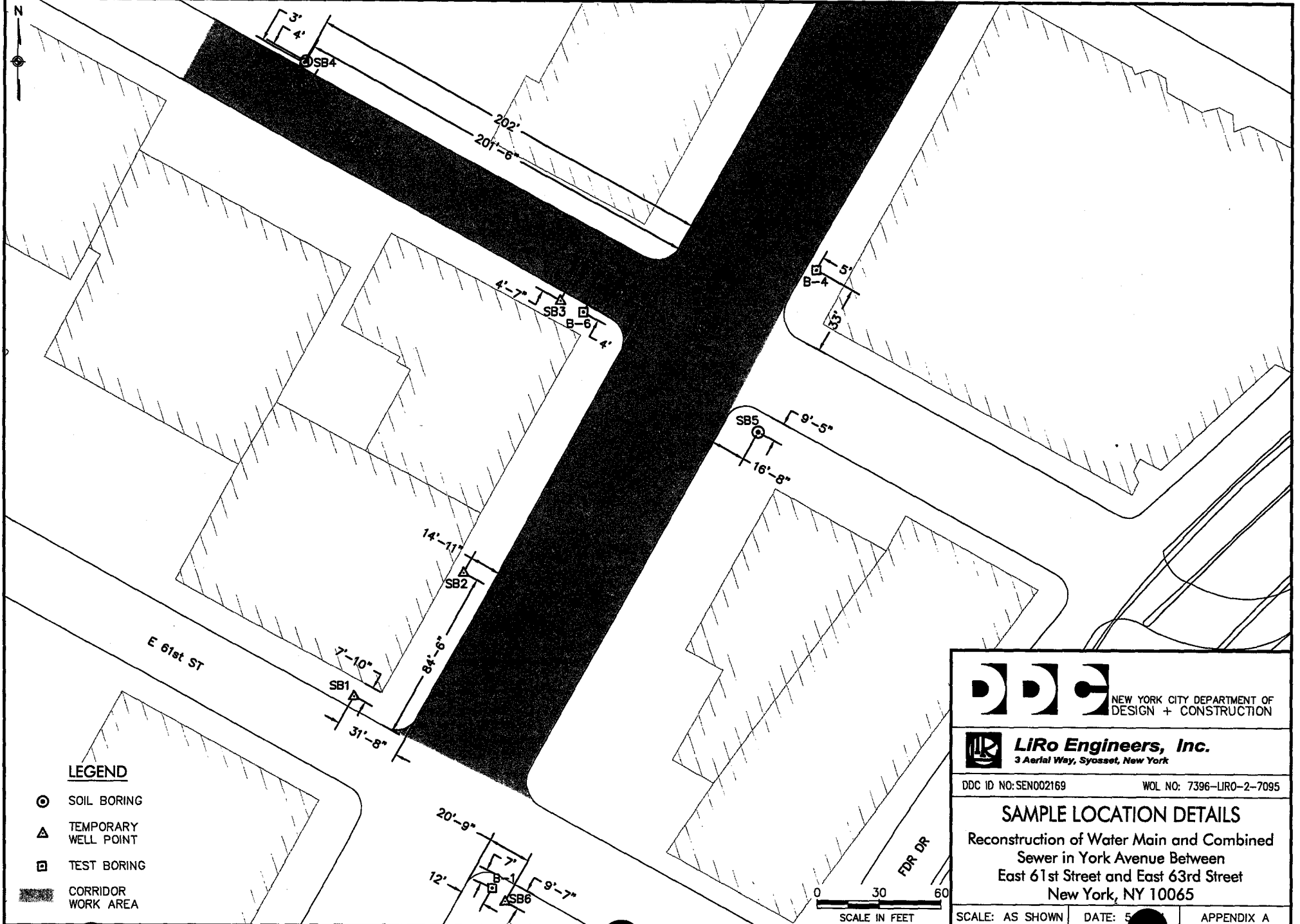


New York City Department of Design and Construction  
Final Phase II Subsurface Corridor Investigation Report  
Reconstruction of Water Main and Combined Sewer in York Avenue  
New York, NY

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**APPENDIX A**  
**BORING LOCATION SKETCHES**





|  |                          |  |
|--|--------------------------|--|
|   |                          | NEW YORK CITY DEPARTMENT OF<br>DESIGN + CONSTRUCTION           |
|   |                          | <b>LiRo Engineers, Inc.</b><br>3 Aerial Way, Syosset, New York |
| DDC ID NO: SEN002169   | WOL NO: 7396-LIRO-2-7095 |  |
| <b>SAMPLE LOCATION DETAILS</b>   |                          |  |
| Reconstruction of Water Main and Combined<br>Sewer in York Avenue Between<br>East 61st Street and East 63rd Street<br>New York, NY 10065 |                          |  |
| SCALE: AS SHOWN  | DATE: 5/3/11             | APPENDIX A   |

A4 78



New York City Department of Design and Construction  
Final Phase II Subsurface Corridor Investigation Report  
Reconstruction of Water Main and Combined Sewer in York Avenue  
New York, NY

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**APPENDIX B**  
**GEOLOGIC BORING LOGS AND TEMPORARY WELL CONSTRUCTION DETAILS**

A4-79



# LiRo Engineers, Inc.

## TEST BORING LOG

|  |             |              |             |             |  |                |             |   |
|--|-------------|--------------|-------------|-------------|--|----------------|-------------|---|
| <b>PROJECT:</b> York Avenue Phase II Corridor Investigation  |             |              |             |             | <b>BORING NO.:</b> SB-1                  |                |             |   |
| <b>CLIENT:</b> Department of Design and Construction         |             |              |             |             | <b>SHEET:</b> 1 of 1                     |                |             |   |
| <b>BORING CONTRACTOR:</b> Aquifer Drilling and Testing, Inc. |             |              |             |             | <b>JOB NO.:</b>                          |                |             |   |
| <b>GROUNDWATER:</b>  |             |              |             |             | <b>LOCATION:</b> NW. corn of 61st & York |                |             |   |
|  |             |              |             |             | <b>GROUND ELEVATION:</b>                 |                |             |   |
| <b>DATE</b>  | <b>TIME</b> | <b>LEVEL</b> | <b>TYPE</b> | <b>TYPE</b> | <b>CAS.</b>                              | <b>SAMPLER</b> | <b>TUBE</b> | <b>DATE STARTED:</b> February 26, 2011  |
| 02/27/11   | 14:00       | 14.33        | BGS         | DIA.        | 2 in. dia.                               | Macro Core     | 5 ft. lg    | <b>DATE FINISHED:</b> February 27, 2011 |
|  |             |              |             | <b>WT.</b>  | n/a                                      |                |             | <b>DRILLER:</b> Andrea Babil            |
|  |             |              |             | <b>FALL</b> | n/a                                      |                |             | <b>GEOLOGIST:</b> Scott Swanson         |
|  |             |              |             |             | <b>REVIEWED BY:</b>                      |                |             |   |

| DEPTH FEET | SAMPLE |         |         |              |              | DESCRIPTION                            |                         |   | USCS | REMARKS                                     |
|------------|--------|---------|---------|--------------|--------------|--|-------------------------|---|------|---|
|            | STRATA | "S" NO. | "N" NO. | BLOWS PER 6" | REC%<br>RQD% | COLOR                                  | CONSISTENCY<br>HARDNESS | MATERIAL DESCRIPTION  |      |   |
| 1          |        |         |         |              | n/a          | dk bm                                  |                         | HAND CLEARED TO 5 Feet 2-26-11<br>gravelly cs sands<br>gravelly fn - cs sand w/some silt<br>broken frag. Mica schist rock<br>gravelly sand size schist flakes |      | 0 ppm PID                                   |
| 5          |        |         |         |              |              |  |                         |   |      |   |
|            |        | 1       |         |              | 30%          | dk bm                                  |                         | weathered mica schist<br>gravelly sand size schist flakes<br>mixed with sand<br>broken mica schist rock pieces<br>in bottom of macro-core                     |      | 0 ppm PID<br>no odors<br>moist<br>0 ppm PID |
| 10         |        |         |         |              |              |  |                         |   |      |   |
|            |        | 2       |         |              | 17%          | dk bm                                  |                         | gravelly silt   |      | very moist<br>0 ppm PID<br>no odors         |
| 15         |        |         |         |              |              |  |                         |   |      | * VOC grab                                  |
|            |        | 3       |         |              | 100%         | dk bm<br>org-bm<br>org-gry-gm<br>dk bm |                         | sandy silt<br>becoming wet mottled silt<br>silty sand and broken schist<br>fine particle weatherd schist  |      | v. moist to saturated<br>0 ppm PID          |
| 20         |        |         |         |              |              |  |                         | REFUSAL AT 19 FEET  |      |   |
| 25         |        |         |         |              |              |  |                         |   |      |   |
| 30         |        |         |         |              |              |  |                         |   |      |   |
| 35         |        |         |         |              |              |  |                         |   |      |   |

**COMMENTS:** VOC grab sample collected at 14.5 to 15.0 ft bgs  
 Composite sample collected from 0-19 for SVOC, PCB, Pest.  
 and metals; slow recharge partial DEP sample collected in Temp Piez.

**PROJECT NO.:**  
**BORING NO.:** SB-1

A4-80

| DRILLING SUMMARY                                   |   | TEMPORARY WELL CONSTRUCTION DETAIL              |                              |
|--|---|---|------------------------------|
| Geologist: S. Swanson                              |   |   |                              |
| Drilling Company: Aquifer Drilling & Testing, Inc. |   |   |                              |
| Driller: Andrea Babil                              |   |   |                              |
| Rig Make/Model: Geoprobe 6610                      |   |   |                              |
| Date: 2/27/2011 0:00                               |   |   |                              |
| <b>GEOLOGIC LOG</b>                                |   | D<br>E<br>P<br>T<br>H                           |                              |
| Depth(ft.)   | Description                               |   |                              |
|  | See Log                                   |   |                              |
| <b>WELL DESIGN</b>                                 |   |   |                              |
| CASING MATERIAL                                    |   | SCREEN MATERIAL                                 |                              |
| Surface:   | Temp. Well Pulled After Sample Collection | Type:   | Sch. 40 PVC                  |
| Monitor:   | Sch. 40 PVC                               | Slot Size:                                      | 0.010"                       |
| COMMENTS:  |   |   |                              |
| Client:  | NYCDDC                                    | Location:                                       | York Avenue<br>Manhattan, NY |
|  |   | Project No.:                                    | 10-62-205                    |
| <b>The LiRo Group</b>                              |   | <b>MONITORING WELL<br/>CONSTRUCTION DETAILS</b> |                              |
|  |   | Well Number: SB-1                               |                              |

A4-81



# LiRo Engineers, Inc.

## TEST BORING LOG

PROJECT: York Avenue Phase II Corridor Investigation

CLIENT: Department of Design and Construction

BORING CONTRACTOR: Aquifer Drilling and Testing, Inc.

GROUNDWATER:

| DATE     | TIME  | LEVEL     | TYPE | TYPE | CAS.       | SAMPLER    | TUBE     |
|----------|-------|-----------|------|------|------------|------------|----------|
| 02/27/11 | 12:50 | 12.11 ft. | BGS  | DIA. | 2 in. dia. | Macro Core | 5 ft. lg |
|          |       |           |      | WT.  | n/a        |            |          |
|          |       |           |      | FALL | n/a        |            |          |

BORING NO: SB-2

SHEET: 1 of 1

JOB NO.:

LOCATION: 84.5 ft north of E. 61st St west side York

GROUND ELEVATION:

DATE STARTED: February 26, 2011

DATE FINISHED: February 27, 2011

DRILLER: Andrea Babil

GEOLOGIST: Scott Swanson

REVIEWED BY:

| DEPTH FEET | SAMPLE |         |         |              |           | DESCRIPTION                |                      |   |  | USCS   | REMARKS |
|------------|--------|---------|---------|--------------|-----------|----------------------------|----------------------|---|--|--|---------|
|            | STRATA | "S" NO. | "N" NO. | BLOWS PER 6" | REC% RQD% | COLOR                      | CONSISTENCY HARDNESS | MATERIAL DESCRIPTION  |  |  |         |
| 1          |        |         |         |              | n/a       |                            |                      | HAND CLEARED TO 5 Feet 2-26-11  |  | 0 ppm PID  |         |
| 5          |        |         |         |              |           | dk bm<br>lt yel            |                      | gravelly silty fine sand<br>fine sand, some gravel, silt                        |  |  |         |
| 10         |        | 1       |         |              | 50%       | org-bm<br>blk-red<br>black |                      | gravelly mottled fine sand<br>w/ mica flakes throughout<br><br>weathered schist |  | 0 ppm PID<br>no odors<br>moist<br>0 ppm PID                    |         |
| 15         |        | 2       |         |              | 60%       | dk bm<br><br>black         |                      | as above<br><br>becoming sandy silt<br>piece of red brick<br>sandy gravels      |  | very moist<br>0 ppm PID<br>no odors<br>0 ppm PID<br>* VOC grab |         |
| 20         |        | 3       |         |              | 100%      | dk gry                     |                      | silty sand<br>w/ some gravels   |  | saturated<br>no odors<br>0 ppm PID                             |         |
| 25         |        |         |         |              |           |                            |                      | BOTTOM 20 FEET  |  |  |         |
| 30         |        |         |         |              |           |                            |                      |   |  |  |         |
| 35         |        |         |         |              |           |                            |                      |   |  |  |         |

COMMENTS: VOC grab sample collected at 14.5 to 15.0 ft bgs  
Composite sample collected from 0-20 for SVOC, PCB, Pest.  
and metals; DEP sample collected from 1" Temp Piez. PVC

PROJECT NO.:

BORING NO.:

SB-2

A4-82

**DRILLING SUMMARY**

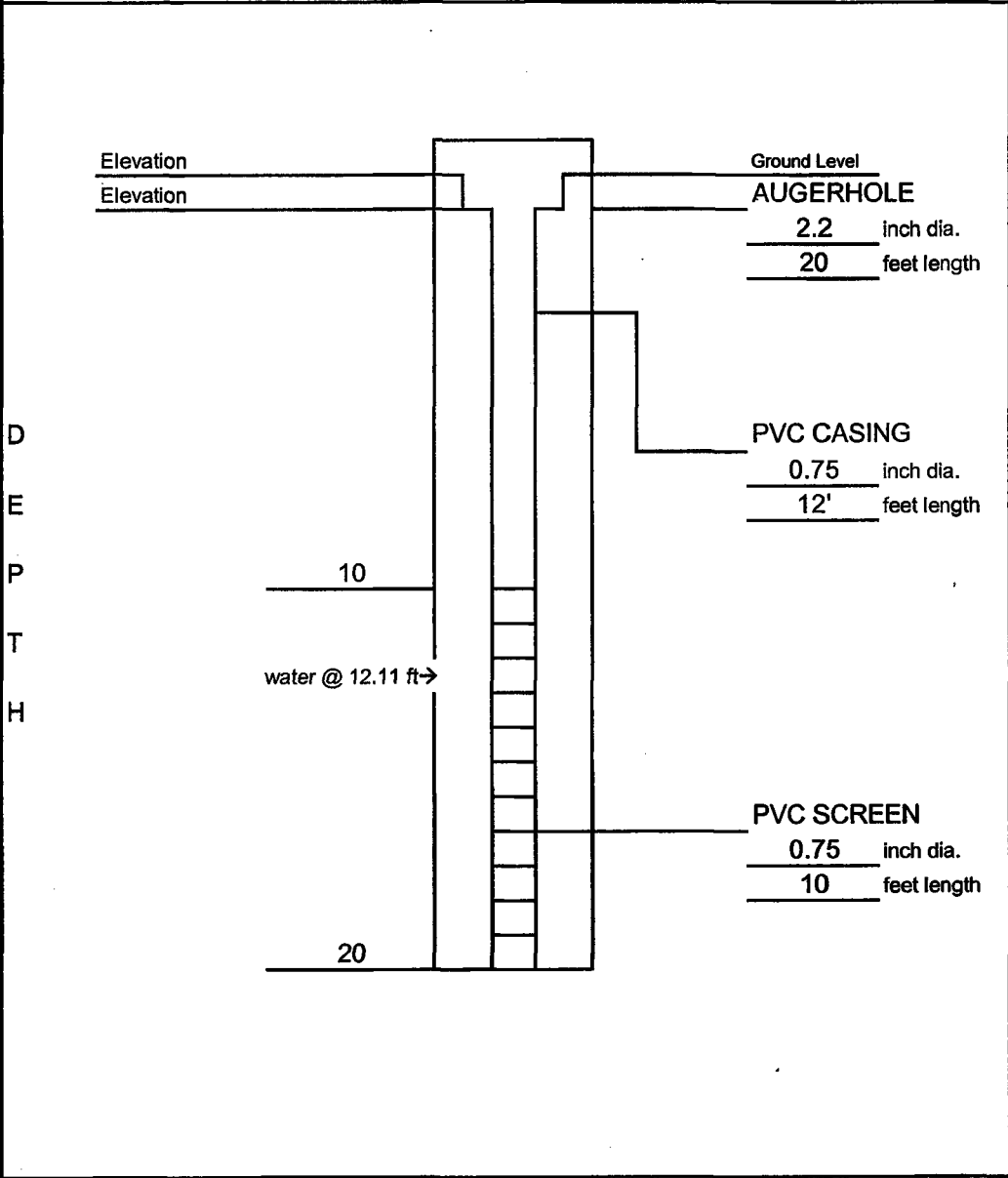
Geologist: S. Swanson  
 Drilling Company: Aquifer Drilling & Testing, Inc.  
 Driller: Andrea Babil  
 Rig Make/Model: Geoprobe 6610  
 Date: 2/27/2011 0:00

**GEOLOGIC LOG**

| Depth(ft.) | Description |
|------------|-------------|
|            | See Log     |

**WELL DESIGN**

**TEMPORARY WELL CONSTRUCTION DETAIL**



| CASING MATERIAL |                 | SCREEN MATERIAL |             |
|-----------------|-----------------|-----------------|-------------|
| Surface:        | Steel grade box | Type:           | Sch. 40 PVC |
| Monitor:        | Sch. 40 PVC     | Slot Size:      | 0.010"      |

COMMENTS:

|                       |   |                        |
|-----------------------|---|------------------------|
| Client: NYCDDC        | Location: York Avenue<br>Manhattan, NY          | Project No.: 10-62-205 |
| <b>The LiRo Group</b> | <b>MONITORING WELL<br/>CONSTRUCTION DETAILS</b> | Well Number: SB-2      |

A4-83



# LiRo Engineers, Inc.

## TEST BORING LOG

|  |             |              |             |             |  |                |             |   |  |
|--|-------------|--------------|-------------|-------------|--|----------------|-------------|---|--|
| <b>PROJECT:</b> York Avenue Phase II Corridor Investigation  |             |              |             |             | <b>BORING NO.:</b> SB-3                                      |                |             |   |  |
| <b>CLIENT:</b> Department of Design and Construction         |             |              |             |             | <b>SHEET:</b> 1 of 1   |                |             |   |  |
| <b>BORING CONTRACTOR:</b> Aquifer Drilling and Testing, Inc. |             |              |             |             | <b>JOB NO.:</b>  |                |             |   |  |
| <b>GROUNDWATER:</b>  |             |              |             |             | <b>LOCATION:</b> SW corn E. 62nd St. 37 ft west of York Ave. |                |             |   |  |
|  |             |              |             |             | <b>GROUND ELEVATION:</b>                                     |                |             |   |  |
| <b>DATE</b>  | <b>TIME</b> | <b>LEVEL</b> | <b>TYPE</b> | <b>TYPE</b> | <b>CAS.</b>  | <b>SAMPLER</b> | <b>TUBE</b> | <b>DATE STARTED:</b> February 26, 2011        |  |
| 02/27/11   | 11:30       | 7.41ft.      | BGS         | DIA.        | 2 in. dia.   | Macro Core     | 5 ft.lg     | <b>DATE FINISHED:</b> February 27, 2011       |  |
|  |             |              |             | WT.         | n/a  |                |             | <b>DRILLER:</b> Chris Stratton                |  |
|  |             |              |             | FALL        | n/a  |                |             | <b>GEOLOGIST:</b> S. Swanson and Nicole Motto |  |
|  |             |              |             |             | <b>REVIEWED BY:</b>  |                |             |   |  |

| DEPTH FEET | SAMPLE |         |         |              |           | DESCRIPTION                 |                      |  | USCS | REMARKS  |
|------------|--------|---------|---------|--------------|-----------|-----------------------------|----------------------|--|------|--|
|            | STRATA | "S" NO. | "N" NO. | BLOWS PER 6" | REC% RQD% | COLOR                       | CONSISTENCY HARDNESS | MATERIAL DESCRIPTION   |      |  |
| 1          |        |         |         |              |           | black<br>dk gry to<br>black |                      | HAND CLEARED TO 5 Feet 2-26-11<br>gravelly cs sand, stained dk gray- blk<br>black stained soils observed |      | strong pet odor<br>* VOC grab<br>(175 ppm PID) |
| 5          |        |         |         |              |           | yel-brn                     |                      | gravelly sandy silt w/ broken schist   |      | 35 ppm PID                                     |
|            |        | 1       |         |              |           | bm                          |                      | Medium sand some silt trace medium gravel  |      | 23ppm PID<br>Water found at 7'                 |
|            |        |         |         |              |           | blk                         |                      | Fine- Medium Sand Wet  |      | 43ppm PID                                      |
| 10         |        | 2       |         |              |           | blk                         |                      | Fine- Medium Sand  |      | 30ppm PID                                      |
|            |        |         |         |              |           |                             |                      | REFUSAL AT 11 FEET   |      |  |
| 15         |        |         |         |              |           |                             |                      | Took Ground water level from TWP - 7.41'   |      |  |
| 20         |        |         |         |              |           |                             |                      |  |      |  |
| 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

A4-84

**DRILLING SUMMARY**

Geologist: S. Swanson

Drilling Company: Aquifer Drilling & Testing, Inc.

Driller: Chris Stratton

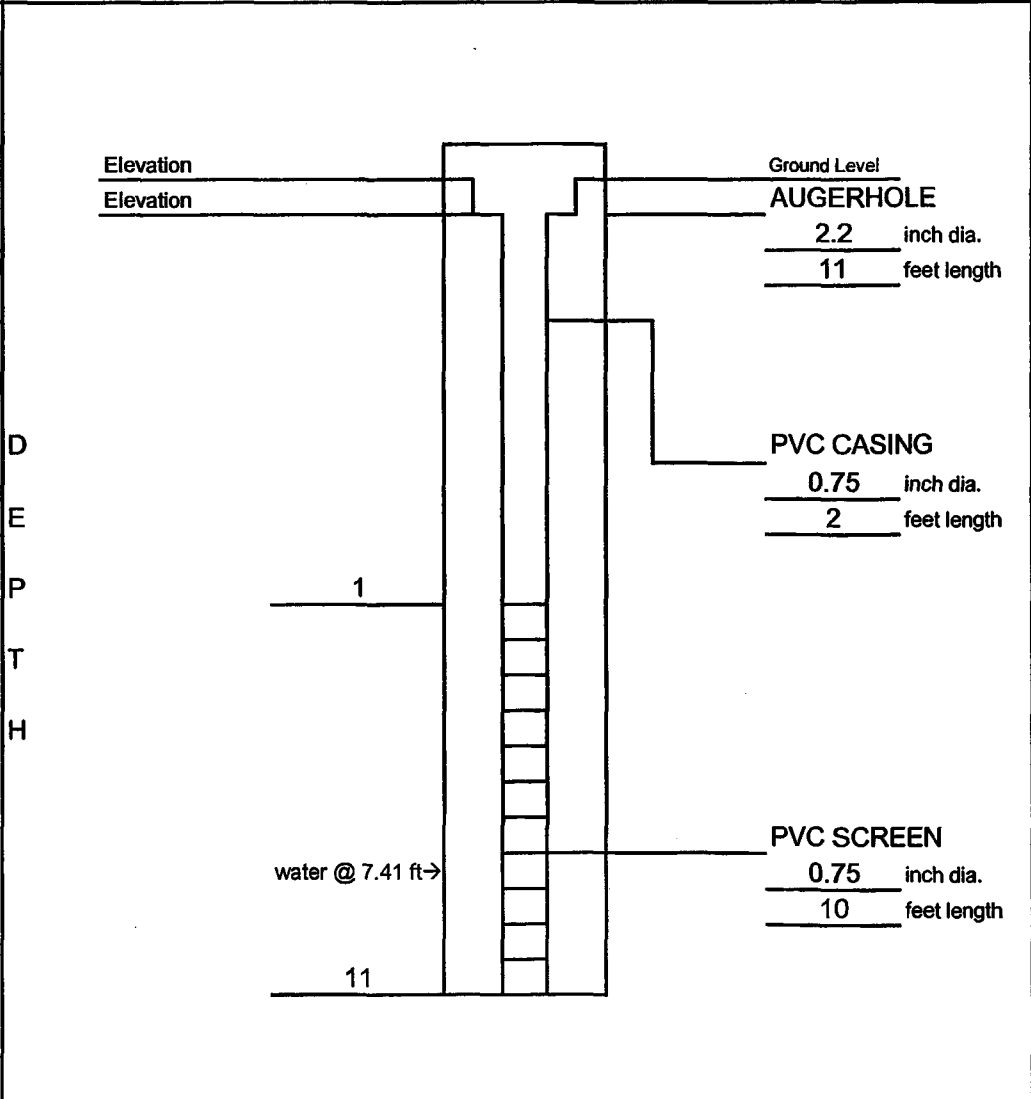
Rig Make/Model: Geoprobe 6620

Date: 2/27/2011 0:00

**GEOLOGIC LOG**

| Depth(ft.) | Description |
|------------|-------------|
|            | See Log     |

**TEMPORARY WELL CONSTRUCTION DETAIL**



**WELL DESIGN**

| CASING MATERIAL |   | SCREEN MATERIAL |             |
|-----------------|---|-----------------|-------------|
| Surface:        | Temp. Well Pulled After Sample Collection | Type:           | Sch. 40 PVC |
| Monitor:        | Sch. 40 PVC                               | Slot Size:      | 0.010"      |

COMMENTS:

|                       |   |                        |
|-----------------------|---|------------------------|
| Client: NYCCDC        | Location: York Avenue<br>Manhattan, NY          | Project No.: 10-62-205 |
| <b>The LiRo Group</b> | <b>MONITORING WELL<br/>CONSTRUCTION DETAILS</b> | Well Number: SB-3      |

AY-85





# LiRo Engineers, Inc.

## TEST BORING LOG

PROJECT: York Avenue Phase II Corridor Investigation

BORING NO: SB-4

CLIENT: Department of Design and Construction

SHEET: 1 of 1

BORING CONTRACTOR: Aquifer Drilling and Testing, Inc.

JOB NO.:  
LOCATION: SW corn E. 62nd St. 37 ft west of York Ave.

| GROUNDWATER: |      |           |      |      | CAS.       | SAMPLER    | TUBE     |
|--------------|------|-----------|------|------|------------|------------|----------|
| 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        |            |          |
|              |      |           |      | FALL | n/a        |            |          |

GROUND ELEVATION:  
DATE STARTED: February 26, 2011  
DATE FINISHED: February 27, 2011  
DRILLER: Chris Stratton  
GEOLOGIST: S. Swanson and 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 TO 5 Feet 2-26-11               |      | 0 ppm PID         |
|            |        |         |         |              |           | lt bm       |                      | gravelly sand w/ some silt                   |      | moist             |
| 5          |        |         |         |              |           |             |                      |  |      |                   |
|            |        | 1       |         |              |           | bm          |                      | Medium Sand some silt<br>trace medium gravel |      | 0ppm PID<br>Moist |
| 10         |        |         |         |              |           |             |                      |  |      |                   |
|            |        | 2       |         |              |           |             |                      | Medium Sand some medium gravel               |      | 0ppm PID<br>Moist |
| 15         |        |         |         |              |           |             |                      |  |      | * VOC grab        |
|            |        | 3       |         |              |           |             |                      |  |      |                   |
|            |        |         |         |              |           |             |                      | REFUSAL AT 16 FEET                           |      |                   |
| 20         |        |         |         |              |           |             |                      |  |      |                   |
|            |        |         |         |              |           |             |                      |  |      |                   |
| 25         |        |         |         |              |           |             |                      |  |      |                   |
|            |        |         |         |              |           |             |                      |  |      |                   |
| 30         |        |         |         |              |           |             |                      |  |      |                   |
|            |        |         |         |              |           |             |                      |  |      |                   |
| 35         |        |         |         |              |           |             |                      |  |      |                   |

COMMENTS: VOC grab sample collected at 14.5 to 15.0 ft.bgs  
Composite sample collected 0 to 16 ft.bgs for SVOC, PCB, Pest.  
and Metals

PROJECT NO.:  
BORING NO.: SB-4

A4-86



# LiRo Engineers, Inc.

## TEST BORING LOG

**PROJECT:** York Avenue Phase II Corridor Investigation  
**CLIENT:** Department of Design and Construction  
**BORING CONTRACTOR:** Aquifer Drilling and Testing, Inc.  
**GROUNDWATER:**

**BORING NO.:** SB-5  
**SHEET:** 1 of 1  
**JOB NO.:**  
**LOCATION:** SE corn of 62nd & York  
**GROUND ELEVATION:**  
**DATE STARTED:** February 26, 2011  
**DATE FINISHED:** February 27, 2011  
**DRILLER:** Chris Stratton  
**GEOLOGIST:** S. Swanson and 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          |        |         |         |              |           | yel-bm<br>a/a<br>a/a |                      | HAND CLEARED TO 5 Feet 2-26-11<br>med sand well sorted, tr gravels |      | 0 ppm PID<br>v. moist                          |
| 5          |        |         |         |              |           |                      |                      | med - cs sand  |      |  |
|            |        | 1       |         |              |           | lt. bm               |                      | sandy silt to silty sand<br>some gravel                            |      | 0 ppm PID<br>no odors<br>v. moist<br>0 ppm PID |
| 10         |        |         |         |              |           |                      |                      |  |      |  |
|            |        | 2       |         |              |           | brown                |                      | gravelly silt  |      | 0 ppm PID<br>no odors                          |
| 15         |        |         |         |              |           |                      |                      |  |      |  |
|            |        | 3       |         |              |           | lt bm                |                      | sandy silt trace gravel  |      | * VOC grab<br>0 ppm PID                        |
| 20         |        |         |         |              |           |                      |                      |  |      |  |
| 25         |        |         |         |              |           |                      |                      |  |      |  |
| 30         |        |         |         |              |           |                      |                      |  |      |  |
| 35         |        |         |         |              |           |                      |                      |  |      |  |

**COMMENTS:** VOC grab sample collected at 16.5 to 17 ft.bgs  
 Composite sample collected 0 to 20 ft.bgs for SVOC, PCB, Pest.  
 and metals. No water sample was taken did not encounter water table.

**PROJECT NO.:**  
**BORING NO.:** SB-5

A4-87



# LiRo Engineers, Inc.

## TEST BORING LOG

|   |  |
|---|--|
| <b>PROJECT:</b> York Avenue Phase II Corridor Investigation   | <b>BORING NO.:</b> SB-6                  |
| <b>CLIENT:</b> Department of Design and Construction  | <b>SHEET:</b> 1 of 1                     |
| <b>BORING CONTRACTOR:</b> Aquifer Drilling and Testing, Inc.  | <b>JOB NO.:</b>                          |
| <b>GROUNDWATER:</b>   | <b>LOCATION:</b> NW. corn of 61st & York |
| <b>DATE</b> <b>TIME</b> <b>LEVEL</b> <b>TYPE</b> <b>TYPE</b> <b>CAS.</b> <b>SAMPLER</b> <b>TUBE</b> | <b>GROUND ELEVATION:</b>                 |
| 02/27/11 10:45 14.85 BGS DIA. 2 in. dia. Macro Core 5 ft.lg   | <b>DATE STARTED:</b> February 26, 2011   |
|   | <b>DATE FINISHED:</b> February 27, 2011  |
|   | <b>DRILLER:</b> Andrea Babil             |
|   | <b>GEOLOGIST:</b> Scott Swanson          |
|   | <b>REVIEWED BY:</b>                      |

| DEPTH FEET | SAMPLE |         |         |              |              | DESCRIPTION           |                         |   | USCS | REMARKS   |
|------------|--------|---------|---------|--------------|--------------|-----------------------|-------------------------|---|------|---|
|            | STRATA | "S" NO. | "N" NO. | BLOWS PER 6" | REC%<br>RQD% | COLOR                 | CONSISTENCY<br>HARDNESS | MATERIAL<br>DESCRIPTION   |      |   |
| 1          |        |         |         |              |              | dk bm<br>dk bm        |                         | HAND CLEARED TO 5 Feet 2-26-11<br>gravelly cs sands<br>gravelly med-cs sand<br>same a/a<br>a/a with finer sand & mica |      | 0 ppm PID<br>moist<br>0 ppm PID                   |
| 5          |        | 1       |         |              | 50%          | lt bm<br>to dk bm     |                         | gravelly fine to med sand<br>some broken mica schist rock & flakes  |      | dry to sl moist<br>no odors<br>moist<br>0 ppm PID |
| 10         |        | 2       |         |              | 65%          | bm<br>dk gry<br>black |                         | as above<br>also with chunks of mica schist rock<br>bottom 7 in black stained cs gravels                              |      | 0 ppm PID<br>35 ppm **<br>+ 100-150 ppm **        |
| 15         |        | 3       |         |              | 100%         | dk gry                |                         | gravelly fine to coarse sand  |      | 7.5 ppm PID; sat.                                 |
| 20         |        |         |         |              |              |                       |                         | REFUSAL AT 15.5 FEET  |      | ** strong petrol odors<br>+ VOC grab              |
| 25         |        |         |         |              |              |                       |                         |   |      |   |
| 30         |        |         |         |              |              |                       |                         |   |      |   |
| 35         |        |         |         |              |              |                       |                         |   |      |   |

|  |  |
|--|--|
| <b>COMMENTS:</b> VOC grab sample collected at 14.5 to 15.0 ft bgs<br>Composite sample collected from 0-20 for SVOC, PCB, Pest.<br>and metals; DEP sample collected from Temp 1" Screened PVC | <b>PROJECT NO.:</b><br><b>BORING NO.:</b> SB-6 |
|--|--|

A4-88

**DRILLING SUMMARY**

Geologist: S. Swanson

Drilling Company: Aquifer Drilling & Testing, Inc.

Driller:

Rig Make/Model: Geoprobe 6610

Date: 2/27/2011 0:00

**GEOLOGIC LOG**

| Depth(ft.) | Description |
|------------|-------------|
|            | See Log     |

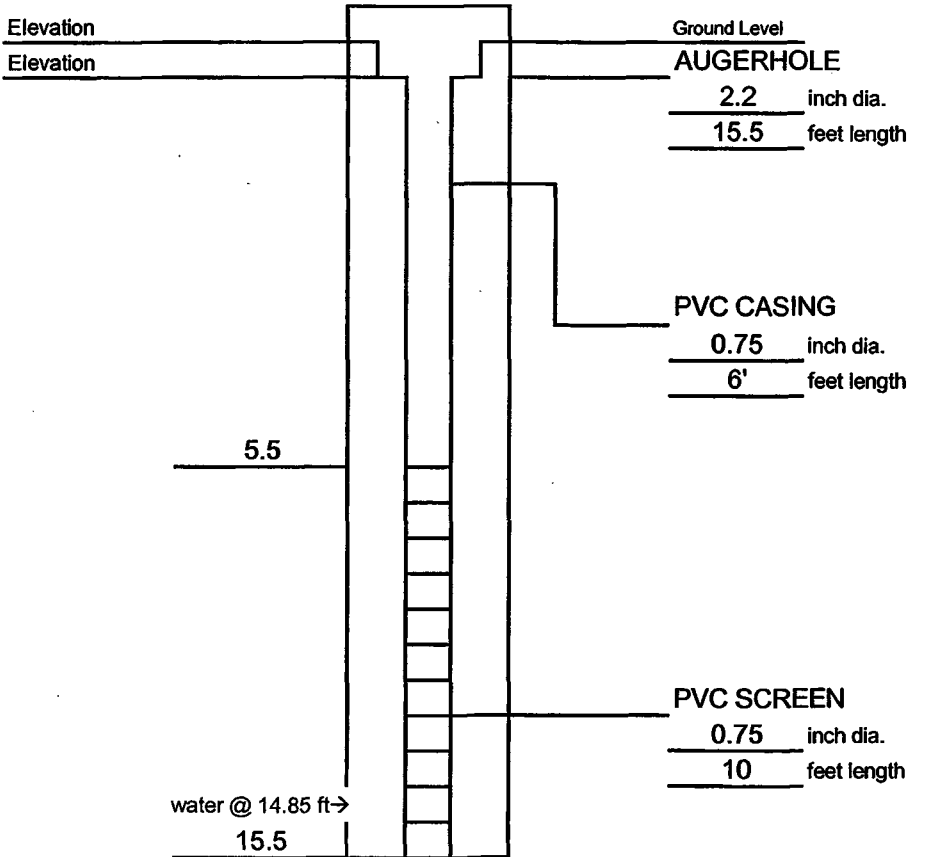
**WELL DESIGN**

**CASING MATERIAL**

Surface: Temp. Well Pulled After Sample Collection

Monitor: Sch. 40 PVC

**TEMPORARY WELL CONSTRUCTION DETAIL**



**SCREEN MATERIAL**

Type: Sch. 40 PVC

Slot Size: 0.010"

**COMMENTS:**

Client: NYCDDC

Location: York Avenue Manhattan, NY

Project No.: 10-62-205

The LiRo Group

MONITORING WELL CONSTRUCTION DETAILS

Well Number: SB-6

A4-89



New York City Department of Design and Construction  
Final Phase II Subsurface Corridor Investigation Report  
Reconstruction of Water Main and Combined Sewer in York Avenue  
New York, NY

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**APPENDIX C**  
**LABORATORY ANALYTICAL RESULTS**

A4-90

| CLIENT INFORMATION                                      |  | CLIENT PROJECT INFORMATION         |  | CLIENT BILLING INFORMATION                               |  |
|---|--|------------------------------------|--|--|--|
| REPORT TO BE SENT TO:                                   |  | PROJECT NAME: <b>York Ave BEGS</b> |  | BILL TO: <b>LIRo Engineers Inc.</b> PO#:                 |  |
| COMPANY: <b>LIRo Engineers Inc.</b>                     |  | PROJECT NO.:                       |  | ADDRESS: <b>690 Delaware Ave</b>                         |  |
| ADDRESS: <b>690 Delaware Ave</b>                        |  | LOCATION: <b>York Ave</b>          |  | CITY: <b>Buffalo</b> STATE: <b>NY</b> ZIP: <b>14209</b>  |  |
| CITY: <b>Buffalo</b> STATE: <b>NY</b> ZIP: <b>14209</b> |  | PROJECT MANAGER: <b>York Ave</b>   |  | ATTENTION: <b>Steve Frank</b> PHONE: <b>718-321-3136</b> |  |
| ATTENTION: <b>Steve Frank (Frank's@lira.com)</b>        |  | e-mail:                            |  | ANALYSIS   |  |
| PHONE: <b>718-321-3136</b> FAX:                         |  | PHONE: FAX:                        |  |  |  |

| DATA TURNAROUND INFORMATION   | DATA DELIVERABLE INFORMATION   |
|---|--|
| FAX: _____ DAYS*  | <input type="checkbox"/> RESULTS ONLY <input type="checkbox"/> USEPA CLP                               |
| HARD COPY: _____ DAYS*  | <input type="checkbox"/> RESULTS + QC <input type="checkbox"/> New York State ASP "B"                  |
| EDD: <b>XL &amp; PDF 5 DAYS</b> DAYS*   | <input type="checkbox"/> New Jersey REDUCED <input checked="" type="checkbox"/> New York State ASP "A" |
| PREAPPROVED TAT: <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <b>NOVA 2 DAYS</b> | <input type="checkbox"/> New Jersey CLP <input type="checkbox"/> Other _____                           |
| STANDARD TURNAROUND TIME IS 10 BUSINESS DAYS  | <input type="checkbox"/> EDD FORMAT _____  |

| CHEMTECH SAMPLE ID | PROJECT SAMPLE IDENTIFICATION      | SAMPLE MATRIX | SAMPLE TYPE |      | SAMPLE COLLECTION |          | # OF BOTTLES | PRESERVATIVES |   |   |   |   |   |   |   |   | COMMENTS<br>— Specify Preservatives<br>A-HCl B-HNO <sub>3</sub><br>C-H <sub>2</sub> SO <sub>4</sub> D-NaOH<br>E-ICE F-Other |  |  |
|--------------------|------------------------------------|---------------|-------------|------|-------------------|----------|--------------|---------------|---|---|---|---|---|---|---|---|---|--|--|
|                    |                                    |               | COMP        | GRAB | DATE              | TIME     |              | 1             | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |   |  |  |
| 1.                 | York.SB3- <del>14.5'-15'</del> -2' | Soil          |             | X    | 2.26              | 11:00 pm | 1            | X             |   |   |   |   |   |   |   |   |   |  |  |
| 2.                 | York.SB4.14.5'-15'                 | Soil          |             | X    | 2.27              | 11:00 AM | 1            | X             |   |   |   |   |   |   |   |   |   |  |  |
| 3.                 | York.SB5.16.5'-17'                 | Soil          |             | X    | 2.27              | 3:00 pm  | 1            | X             |   |   |   |   |   |   |   |   |   |  |  |
| 4.                 | York.SB3-0-11'                     | Soil          | X           |      | 2.27              | 12:45 pm | 2            |               | X | X | X |   |   |   |   |   |   |  |  |
| 5.                 | York.SB4-0-16'                     | Soil          | X           |      | 2.27              | 10:00 AM | 2            |               | X | X | X |   |   |   |   |   |   |  |  |
| 6.                 | York.SB5-0-20'                     | Soil          | X           |      | 2.27              | 4:00 pm  | 2            |               | X | X | X |   |   |   |   |   |   |  |  |
| 7.                 | York.SB6-14.5'-15'                 | Soil          |             | X    | 2.27              | 01:30 AM | 1            | X             |   |   |   |   |   |   |   |   |   |  |  |
| 8.                 | York.SB1-14.5'-15'                 | Soil          |             | X    | 2.27              | 11:50 AM | 1            | X             |   |   |   |   |   |   |   |   |   |  |  |
| 9.                 | York.SB2-0-20'                     | Soil          | X           |      | 2.27              | 3:30 pm  | 2            |               | X | X | X |   |   |   |   |   |   |  |  |
| 10.                | York.SB2-14.5'-15'                 | Soil          |             | X    | 2.27              | 08:30 AM | 1            | X             |   |   |   |   |   |   |   |   |   |  |  |

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION INCLUDING COURIER DELIVERY

|  |                                 |  |   |                            |
|--|---------------------------------|--|---|----------------------------|
| RELINQUISHED BY SAMPLER:<br><i>[Signature]</i> | DATE/TIME: <b>2.27 1800</b>     | RECEIVED BY:<br><i>[Signature]</i>         | Conditions of bottles or coolers at receipt: <input checked="" type="checkbox"/> Compliant <input type="checkbox"/> Non Compliant | Cooler Temp. <b>5°C</b>    |
| RELINQUISHED BY:<br><i>[Signature]</i>         | DATE/TIME: <b>2-28-11 11:30</b> | RECEIVED BY:<br><i>[Signature]</i>         | MeOH extraction requires an additional 4 oz jar for percent solid.  | Ice in Cooler?: <b>YES</b> |
| RELINQUISHED BY:<br><i>[Signature]</i>         | DATE/TIME: <b>2/29/11 12:40</b> | RECEIVED FOR LAB BY:<br><i>[Signature]</i> | Comments:   |                            |

Page **1** of **2**

SHIPPED VIA: CLIENT:  HAND DELIVERED  OVERNIGHT  
 CHEMTECH:  PICKED UP  OVERNIGHT

Shipment Complete:  YES  NO

# CHEMTECH

CHAIN OF CUSTODY RECORD

284 Sheffield Street, Mountainside, NJ 07092

(908) 789-8900 Fax (908) 789-8922

www.chemtech.net

CHEMTECH PROJECT NO. **01402**

QUOTE NO.

COC Number **081709**

| CLIENT INFORMATION                                      |  | CLIENT PROJECT INFORMATION            |  | CLIENT BILLING INFORMATION                               |  |
|---|--|---------------------------------------|--|--|--|
| REPORT TO BE SENT TO:                                   |  | PROJECT NAME: <b>York Ave</b>         |  | BILL TO: <b>LIRD Engineers</b> PO#:                      |  |
| COMPANY: <b>LIRD Engineers Inc.</b>                     |  | PROJECT NO.:                          |  | ADDRESS: <b>640 Delaware Ave</b>                         |  |
| ADDRESS: <b>640 Delaware Ave.</b>                       |  | LOCATION: <b>York Ave NYC</b>         |  | CITY: <b>Buffalo</b> STATE: <b>NY</b> ZIP: <b>14209</b>  |  |
| CITY: <b>Buffalo</b> STATE: <b>NY</b> ZIP: <b>14209</b> |  | PROJECT MANAGER: <b>ROBT. KREUZER</b> |  | ATTENTION: <b>Steve Frank</b> PHONE: <b>718-321-3136</b> |  |
| ATTENTION: <b>Steve Frank (FRANKS@lird.com)</b>         |  | e-mail:                               |  | PHONE: <b>718-321-3136</b> FAX:                          |  |
| PHONE: <b>718-321-3136</b> FAX:                         |  | PHONE:                                |  | FAX:   |  |

| DATA TURNAROUND INFORMATION                  |   | DATA DELIVERABLE INFORMATION                |  |
|--|---|---|--|
| FAX: _____ DAYS:                             | HARD COPY: _____ DAYS:  | <input type="checkbox"/> RESULTS ONLY       | <input type="checkbox"/> USEPA CLP                         |
| EDD: <b>XL &amp; PDF 5 DAYS</b> DAYS:        | PREAPPROVED TAT: <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <b>TELEVA 2 DAYS</b> | <input type="checkbox"/> RESULTS + QC       | <input type="checkbox"/> New York State ASP "B"            |
| STANDARD TURNAROUND TIME IS 10 BUSINESS DAYS |   | <input type="checkbox"/> New Jersey REDUCED | <input checked="" type="checkbox"/> New York State ASP "A" |
|  |   | <input type="checkbox"/> New Jersey CLP     | <input type="checkbox"/> Other _____                       |
|  |   | <input type="checkbox"/> EDD FORMAT         |  |

ANALYSIS

1 TCL/SPS/VOCS  
2 PCBs/PAHs  
3 TAl metals  
4 TOX/DEP  
5 TCLP  
6  
7  
8  
9

| CHEMTECH SAMPLE ID | PROJECT SAMPLE IDENTIFICATION | SAMPLE MATRIX | SAMPLE TYPE |                | SAMPLE COLLECTION |          | # OF BOTTLES | PRESERVATIVES |      |         |   |   |   |   |   |   | COMMENTS<br>← Specify Preservatives<br>A-HCl B-HNO <sub>3</sub><br>C-H <sub>2</sub> SO <sub>4</sub> D-NaOH<br>E-ICE F-Other |  |
|--------------------|-------------------------------|---------------|-------------|----------------|-------------------|----------|--------------|---------------|------|---------|---|---|---|---|---|---|---|--|
|                    |                               |               | COMP        | GRAB           | DATE              | TIME     |              | 1             | 2    | 3       | 4 | 5 | 6 | 7 | 8 | 9 |   |  |
|                    |                               |               | 11.         | York-SB1-0-19' | Soil              | X        |              |               | 2-27 | 7:50 AM | 2 | X | X | X |   |   |   |  |
| 12.                | York-SB6-0-15.5'              | Soil          | V           |                | 2-27              | 11:30 AM | 2            | X             | X    | X       |   |   |   |   |   |   |   |  |
| 13.                | York-SB3-GW                   | GW            |             | X              | 2-27              | 10:00 AM |              |               |      |         | X |   |   |   |   |   |   | Various jars for discharge parameters. |
| 14.                | York-SB6-GW                   |               |             |                |                   | 12 Noon  |              |               |      |         | X |   |   |   |   |   |   |  |
| 15.                | York-SB1-GW                   |               |             |                |                   | 2:45 PM  |              |               |      |         | X |   |   |   |   |   |   |  |
| 16.                | York-SB1-SB6 Site Comp - A    | Soil          | X           |                | 2-27              | 1:00 PM  | 2            |               |      |         |   | X |   |   |   |   |   |  |
| 17.                | York-SB1-SB6 Site Comp - B    | Soil          | X           |                | 2-27              | 5:15 PM  | 2            |               |      |         |   | X |   |   |   |   |   |  |
| 18.                |                               |               |             |                |                   |          |              |               |      |         |   |   |   |   |   |   |   |  |
| 19.                |                               |               |             |                |                   |          |              |               |      |         |   |   |   |   |   |   |   |  |
| 20.                |                               |               |             |                |                   |          |              |               |      |         |   |   |   |   |   |   |   |  |

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION INCLUDING COURIER DELIVERY

|                          |                           |   |   |  |
|--------------------------|---------------------------|---|---|--|
| RELINQUISHED BY SAMPLER: | DATE/TIME: <b>1800</b>    | RECEIVED BY:  | Conditions of bottles or coolers at receipt: <input checked="" type="checkbox"/> Compliant <input type="checkbox"/> Non Compliant | Cooler Temp. <b>5°C</b>  |
| 1. <i>[Signature]</i>    | <b>2-27-11</b>            | 1. <i>[Signature]</i>   | MeOH extraction requires an additional 4 oz jar for percent solid.  | Ice in Cooler?: <b>YES</b>   |
| RELINQUISHED BY:         | DATE/TIME: <b>2:28-11</b> | RECEIVED BY:  | Comments:   |  |
| 2. <i>[Signature]</i>    | <b>2-28-11</b>            | 2. <i>[Signature]</i>   | <b>Not all bottles were filled for York-SB1-GW</b>  |  |
| RELINQUISHED BY:         | DATE/TIME: <b>1130</b>    | RECEIVED FOR LAB BY:  | <b>Please run what is able.</b>   |  |
| 3. <i>[Signature]</i>    | <b>2-28-11 12:40 PM</b>   | <i>[Signature]</i>  |   |  |
| Revision                 | Page <b>2</b> of <b>2</b> | SHIPPED VIA: CLIENT: <input type="checkbox"/> HAND DELIVERED <input type="checkbox"/> OVERNIGHT | CHEMTECH: <input checked="" type="checkbox"/> PICKED UP <input type="checkbox"/> OVERNIGHT  | Shipment Complete: <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO |



**APPENDIX D**  
**GEOTECHNICAL INVESTIGATION REPORT (TECTONIC ENGINEERING**  
**AND SURVEYING, MAY 2010)**



### IMPORTANT NOTE

The Boring Logs shown on this sheet are the result of televiewer down by the engineer or scientist personnel during boring operations at the site, and from various visual evidence such as: (1) samples of subsurface materials recovered during boring operations; (2) the logs kept by the drill operator and the inspector, which contain, among other things, expressions of their opinions as to the nature of subsurface materials encountered during boring operations; and (3) other records concerning the site obtained from the engineer. The drill's log, the inspector's log, the samples and the records, together with the engineer's reports, are made available for inspection and study by the bidder so that they may draw their own inferences from all of the available evidence.

Bidders are warned that in the subsurface, other than that actually penetrated by the borings, obstructions, both natural and man-made, and which are not indicated on the Boring Logs, may be encountered, and that the Boring Logs make no representation or warranty either as to the presence or absence of such obstructions, or as to their nature and extent. Where possible, borings are located to avoid all obstructions and prevent construction which can be found by inspection of the surface, and the bidder is required to anticipate the influence of such features from his own inspection of the site.

In addition, bidders are warned that in the subsurface other than that actually penetrated by the borings soil or rock may vary widely with regard to elevation, composition, texture, structure, permeability, toughness, and other characteristics, from the descriptions given on the Boring Logs and all reports.

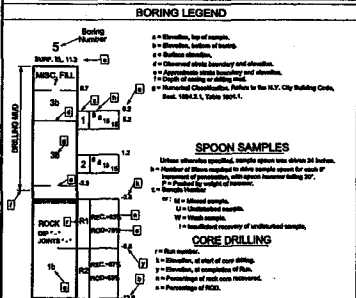
The "water reading", which the elevation of water in the boring holes at the times indicated. They may or may not indicate the elevations of perched water or true ground water table during boring operations or subsequently.

### EXPLANATION OF TERMS

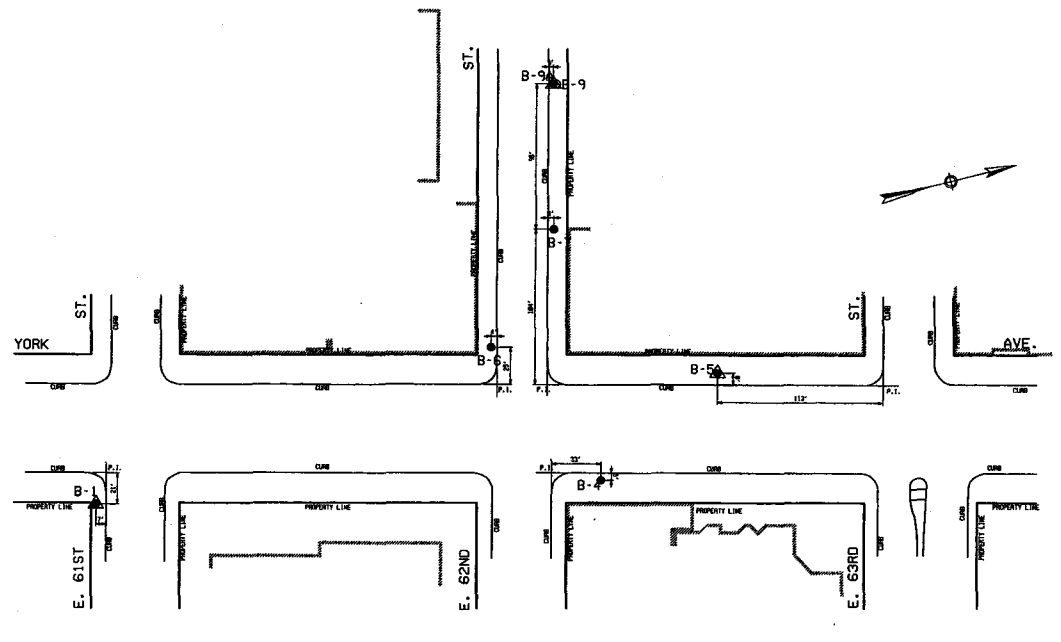
| SOIL SIZES       |                |                             |                  |
|------------------|----------------|-----------------------------|------------------|
| Description Term | Pass Sieve No. | Retained Sieve No.          | Size Range       |
| Clay             | 200            | Atterberg Limits, < 200 mm. |                  |
| Silt             | 200            | Hydrometer Analysis         | 200 to 2.0 mm.   |
| Fine Sand        | 40             | 200                         | 375 to 420 mm.   |
| Medium Sand      | 10             | 40                          | 420 to 840 mm.   |
| Coarse Sand      | 4              | 10                          | 840 to 1,700 mm. |
| Gravel (No. 1)   |                |                             | 4.75 mm. to 3"   |
| Coarse           |                |                             | 3" to 6"         |
| Rock             |                |                             | > 6"             |

Note 1: For Visual Identification, NYC Building Code does not distinguish between Fine and Coarse Gravel.

| UNIFIED SYSTEMS   |               | QUANTITATIVE ESTIMATE |            |
|---|---------------|-----------------------|------------|
| 1   | Typical Names | Stratigraphy          | Percentage |
| 2   | Typical Names | Composition           | Thrust     |
| 3   | Typical Names | Age                   | SP-SS      |
| 4   | Typical Names | Soil                  | SP-SL      |
| 5   | Typical Names | Little                | SP-SM      |
| 6   | Typical Names | Trace                 | 4-10       |
| GRAIN SIZE ABBREVIATIONS  |               |                       |            |
| F = FINE, M = MEDIUM, C = COARSE  |               |                       |            |
| The descriptive also items in the Boring Logs were defined as by estimate only, using standard samples for visual comparison. |               |                       |            |
| EQUIPMENT   |               |                       |            |
| These tables have been used as an approximate guide, with latitude for interpretation and selective judgment.                 |               |                       |            |



**DATUM NOTE:** All Elevations refer to the Borough of Manhattan Datum, which is 1.10 Feet above Mean Sea Level at Sandy Hook as established by the U.S. Coast & Geodetic Survey.



LOCATION PLAN  
SCALE: 1" = 30'

| SHEET INDEX |                          |
|-------------|--------------------------|
| SHEET       | BORING NUMBER            |
| 1 OF 2      | LOCATION PLAN            |
| 2 OF 2      | 1, 4, 5, 6, 7, 8 AND '9A |

| LEGEND |                                   |
|--------|-----------------------------------|
| ○      | TEST BORING                       |
| ○      | TEST BORING (CANCELLED)           |
| ○      | TEST BORING (RELOCATED)           |
| ○      | TEST BORING WITH OBSERVATION WELL |
| ○      | PAVEMENT CORNER                   |
| ○      | TEST BORING AND PAVEMENT CORNER   |
| ○      | SWAMP                             |

- NOTE:  
 1. BORINGS # 2 AND 3 WERE CANCELLED DUE TO AN EXISTING UNDERGROUND PARKING GARAGE.  
 2. BORING # 8 WAS CANCELLED DUE TO POSSIBLE UNDERGROUND UTILITIES.  
 3. BORING # 9 WAS RELOCATED TO '9A DUE TO POSSIBLE UNDERGROUND UTILITIES.

Unauthorized alteration or addition to any information shown on this drawing is prohibited. Any such alteration or addition is void and the user of this drawing shall be held responsible for any consequences.

**CITY OF NEW YORK**  
**DEPARTMENT OF DESIGN & CONSTRUCTION**  
**DIVISION OF TECHNICAL SUPPORT**

3891

PREPARED BY: **BUREAU OF ENVIRONMENTAL AND GEOTECHNICAL SERVICES**  
 CONSULTANT: **TECTONIC ENGINEERING CONSULTANTS P.C.**  
 LONG ISLAND CITY, NY 11101

PROJECT NAME:  
**RECONSTRUCTION OF COMBINED SEWER & WATER MAIN IN YORK AVENUE BETWEEN E. 61ST STREET & E. 63RD STREET**  
 BOROUGH OF MANHATTAN

| RECORD OF BORINGS |              |
|-------------------|--------------|
| DATE              | RAY 28, 2018 |
| PROJECT NUMBER    | DESH201809   |
| DRAWING NUMBER    | 1015         |
| CHK BY            | WSPR, JBTJSM |
| DWG NO.           | 001.00       |
| CADD FILE NUMBER  | 1008-01      |
| SHEET             | 1 OF 2       |

MIRSHET SAKAR  
 SOIL AND ROCK ANALYSIS BY

IRISHAM NASSAR, PE  
 GEOTECHNICAL ENGINEER  
 TECTONIC ENGINEERING CONSULTANTS P.C.

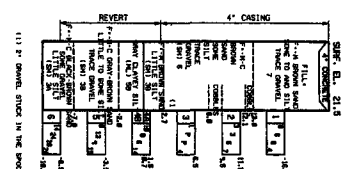
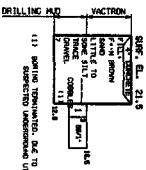
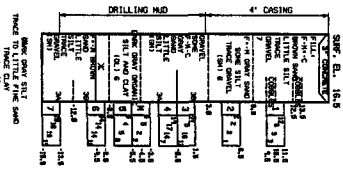
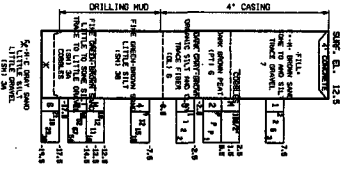
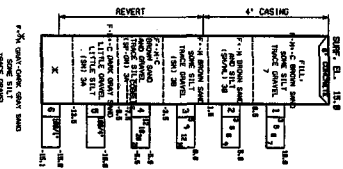
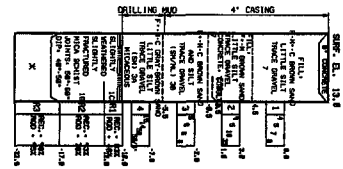
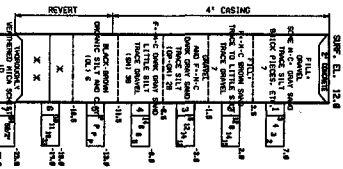
RICHARD O. MERRIFIELD  
 GEOTECHNICAL TEAM LEADER  
 S.E.G.S.

JEAN M. JEANLOUIS  
 DIRECTOR  
 S.E.G.S.

MARK A. GARDI  
 ASSOCIATE COMMISSIONER  
 DIVISION OF TECHNICAL SUPPORT

| NO. | DATE | DESCRIPTIONS | APPROVED |
|-----|------|--------------|----------|
|     |      |              |          |

44-94



**BELLPOINT INSTALLED TO ELEVATION -18.8**  
 GROUND WATER OBSERVATIONS  
 DATE: 10/18/11  
 TIME: 08:00 AM  
 OPERATOR: J. J. BROWN  
 SURVEYOR: J. J. BROWN  
 WIND: 10 MPH  
 TEMPERATURE: 65°F  
 HUMIDITY: 65%

**BELLPOINT INSTALLED TO ELEVATION -18.8**  
 GROUND WATER OBSERVATIONS  
 DATE: 10/18/11  
 TIME: 08:00 AM  
 OPERATOR: J. J. BROWN  
 SURVEYOR: J. J. BROWN  
 WIND: 10 MPH  
 TEMPERATURE: 65°F  
 HUMIDITY: 65%

| DEPTH (FEET) | TEMPERATURE (°F) | WATER LEVEL (FEET) | WATER QUALITY   |     | WATER QUANTITY |           |
|--------------|------------------|--------------------|-----------------|-----|----------------|-----------|
|              |                  |                    | TURBIDITY (NTU) | PH  | FLOW (GPM)     | STABILITY |
| 1.0          | 65               | 18.8               | 1.0             | 7.5 | 0.5            | 1.0       |
| 2.0          | 65               | 18.8               | 1.0             | 7.5 | 0.5            | 1.0       |
| 3.0          | 65               | 18.8               | 1.0             | 7.5 | 0.5            | 1.0       |
| 4.0          | 65               | 18.8               | 1.0             | 7.5 | 0.5            | 1.0       |
| 5.0          | 65               | 18.8               | 1.0             | 7.5 | 0.5            | 1.0       |
| 6.0          | 65               | 18.8               | 1.0             | 7.5 | 0.5            | 1.0       |
| 7.0          | 65               | 18.8               | 1.0             | 7.5 | 0.5            | 1.0       |
| 8.0          | 65               | 18.8               | 1.0             | 7.5 | 0.5            | 1.0       |
| 9.0          | 65               | 18.8               | 1.0             | 7.5 | 0.5            | 1.0       |
| 10.0         | 65               | 18.8               | 1.0             | 7.5 | 0.5            | 1.0       |
| 11.0         | 65               | 18.8               | 1.0             | 7.5 | 0.5            | 1.0       |
| 12.0         | 65               | 18.8               | 1.0             | 7.5 | 0.5            | 1.0       |
| 13.0         | 65               | 18.8               | 1.0             | 7.5 | 0.5            | 1.0       |
| 14.0         | 65               | 18.8               | 1.0             | 7.5 | 0.5            | 1.0       |
| 15.0         | 65               | 18.8               | 1.0             | 7.5 | 0.5            | 1.0       |
| 16.0         | 65               | 18.8               | 1.0             | 7.5 | 0.5            | 1.0       |
| 17.0         | 65               | 18.8               | 1.0             | 7.5 | 0.5            | 1.0       |
| 18.0         | 65               | 18.8               | 1.0             | 7.5 | 0.5            | 1.0       |
| 19.0         | 65               | 18.8               | 1.0             | 7.5 | 0.5            | 1.0       |
| 20.0         | 65               | 18.8               | 1.0             | 7.5 | 0.5            | 1.0       |

**REVISIONS:**  
 1. REVISED - 8 AND 9 WERE CANCELLED DUE TO AN EXISTING UNDERGROUND UTILITY.  
 2. REVISED - 4 WAS CANCELLED DUE TO POSSIBLE UNDERGROUND UTILITIES.  
 3. REVISED - 5 WAS RELOCATED TO 4% DUE TO POSSIBLE UNDERGROUND UTILITIES.

**APPROVED:**  
 PROJECT MANAGER: J. J. BROWN  
 SURVEYOR: J. J. BROWN  
 DATE: 10/18/11

**LABORATORY ANALYSIS OF SOILS:**  
 TEST NO. 100-42-1001  
 DATE: 10/18/11  
 LOCATION: 100-42-1001

**RECONSTRUCTION OF COMBINED SEWER & WATER MAINS ALONG BROADWAY BETWEEN 100-42-1001 AND 100-42-1002**

**PROJECT NAME:**  
 RECONSTRUCTION OF COMBINED SEWER & WATER MAINS ALONG BROADWAY BETWEEN 100-42-1001 AND 100-42-1002

**CLIENT:**  
 CITY OF NEW YORK  
 DEPARTMENT OF DESIGN & CONSTRUCTION  
 DIVISION OF TECHNICAL SUPPORT

**CONSULTANT:**  
 TECTONIC ENGINEERING CONSULTANTS P.C.  
 100-42-1001

44-95

End of Addendum No. 4

This addendum consists of ninety-six (96) pages.

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

PROJECT ID: SEN002169

FOR THE RECONSTRUCTION OF COMBINE SEWERS AND APPURTENANCES IN

YORK AVENUE:  
BETWEEN EAST 61<sup>ST</sup> STREET AND EAST 63<sup>RD</sup> STREET

EAST 62<sup>ND</sup> STREET:  
BETWEEN YORK AVENUE AND 1<sup>ST</sup> AVENUE

PROJECT WM-1

YORK AVENUE:  
BETWEEN EAST 61<sup>ST</sup> STREET AND EAST 63<sup>RD</sup> STREET

TOGETHER WITH ALL WORK INCIDENTAL THERETO  
BOROUGH OF MANHATTAN  
CITY OF NEW YORK

ADDENDUM NO. 5

DATED: November 21, 2014

THIS ADDENDUM IS HEREBY MADE A PART OF THE CONTRACT DOCUMENTS

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. "SECTION U: Additional Contract Requirements Applying to Work Performed in the Presence of Privately Owned Utility Facilities" (Pages A5-4 through A5-14)
  - B. Schedule U-1 (Page A5-15)
  - C. Schedules U-2 (one for each Utility Company) (Pages A5-16 through A5-53)
  - D. Section U-3 Page A5-54 (as per the Private Utilities reference document for SECTION U called "CET SPECIFICATIONS AND SKETCHES", dated November 2010), Test Pits and Sketches, Pages (A5-55 through A5-78) in this Addendum; and,
  - E. Private Utility drawings (16 Sheets) consisting of:
    - \* Existing Subsurface facility Plan (Coned) (2 Sheets).
    - \* Proposed Subsurface facility Plan (Coned) (1 Sheet).
    - \* Electric Conduit Plate, (Coned) (7 Sheets).
    - \* Gas Plate, (Coned) (3 Sheets).
    - \* Steam Plate, (Coned) (2 Sheets).
    - \* Special Care Excavation, (Coned) (1 Sheet).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 Section U:
  - A. Section U, ¶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. Section U, ¶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. Section U informs the Contractor that the City has entered into a Utility 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 Addendum, a sample of the Utility Agreement letter as executed by the Companies is annexed on page A5-14, as an Exhibit to the Contract. Signed copies of those Utility Agreement letters are on file with NYCDDC.
  - 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 Section U, ¶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. Section U, ¶14, provides that the provisions of Section U are material provisions of the Contract and that the Contractor's failure to comply with the procedures set forth in Section U are sufficient for the Commissioner to declare the Contractor in default pursuant to Article 48 of the Contract.

Pursuant to this Addendum, 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.

**Section U: 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 November 1, 2010; and Articles 10.15 through 10.18 of the General Provisions 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 Section 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 electric system, the contractor understands and by bidding for this contract agrees that he/she has reviewed the section ‘U’ package and that he/she will be required to perform the public work in the presence of energized electrical 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, relocate, 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, lost profit, increased overhead, or any other impact costs. 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 traditionally performed by general construction contractors.)

**5. *Interference Agreement:***

1. The Companies have provided estimate of the quantity of each of the types of interferences expected to be encountered in the contract in Schedule U-2. Although the parties may negotiate an Interference Agreement in any format or manner they deem fit, the Contractor is hereby advised that the Companies have indicated to the City that they will agree to compensate the Contractor on a unit price basis according to the Quantity and Types of Interferences expected to be encountered on this Contract as stated in Schedule U-2.
2. Furthermore, in Section 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 Interference Agreement, otherwise the unit of work measurement, and payment provisions set forth in Section 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 construction will proceed as ordered and the Contractor will be directed by the Resident Engineer 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 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 Deputy Commissioner.

1. 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 contractor and affected company (ies) are submitted to Binding Arbitration process described in Paragraph 10.
2. 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. 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.
3. 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.
4. The contractor will notify the Resident Engineer when utility capital work not specified in Schedule U2 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 Deputy

Commissioner regarding the issuance of a "48 hours notice" to the concerned utility company as authorized by the New York City administrative Code Section 19-143 and/or Section 24-521 as applicable.

5. Utility delays caused by utility capital work not listed in Schedule U2 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 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 Utility 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:

1. 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;
2. 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;
3. 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.

4. 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 7.2, or 7.4, 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 a utility 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 maintained by either party for Utility work performed pursuant to a Utility Agreement. 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 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, Contractor and/or representatives shall have 3 ½ hrs to make a presentation of its claim to the arbitrator. During its presentation, Contractor shall not be permitted to produce any documents or cost records which have not already been provided to the Company. Contractor shall be permitted to produce any analysis or description of its claim which has been prepared for the purpose of its presentation.
- (e) After lunch, Company and/or its representatives shall have two hours to ask Contractor questions about its claim and its presentation. Thereafter the arbitrator(s) shall have two hours to ask 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) After lunch, Contractor and/or its representatives shall have two hours to ask Company questions about its claim and its presentation. Thereafter the arbitrator(s) shall have two hours to ask Company questions about its claim and its presentation.
- (h) Subject to the above time limitations, the arbitrator(s) may conduct the arbitration in such manner as the arbitrator(s) deems reasonable.
- (i) The arbitrator(s) shall then have one week to select in writing, as the arbitrator ('s) award, that party's Final Offer which appears to be more reasonable, based on the presentations at the arbitration hearings.
- (j) The arbitrator shall have no discretion to grant an award other than one of the two Final Offers submitted by the parties.
- (k) Any award for work that has already been performed shall be paid on the 7<sup>th</sup> day after receipt of the arbitrator's decision, or on the 30<sup>th</sup> day after completion of the work, whichever is later. Payment for work not yet completed at the time of the arbitrator's decision shall be paid within 30 days of completion of work. Interest shall accrue from the date payment is due at the rate of 9% per annum. Either party may cause judgment to be entered in accordance with the arbitrator(s) decision in a court in the State of New York, County of New York.
- (l) The arbitrator's fees and any other costs of the arbitration shall be initially shared equally by Company and 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 a prior agreement with the City, have agreed to perform their obligations described in this section. It is expressly understood that the cost of 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 a Utility 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 applies to public work. The work described in this Section U 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 Section U apply to: (i) additional Companies, if any, who were not named in Schedule "A" but which have executed a Utility 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 utility agreement between the contractor and such utility companies.

[End]



"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 "Section U: Additional contract requirements applying to work performed in the presence of privately owned utility." The company agrees to abide by the terms of this Section U and to submit a schedule listing the scope of work, including the items and estimated quantities, and types of utility facilities to be supported and protected at the company's own expenses due to interferences with the Public work.

Sincerely,

\_\_\_\_\_  
By: Authorized Company Representative

\_\_\_\_\_  
Title

NOTARY PUBLIC

CERTIFIED AS TO FORM  
AND LEGAL AUTHORITY:

By: \_\_\_\_\_

SCHEDULE U-1

SENOO2169

RECONSTRUCTION OF COMBINE SEWERS IN YORK AVENUE

SCHEDULE U-1 LISTING OF COMPANIES 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             |
| RCN                 | JOEY MAISONET       | 718-861-7361             |

**SCHEDULE U - 2**  
**FOR INFORMATION ONLY**  
**ENGINEER'S ESTIMATE OF QUANTITY AND TYPES OF INTERFERENCE**  
**FOR CONSOLIDATED EDISON**  
**SEN002169 - FOR THE CONSTRUCTION OF**  
**COMBINED SEWERS IN YORK AVENUE**  
**FROM E. 61ST STREET TO E. 63RD STREET/  
E. 62ND STREET 200' WEST OF YORK AVENUE**  
**BOROUGH OF MANHATTAN**

| CET ITEM NUMBER | DESCRIPTION  | UNITS | ESTIMATED QUANTITY |
|-----------------|--|-------|--------------------|
| CET 100.1       | UTILITIES CROSSING TRENCH FOR CATCH BASIN CHUTE CONNECT. AND/OR TEST PIT (TYPE .1) | EA.   | 10.00              |
| CET 100.2       | UTILITIES CROSSING TRENCH FOR CATCH BASIN CHUTE CONNECT. AND/OR TEST PIT (TYPE .2) | EA.   | 4.00               |
| CET 100.3       | UTILITIES CROSSING TRENCH FOR CATCH BASIN CHUTE CONNECT. AND/OR TEST PIT (TYPE .3) | EA.   | 5.00               |
| CET 100.4       | UTILITIES CROSSING TRENCH FOR CATCH BASIN CHUTE CONNECT. AND/OR TEST PIT (TYPE .4) | EA.   | 3.00               |
| CET 100.5       | UTILITIES CROSSING TRENCH FOR CATCH BASIN CHUTE CONNECT. AND/OR TEST PIT (TYPE .5) | EA.   | 2.00               |
| CET 103.1       | UTILITIES CROSSING TRENCH FOR SEWERS OVER 36" TO 48" DIAMETER (TYPE .1)            | EA.   | 2.00               |
| CET 103.2       | UTILITIES CROSSING TRENCH FOR SEWERS OVER 36" TO 48" DIAMETER (TYPE .2)            | EA.   | 1.00               |
| CET 103.3       | UTILITIES CROSSING TRENCH FOR SEWERS OVER 36" TO 48" DIAMETER (TYPE .3)            | EA.   | 1.00               |
| CET 103.4       | UTILITIES CROSSING TRENCH FOR SEWERS OVER 36" TO 48" DIAMETER (TYPE .4)            | EA.   | 1.00               |
| CET 103.5       | UTILITIES CROSSING TRENCH FOR SEWERS OVER 36" TO 48" DIAMETER (TYPE .5)            | EA.   | 1.00               |
| CET 106.1       | UTILITIES CROSSING TRENCH FOR SEWERS OVER 60" TO 72" DIAMETER (TYPE .1)            | EA.   | 2.00               |
| CET 106.2       | UTILITIES CROSSING TRENCH FOR SEWERS OVER 60" TO 72" DIAMETER (TYPE .2)            | EA.   | 1.00               |
| CET 106.3       | UTILITIES CROSSING TRENCH FOR SEWERS OVER 60" TO 72" DIAMETER (TYPE .3)            | EA.   | 1.00               |
| CET 106.4       | UTILITIES CROSSING TRENCH FOR SEWERS OVER 60" TO 72" DIAMETER (TYPE .4)            | EA.   | 1.00               |
| CET 107.1       | UTILITIES CROSSING TRENCH FOR SEWERS OVER 72" TO 84" DIAMETER (TYPE .1)            | EA.   | 1.00               |
| CET 107.2       | UTILITIES CROSSING TRENCH FOR SEWERS OVER 72" TO 84" DIAMETER (TYPE .2)            | EA.   | 1.00               |
| CET 107.3       | UTILITIES CROSSING TRENCH FOR SEWERS OVER 72" TO 84" DIAMETER (TYPE .3)            | EA.   | 1.00               |
| CET 108.1       | UTILITIES CROSSING TRENCH FOR WATERMAIN UP TO AND INCL. 12" DIAMETER (TYPE .1)     | EA.   | 9.00               |
| CET 108.2       | UTILITIES CROSSING TRENCH FOR WATERMAIN UP TO AND INCL. 12" DIAMETER (TYPE .2)     | EA.   | 6.00               |
| CET 108.3       | UTILITIES CROSSING TRENCH FOR WATERMAIN UP TO AND INCL. 12" DIAMETER (TYPE .3)     | EA.   | 2.00               |
| CET 108.4       | UTILITIES CROSSING TRENCH FOR WATERMAIN UP TO AND INCL. 12" DIAMETER (TYPE .4)     | EA.   | 2.00               |
| CET 108.5       | UTILITIES CROSSING TRENCH FOR WATERMAIN UP TO AND INCL. 12" DIAMETER (TYPE .5)     | EA.   | 1.00               |

CON ED INFORMATION ONLY Backup of SEN002169 SECTION U\_CON ED.xls

**ENGINEER'S ESTIMATE OF QUANTITY AND TYPES OF INTERFERENCE  
FOR CONSOLIDATED EDISON  
SEN002169 - FOR THE CONSTRUCTION OF  
COMBINED SEWERS IN YORK AVENUE  
FROM E. 61ST STREET TO E. 69RD STREET/  
E. 62ND STREET 200' WEST OF YORK AVENUE  
BOROUGH OF MANHATTAN**

| CET ITEM NUMBER | DESCRIPTION  | UNITS | ESTIMATED QUANTITY |
|-----------------|--|-------|--------------------|
| CET 109.1       | UTILITIES CROSSING TRENCH FOR WATERMAIN OVER 12" AND UP TO 24" DIAMETER (TYPE .1)  | EA.   | 15.00              |
| CET 109.2       | UTILITIES CROSSING TRENCH FOR WATERMAIN OVER 12" AND UP TO 24" DIAMETER (TYPE .2)  | EA.   | 7.00               |
| CET 109.3       | UTILITIES CROSSING TRENCH FOR WATERMAIN OVER 12" AND UP TO 24" DIAMETER (TYPE .3)  | EA.   | 6.00               |
| CET 109.4       | UTILITIES CROSSING TRENCH FOR WATERMAIN OVER 12" AND UP TO 24" DIAMETER (TYPE .4)  | EA.   | 1.00               |
| CET 109.5       | UTILITIES CROSSING TRENCH FOR WATERMAIN OVER 12" AND UP TO 24" DIAMETER (TYPE .5)  | EA.   | 2.00               |
| CET 200.1       | UPSTREAM INVERT DEPTH GREATER THAN FOUR FEET SIX INCHES (4'-6") AND UP TO FIVE (5) FEET FOR TYPE II CATCH BASINS AND GREATER THAN FOUR FEET SIX INCHES AND UP TO FIVE FEET SIX INCHES FOR TYPE III CATCH BASINS FROM THE PROPOSED PAVEMENT ELEVATION | L.F.  | 160.00             |
| CET 200.2       | UPSTREAM INVERT DEPTH GREATER THAN FIVE (5) FEET AND UP TO SIX (6) FEET FOR TYPE II CATCH BASINS AND GREATER THAN FIVE FEET SIX INCHES AND UP TO SIX FEET SIX INCHES FOR TYPE III CATCH BASINS FROM THE PROPOSED PAVEMENT ELEVATION                  | L.F.  | 60.00              |
| CET 225.1A      | INSTALLATION AND REMOVAL OF CATCH BASINS WITH UTILITY INTERFERENCES  | EA.   | 1.00               |
| CET 225.1B      | INSTALLATION OF CATCH BASINS WITH UTILITY INTERFERENCES  | EA.   | 8.00               |
| CET 225.1C      | REMOVAL OF CATCH BASINS WITH UTILITY INTERFERENCES   | EA.   | 3.00               |
| CET 300.0       | SPECIAL CARE EXCAVATION & BACKFILLING  | C.Y.  | 80.00              |
| CET 301.0       | SPECIAL CARE EXCAVATION & BACKFILLING FOR OIL-O-STATIC PIPES   | C.Y.  | 210.00             |
| CET 302.0       | FIELD COATING OF OIL-O-STATIC FEEDER PIPES   | L.F.  | 330.00             |
| CET 303.0       | FURNISH, DELIVER AND INSTALL TYPE 3/8" CLEAN SAND BACKFILL   | C.Y.  | 120.00             |
| CET 304A        | FURNISH, DELIVER, AND INSTALL CONCRETE ROAD BASE   | C.Y.  | 50.00              |
| CET 304B        | FURNISH, DELIVER, AND INSTALL CONCRETE SIDEWALK  | C.Y.  | 24.00              |
| CET 304C        | BREAK, REMOVE, AND DISPOSE CONCRETE SIDEWALK   | C.Y.  | 24.00              |
| CET 305         | FURNISH, DELIVER & INSTALL ASPHALT PAVING MIXTURES   | TONS  | 50.00              |
| CET 330EA.1     | SUPPORT & PROTECTION OF ELECTRIC, GAS AND STEAM FACILITIES DURING EXCAVATION OF CITY TRENCH WHEN FACILITIES LIE WITHIN TRENCH LIMITS (CITY EXCAVATIONS FOR THE INSTALLATION OF CITY FACILITIES THAT DO NOT REQUIRE SHEETING (TYPE .1)                | L.F.  | 80.00              |

CON ED INFORMATION ONLY Backup of SEN002169 SECTION U\_CON ED.xls

**ENGINEER'S ESTIMATE OF QUANTITY AND TYPES OF INTERFERENCE  
FOR CONSOLIDATED EDISON  
SEN002169 - FOR THE CONSTRUCTION OF  
COMBINED SEWERS IN YORK AVENUE  
FROM E. 61ST STREET TO E. 63RD STREET/  
E. 62ND STREET 200' WEST OF YORK AVENUE  
BOROUGH OF MANHATTAN**

| <b>CET ITEM NUMBER</b> | <b>DESCRIPTION</b>  | <b>UNITS</b> | <b>ESTIMATED QUANTITY</b> |
|------------------------|---|--------------|---------------------------|
| CET 330EA.2            | SUPPORT & PROTECTION OF ELECTRIC, GAS AND STEAM FACILITIES DURING EXCAVATION OF CITY TRENCH WHEN FACILITIES LIE WITHIN TRENCH LIMITS (CITY EXCAVATIONS FOR THE INSTALLATION OF CITY FACILITIES THAT DO NOT REQUIRE SHEETING (TYPE .2) | L.F.         | 50.00                     |
| CET 330EA.3            | SUPPORT & PROTECTION OF ELECTRIC, GAS AND STEAM FACILITIES DURING EXCAVATION OF CITY TRENCH WHEN FACILITIES LIE WITHIN TRENCH LIMITS (CITY EXCAVATIONS FOR THE INSTALLATION OF CITY FACILITIES THAT DO NOT REQUIRE SHEETING (TYPE .3) | L.F.         | 50.00                     |
| CET 330EA.4            | SUPPORT & PROTECTION OF ELECTRIC, GAS AND STEAM FACILITIES DURING EXCAVATION OF CITY TRENCH WHEN FACILITIES LIE WITHIN TRENCH LIMITS (CITY EXCAVATIONS FOR THE INSTALLATION OF CITY FACILITIES THAT DO NOT REQUIRE SHEETING (TYPE .4) | L.F.         | 200.00                    |
| CET 330EB.1            | SUPPORT & PROTECTION OF ELECTRIC, GAS AND STEAM FACILITIES DURING EXCAVATION OF CITY TRENCH WHEN FACILITIES LIE WITHIN TRENCH LIMITS (CITY EXCAVATIONS FOR THE INSTALLATION OF CITY FACILITIES THAT REQUIRE SHEETING (TYPE .1)        | L.F.         | 490.00                    |
| CET 330EB.2            | SUPPORT & PROTECTION OF ELECTRIC, GAS AND STEAM FACILITIES DURING EXCAVATION OF CITY TRENCH WHEN FACILITIES LIE WITHIN TRENCH LIMITS (CITY EXCAVATIONS FOR THE INSTALLATION OF CITY FACILITIES THAT REQUIRE SHEETING (TYPE .2)        | L.F.         | 250.00                    |
| CET 330EB.3            | SUPPORT & PROTECTION OF ELECTRIC, GAS AND STEAM FACILITIES DURING EXCAVATION OF CITY TRENCH WHEN FACILITIES LIE WITHIN TRENCH LIMITS (CITY EXCAVATIONS FOR THE INSTALLATION OF CITY FACILITIES THAT REQUIRE SHEETING (TYPE .3)        | L.F.         | 70.00                     |
| CET 330EB.4            | SUPPORT & PROTECTION OF ELECTRIC, GAS AND STEAM FACILITIES DURING EXCAVATION OF CITY TRENCH WHEN FACILITIES LIE WITHIN TRENCH LIMITS (CITY EXCAVATIONS FOR THE INSTALLATION OF CITY FACILITIES THAT REQUIRE SHEETING (TYPE .4)        | L.F.         | 160.00                    |
| CET 400                | TEST PITS FOR UTILITY FACILITIES  | C.Y.         | 100.00                    |
| CET 401                | TRENCH EXCAVATION FOR ADJUSTMENT OF UTILITY FACILITIES  | C.Y.         | 260.00                    |
| CET 401A               | SPECIAL CARE PAVEMENT EXCAVATION FOR ADJUSTMENT OF UTILITY FACILITIES CONNECTED TO THE BASE PAVEMENT  | C.Y.         | 105.00                    |
| CET 402.2              | HORIZONTAL AND VERTICAL ADJUSTMENT OF UTILITY FACILITIES (EXIST. OCCUPIED NON-CONCR. ENCASED CONDUITS PLCD. IN FINAL POS. WITHOUT CONCR. ENCSMNT.)  | L.F.         | 1050.00                   |
| CET 403.0              | PLACING STEEL PROTECTION PLATES FOR UTILITY FACILITIES  | S.F.         | 400.00                    |

CON ED INFORMATION ONLY Backup of SEN002169 SECTION U\_CON ED.xls

**ENGINEER'S ESTIMATE OF QUANTITY AND TYPES OF INTERFERENCE  
FOR CONSOLIDATED EDISON  
SEN002169 - FOR THE CONSTRUCTION OF  
COMBINED SEWERS IN YORK AVENUE  
FROM E. 61ST STREET TO E. 63RD STREET/  
E. 62ND STREET 200' WEST OF YORK AVENUE  
BOROUGH OF MANHATTAN**

| <b>CET ITEM NUMBER</b> | <b>DESCRIPTION</b>  | <b>UNITS</b> | <b>ESTIMATED QUANTITY</b> |
|------------------------|---|--------------|---------------------------|
| CET 404                | PIER & PLATE METHOD OF PROTECTION FOR DUCTILE IRON WATER MAINS AND OTHER SHALLOW FACILITIES   | S.F.         | 100.00                    |
| CET 405.1              | TRENCH EXCAVATION FOR INSTALLATION OF UTILITY FACILITIES WITH TOTAL DEPTHS LESS THAN FIVE FEET  | C.Y.         | 1280.00                   |
| CET 405.2              | TRENCH EXCAVATION FOR INSTALLATION OF UTILITY FACILITIES WITH TOTAL DEPTHS EQUAL TO OR GREATER THAN FIVE FEET   | C.Y.         | 200.00                    |
| CET 406                | EXCAVATION FOR UTILITY STRUCTURE  | C.Y.         | 420.00                    |
| CET 450.1              | CONSTRUCTION FIELD SUPPORT REQUIRING AN AVERAGE SIZE SURVEY CREW THAT WILL PERFORM TYPICAL FIELD SURVEY FUNCTIONS AND PROVIDE QUALITY DATA ANALYSIS REPORTS   | Crhrs.       | 296.00                    |
| CET 450.2              | CONSTRUCTION FIELD SUPPORT REQUIRING AN AVERAGE SIZE SMALL CREW CAPABLE OF PERFORMING VARIOUS TASKS, WHICH MAY INCLUDE BUT ARE NOT LIMITED: OPENING/CLOSING SUBSURFACE STRUCTURE COVER(S), SETTING/RESETTING MPT SET UP(S), ASSISTING UTILITY FACILITY/SPECIALTY CREW(S), PERFORMING CONDUIT OCCUPANCY IDENTIFICATION, CLEAN-UP STORAGE WORK-SITE AREA, ETC.  | Crhrs.       | 536.00                    |
| CET 450.3              | CONSTRUCTION FIELD SUPPORT REQUIRING AN AVERAGE MEDIUM SIZE CREW CAPABLE OF PERFORMING VARIOUS TASKS, WHICH MAY INCLUDE BUT ARE NOT LIMITED TO: EXCAVATIONS, CONSTRUCTION MANHOLE ENCLOSURES, INSTALLING SUPPORT SYSTEM FOR UTILITY FACILITIES, DEWATERING UTILITY STRUCTURES AND EXCAVATIONS, OPENING/CLOSING TRAFFIC AND/OR PEDESTRIAN PLATES (WHEN NOT ALREADY INCLUDED AND COVERED IN OTHER APPLICABLE CET ITEMS), ETC. | Crhrs.       | 960.00                    |
| CET 500.0              | REMOVAL OF ABANDONED UTILITY CONDUITS (NON-CONCRETE ENCASED)  | L.F.         | 16940.00                  |
| CET 501.0              | REMOVAL OF ABANDONED MASONRY FOR UTILITY FACILITIES   | C.Y.         | 20.00                     |
| CET 600.1              | INSTALL 1 EA. 2", 4" OR 5" CONDUIT (ALL TYPES) IN UNPAVED AREA  | L.F.         | 100.00                    |
| CET 600.2              | INSTALL 2 EA. 2", 4" OR 5" CONDUIT (ALL TYPES) IN UNPAVED AREA  | L.F.         | 100.00                    |
| CET 601.1              | INSTALL 1 EA. 2", 4" OR 5" CONDUIT (ALL TYPES) IN PAVED AREA  | L.F.         | 100.00                    |
| CET 601.2              | INSTALL 2 EA. 2", 4" OR 5" CONDUIT (ALL TYPES) IN PAVED AREA  | L.F.         | 235.00                    |
| CET603E.1              | CONDUITS PLACED IN FINAL POSITION WITHOUT CONCRETE ENCASEMENT (L.F.)  | L.F.         | 9400.00                   |
| CET603E.2              | CONDUITS PLACED IN FINAL POSITION WITH CONCRETE ENCASEMENT (L.F.)   | L.F.         | 100.00                    |
| CET 636 EE RD          | ADJUSTMENT OF UTILITY HARWARE ( 34" TO UNDER 41" WIDTH )  | EA.          | 2.00                      |
| CET 636 EG RD          | ADJUSTMENT OF UTILITY HARWARE ( 41" TO UNDER 75" WIDTH )  | EA.          | 11.00                     |

CON ED INFORMATION ONLY Backup of SEN002169 SECTION U\_CON ED.xls

**ENGINEER'S ESTIMATE OF QUANTITY AND TYPES OF INTERFERENCE  
FOR CONSOLIDATED EDISON  
SEN002169 - FOR THE CONSTRUCTION OF  
COMBINED SEWERS IN YORK AVENUE  
FROM E. 61ST STREET TO E. 63RD STREET/  
E. 62ND STREET 200' WEST OF YORK AVENUE  
BOROUGH OF MANHATTAN**

| CET ITEM NUMBER | DESCRIPTION   | UNITS | ESTIMATED QUANTITY |
|-----------------|---|-------|--------------------|
| CET 636 SMC     | MODIFICATION OF WORK METHODS TO ACCOMMODATE UTILITY STEAM HARDWARE (ABOVE 8" TO 34" WIDTH)  | EA.   | 4.00               |
| CET 636 SA      | ADJUSTMENT TO UTILITY STEAM HARDWARE ( CONCRETE COLLAR)   | S.F.  | 20.00              |
| CET 636 SB      | ADJUSTMENT TO UTILITY STEAM CASTINGS ( UNDER AND INCLUDING 8" WIDTH )   | EA.   | 1.00               |
| CET 636 SC      | ADJUSTMENT TO UTILITY STEAM CASTINGS ( ABOVE 8" TO 34" WIDTH )  | EA.   | 1.00               |
| CET 636 RM      | REBUILDING AND MODIFICATIONS TO UTILITY STRUCTURES  | C.Y.  | 50.00              |
| CET 636 RS      | STRUCTURAL REPAIR TO UTILITY STRUCTURES   | C.Y.  | 50.00              |
| CET 638 N       | INSTALLATION OF FIELD CONSTRUCTED UTILITY STRUCTURE   | C.Y.  | 100.00             |
| CET 638 R       | BREAK OUT AND REMOVE UTILITY STRUCTURE  | C.Y.  | 50.00              |
| CET 700.0       | SPECIAL MODIFICATION OF WORK METHODS TO ACCOMMODATE/ PROTECT UNDERGROUND FACILITIES WITH LIMITED COVER                                      | C.Y.  | 250.00             |
| CET 710.1       | REMOVAL OF ABANDONED UTILITY STEEL/ CAST IRON/ PLASTIC PIPES, UP TO AND INCLUDING 12" DIAMETER PIPES  | L.F.  | 780.00             |
| CET 711         | USE SHEETING LINE AS FORM   | L.F.  | 1000.00            |
| CET 802A        | SPECIAL CARE EXCAVATION AND RESTORATION FOR SIDEWALK WORK   | S.F.  | 1800.00            |
| CET 802B        | SPECIAL CARE EXCAVATION AND RESTORATION FOR CURB WORK   | L.F.  | 250.00             |
| CET 803.2       | LINE CUT BY PNEUMATIC TOLLS IN LIEU OF SAW CUT ASSOCIATED WITH ROADWAY REMOVAL OPERATIONS (ANY COMBINATION OF ASPHALT AND CONCRETE ROADWAY) | L.F.  | 800.00             |
| CET 1006V       | 6" VERTICAL OR ROLLED WATERMAIN OFFSET  | EA.   | 5.00               |
| CET 1006H       | 6" HORIZONTAL WATERMAIN OFFSET  | EA.   | 2.00               |
| CET 1012V       | 12" VERTICAL OR ROLLED WATERMAIN OFFSET   | EA.   | 3.00               |
| CET 1012H       | 12" HORIZONTAL WATERMAIN OFFSET   | EA.   | 2.00               |
| CET 1020V       | 20" VERTICAL OR ROLLED WATERMAIN OFFSET   | EA.   | 3.00               |
| CET 1020H       | 20" HORIZONTAL WATERMAIN OFFSET   | EA.   | 2.00               |

CON ED INFORMATION ONLY Backup of SEN002169 SECTION U\_CON ED.xls

**CON EDISON CET SCOPE OF WORK**  
**SUPPORT & PROTECTION**  
**SEN002169 - FOR THE CONSTRUCTION OF**  
**COMBINED SEWERS IN YORK AVENUE**  
**FROM E. 61ST STREET TO E. 63RD STREET/**  
**E. 62ND STREET 200' WEST OF YORK AVENUE**

**CET 100.1 UTILITIES CROSSING TRENCH FOR CATCH BASIN CHUTE CONNECT. AND/OR TEST PIT EA.  
(TYPE .1)**

At the following locations:

N/S E. 61ST STREET W/O YORK AVENUE  
W/S YORK AVENUE N/O E. 61ST STREET  
E/S YORK AVENUE N/O E. 61ST STREET  
S/S E. 62ND STREET W/O YORK AVENUE  
E/S YORK AVENUE N/O E. 62ND STREET  
N/S E. 62ND STREET BTW YORK AVENUE AND 1ST AVENUE  
S/S E. 62ND STREET BTW YORK AVENUE AND 1ST AVENUE

Total quantity for CET 100.1 = 10.00

**CET 100.2 UTILITIES CROSSING TRENCH FOR CATCH BASIN CHUTE CONNECT. AND/OR TEST PIT EA.  
(TYPE .2)**

At the following locations:

E/S YORK AVENUE N/O E. 61ST STREET  
S/S E. 62ND STREET W/O YORK AVENUE  
E/S YORK AVENUE N/O E. 62ND STREET

Total quantity for CET 100.2 = 4.00

**CET 100.3 UTILITIES CROSSING TRENCH FOR CATCH BASIN CHUTE CONNECT. AND/OR TEST PIT EA.  
(TYPE .3)**

At the following locations:

N/S E. 61ST STREET W/O YORK AVENUE  
N/S E. 62ND STREET W/O YORK AVENUE  
N/S E. 62ND STREET BTW YORK AVENUE AND 1ST AVENUE  
E/S YORK AVENUE N/O E. 62ND STREET

Total quantity for CET 100.3 = 5.00

**CET 100.4 UTILITIES CROSSING TRENCH FOR CATCH BASIN CHUTE CONNECT. AND/OR TEST PIT EA.  
(TYPE .4)**

At the following locations:

N/S E. 61ST STREET W/O YORK AVENUE  
W/S YORK AVENUE N/O E. 61ST STREET  
N/S E. 62ND STREET W/O YORK AVENUE

Total quantity for CET 100.4 = 3.00



**CON EDISON CET SCOPE OF WORK**  
**SUPPORT & PROTECTION**  
**SEN002169 - FOR THE CONSTRUCTION OF**  
**COMBINED SEWERS IN YORK AVENUE**  
**FROM E. 61ST STREET TO E. 63RD STREET/**  
**E. 62ND STREET 200' WEST OF YORK AVENUE**

**CET 100.5 UTILITIES CROSSING TRENCH FOR CATCH BASIN CHUTE CONNECT. AND/OR TEST PIT (TYPE .5) EA.**

At the following locations:

E/S YORK AVENUE N/O E. 61ST STREET  
E/S YORK AVENUE N/O E. 62ND STREET

Total quantity for CET 100.5 = 2.00

**CET 103.1 UTILITIES CROSSING TRENCH FOR SEWERS OVER 36" TO 48" DIAMETER (TYPE .1) EA.**

At the following locations:

E. 62ND STREET W/O YORK AVENUE

Total quantity for CET 103.1 = 2.00

**CET 103.2 UTILITIES CROSSING TRENCH FOR SEWERS OVER 36" TO 48" DIAMETER (TYPE .2) EA.**

At the following locations:

AS ENCOUNTERED AND DIRECTED BY CON EDISON REPRESENTATIVE

Total quantity for CET 103.2 = 1.00

**CET 103.3 UTILITIES CROSSING TRENCH FOR SEWERS OVER 36" TO 48" DIAMETER (TYPE .3) EA.**

At the following locations:

AS ENCOUNTERED AND DIRECTED BY CON EDISON REPRESENTATIVE

Total quantity for CET 103.3 = 1.00

**CET 103.4 UTILITIES CROSSING TRENCH FOR SEWERS OVER 36" TO 48" DIAMETER (TYPE .4) EA.**

At the following locations:

AS ENCOUNTERED AND DIRECTED BY CON EDISON REPRESENTATIVE

Total quantity for CET 103.4 = 1.00

**CET 103.5 UTILITIES CROSSING TRENCH FOR SEWERS OVER 36" TO 48" DIAMETER (TYPE .5) EA.**

At the following locations:

E. 62ND STREET W/O YORK AVENUE

Total quantity for CET 103.5 = 1.00

**CON EDISON CET SCOPE OF WORK**  
**SUPPORT & PROTECTION**  
**SEN002169 - FOR THE CONSTRUCTION OF**  
**COMBINED SEWERS IN YORK AVENUE**  
**FROM E. 61ST STREET TO E. 63RD STREET/**  
**E. 62ND STREET 200' WEST OF YORK AVENUE**

**CET 106.1 UTILITIES CROSSING TRENCH FOR SEWERS OVER 60" TO 72" DIAMETER (TYPE .1) EA.**

At the following locations:

INT. OF YORK AVENUE AND E. 62ND STREET  
YORK AVENUE BTW E. 62ND STREET AND E. 63RD STREET

Total quantity for CET 106.1 = 2.00

**CET 106.2 UTILITIES CROSSING TRENCH FOR SEWERS OVER 60" TO 72" DIAMETER (TYPE .2) EA.**

At the following locations:

INT. OF YORK AVENUE AND E. 62ND STREET

Total quantity for CET 106.2 = 1.00

**CET 106.3 UTILITIES CROSSING TRENCH FOR SEWERS OVER 60" TO 72" DIAMETER (TYPE .3) EA.**

At the following locations:

INT. OF YORK AVENUE AND E. 62ND STREET

Total quantity for CET 106.3 = 1.00

**CET 106.4 UTILITIES CROSSING TRENCH FOR SEWERS OVER 60" TO 72" DIAMETER (TYPE .4) EA.**

At the following locations:

INT. OF YORK AVENUE AND E. 62ND STREET

Total quantity for CET 106.4 = 1.00

**CET 107.1 UTILITIES CROSSING TRENCH FOR SEWERS OVER 72" TO 84" DIAMETER (TYPE .1) EA.**

At the following locations:

INT. OF YORK AVENUE AND E. 62ND STREET

Total quantity for CET 107.1 = 1.00

**CET 107.2 UTILITIES CROSSING TRENCH FOR SEWERS OVER 72" TO 84" DIAMETER (TYPE .2) EA.**

At the following locations:

INT. OF YORK AVENUE AND E. 61ST STREET

Total quantity for CET 107.2 = 1.00

**CON EDISON CET SCOPE OF WORK  
SUPPORT & PROTECTION  
SEN002169 - FOR THE CONSTRUCTION OF  
COMBINED SEWERS IN YORK AVENUE  
FROM E. 61ST STREET TO E. 63RD STREET/  
E. 62ND STREET 200' WEST OF YORK AVENUE**

**CET 107.3 UTILITIES CROSSING TRENCH FOR SEWERS OVER 72" TO 84" DIAMETER (TYPE .3) EA.**

At the following locations:

AS ENCOUNTERED AND DIRECTED BY CON EDISON REPRESENTATIVE

Total quantity for CET 107.3 = 1.00

**CET 108.1 UTILITIES CROSSING TRENCH FOR WATERMAIN UP TO AND INCL. 12" DIAMETER (TYPE .1) EA.**

At the following locations:

INT. OF YORK AVENUE AND E. 61ST STREET  
YORK AVENUE BTW E. 61ST STREET AND E. 62ND STREET  
E. 62ND STREET W/O YORK AVENUE  
YORK AVENUE BTW E. 62ND STREET AND E. 63RD STREET  
INT. OF YORK AVENUE AND E. 63RD STREET

Total quantity for CET 108.1 = 9.00

**CET 108.2 UTILITIES CROSSING TRENCH FOR WATERMAIN UP TO AND INCL. 12" DIAMETER (TYPE .2) EA.**

At the following locations:

YORK AVENUE BTW E. 61ST STREET AND E. 62ND STREET  
E. 62ND STREET W/O YORK AVENUE  
YORK AVENUE BTW E. 62ND STREET AND E. 63RD STREET  
INT. OF YORK AVENUE AND E. 63RD STREET

Total quantity for CET 108.2 = 6.00

**CET 108.3 UTILITIES CROSSING TRENCH FOR WATERMAIN UP TO AND INCL. 12" DIAMETER (TYPE .3) EA.**

At the following locations:

E. 62ND STREET W/O YORK AVENUE  
INT. OF YORK AVENUE AND E. 62ND STREET

Total quantity for CET 108.3 = 2.00

**CET 108.4 UTILITIES CROSSING TRENCH FOR WATERMAIN UP TO AND INCL. 12" DIAMETER (TYPE .4) EA.**

At the following locations:

YORK AVENUE BTW E. 61ST STREET AND E. 62ND STREET  
INT. OF YORK AVENUE AND E. 62ND STREET

Total quantity for CET 108.4 = 2.00

**CON EDISON CET SCOPE OF WORK**  
**SUPPORT & PROTECTION**  
**SEN002169 - FOR THE CONSTRUCTION OF**  
**COMBINED SEWERS IN YORK AVENUE**  
**FROM E. 61ST STREET TO E. 63RD STREET/**  
**E. 62ND STREET 200' WEST OF YORK AVENUE**

**CET 108.5 UTILITIES CROSSING TRENCH FOR WATERMAIN UP TO AND INCL. 12" DIAMETER EA.**  
**(TYPE .5)**

At the following locations:

YORK AVENUE BTW E. 61ST STREET AND E. 62ND STREET

Total quantity for CET 108.5 = 1.00

**CET 109.1 UTILITIES CROSSING TRENCH FOR WATERMAIN OVER 12" AND UP TO 24" DIAMETER EA.**  
**(TYPE .1)**

At the following locations:

INT. OF YORK AVENUE AND E. 61ST STREET  
INT. OF YORK AVENUE AND E. 62ND STREET  
YORK AVENUE BTW E. 62ND STREET AND E. 63RD STREET  
INT. OF YORK AVENUE AND E. 63RD STREET

Total quantity for CET 109.1 = 15.00

**CET 109.2 UTILITIES CROSSING TRENCH FOR WATERMAIN OVER 12" AND UP TO 24" DIAMETER EA.**  
**(TYPE .2)**

At the following locations:

INT. OF YORK AVENUE AND E. 61ST STREET  
INT. OF YORK AVENUE AND E. 62ND STREET  
INT. OF YORK AVENUE AND E. 63RD STREET

Total quantity for CET 109.2 = 7.00

**CET 109.3 UTILITIES CROSSING TRENCH FOR WATERMAIN OVER 12" AND UP TO 24" DIAMETER EA.**  
**(TYPE .3)**

At the following locations:

INT. OF YORK AVENUE AND E. 61ST STREET  
INT. OF YORK AVENUE AND E. 63RD STREET

Total quantity for CET 109.3 = 6.00

**CET 109.4 UTILITIES CROSSING TRENCH FOR WATERMAIN OVER 12" AND UP TO 24" DIAMETER EA.**  
**(TYPE .4)**

At the following locations:

INT. OF YORK AVENUE AND E. 63RD STREET

Total quantity for CET 109.4 = 1.00

**CON EDISON CET SCOPE OF WORK**  
**SUPPORT & PROTECTION**  
**SEN002169 - FOR THE CONSTRUCTION OF**  
**COMBINED SEWERS IN YORK AVENUE**  
**FROM E. 61ST STREET TO E. 63RD STREET/**  
**E. 62ND STREET 200' WEST OF YORK AVENUE**

**CET 109.5 UTILITIES CROSSING TRENCH FOR WATERMAIN OVER 12" AND UP TO 24" DIAMETER EA.  
(TYPE .5)**

At the following locations:

INT. OF YORK AVENUE AND E. 61ST STREET  
INT. OF YORK AVENUE AND E. 63RD STREET

Total quantity for CET 109.5 = 2.00

**CET 200.1 UPSTREAM INVERT DEPTH GREATER THAN FOUR FEET SIX INCHES (4'-6") AND UP TO L.F.  
FIVE (5) FEET FOR TYPE II CATCH BASINS AND GREATER THAN FOUR FEET SIX  
INCHES AND UP TO FIVE FEET SIX INCHES FOR TYPE III CATCH BASINS FROM THE  
PROPOSED PAVEMENT ELEVATION**

At the following locations:

E/S YORK AVENUE N/O E. 61ST STREET  
S/S E. 62ND STREET W/O YORK AVENUE  
N/S E. 62ND STREET W/O YORK AVENUE  
E/S YORK AVENUE N/O E. 62ND STREET  
N/S E. 62ND STREET BTW YORK AVENUE AND 1ST AVENUE

Total quantity for CET 200.1 = 160.00

**CET 200.2 UPSTREAM INVERT DEPTH GREATER THAN FIVE (5) FEET AND UP TO SIX (6) FEET L.F.  
FOR TYPE II CATCH BASINS AND GREATER THAN FIVE FEET SIX INCHES AND UP TO  
SIX FEET SIX INCHES FOR TYPE III CATCH BASINS FROM THE PROPOSED PAVEMENT  
ELEVATION**

At the following locations:

N/S E. 61ST STREET W/O YORK AVENUE  
W/S YORK AVENUE N/O E. 61ST STREET

Total quantity for CET 200.2 = 60.00

**CET 225.1A INSTALLATION AND REMOVAL OF CATCH BASINS WITH UTILITY INTERFERENCES EA.**

At the following locations:

E/S YORK AVENUE N/O E. 62ND STREET

Total quantity for CET 225.1A = 1.00

**CON EDISON CET SCOPE OF WORK**  
**SUPPORT & PROTECTION**  
**SEN002169 - FOR THE CONSTRUCTION OF**  
**COMBINED SEWERS IN YORK AVENUE**  
**FROM E. 61ST STREET TO E. 63RD STREET/**  
**E. 62ND STREET 200' WEST OF YORK AVENUE**

**CET 225.1B INSTALLATION OF CATCH BASINS WITH UTILITY INTERFERENCES EA.**

At the following locations:

N/S E. 61ST STREET W/O YORK AVENUE  
W/S YORK AVENUE N/O E. 61ST STREET  
E/S YORK AVENUE N/O E. 61ST STREET  
N/S E. 62ND STREET W/O YORK AVENUE  
S/S E. 62ND STREET W/O YORK AVENUE  
N/S E. 62ND STREET BTW YORK AVENUE AND 1ST AVENUE  
S/S E. 62ND STREET BTW YORK AVENUE AND 1ST AVENUE

Total quantity for CET 225.1B = 8.00

**CET 225.1C REMOVAL OF CATCH BASINS WITH UTILITY INTERFERENCES EA.**

At the following locations:

NWC YORK AVENUE AND E. 61ST STREET  
NWC YORK AVENUE AND E. 62ND STREET  
SWC YORK AVENUE AND E. 62ND STREET

Total quantity for CET 225.1C = 3.00

**CET 300.0 SPECIAL CARE EXCAVATION & BACKFILLING C.Y.**

At the following locations:

YORK AVENUE BTW E. 61ST STREET AND E. 62ND STREET  
AS ENCOUNTERED AND DIRECTED BY CON EDISON REPRESENTATIVE

Total quantity for CET 300.0 = 80.00

**CET 301.0 SPECIAL CARE EXCAVATION & BACKFILLING FOR OIL-O-STATIC PIPES C.Y.**

At the following locations:

INT. YORK AVENUE AND E. 61ST STREET  
INT. OF YORK AVENUE AND E. 62ND STREET  
YORK AVENUE BTW E. 62ND STREET AND E. 63RD STREET  
YORK AVENUE N/O E. 63RD STREET

Total quantity for CET 301.0 = 210.00

**CON EDISON CET SCOPE OF WORK**  
**SUPPORT & PROTECTION**  
**SEN002169 - FOR THE CONSTRUCTION OF**  
**COMBINED SEWERS IN YORK AVENUE**  
**FROM E. 61ST STREET TO E. 63RD STREET/**  
**E. 62ND STREET 200' WEST OF YORK AVENUE**

**CET 302.0 FIELD COATING OF OIL-O-STATIC FEEDER PIPES** **L.F.**

At the following locations:

N/S E. 61ST STREET W/O YORK AVENUE  
W/S YORK AVENUE N/O E. 61ST STREET  
INT. OF YORK AVENUE AND E. 62ND STREET  
YORK AVENUE BTW E. 62ND STREET AND E. 63RD STREET  
INT. OF YORK AVENUE AND E. 63RD STREET

Total quantity for CET 302.0 = 330.00

**CET 303.0 FURNISH, DELIVER AND INSTALL TYPE 3/8" CLEAN SAND BACKFILL** **C.Y.**

At the following locations:

N/S E. 61ST STREET W/O YORK AVENUE  
W/S YORK AVENUE N/O E. 61ST STREET  
INT. OF YORK AVENUE AND E. 62ND STREET  
YORK AVENUE BTW E. 62ND STREET AND E. 63RD STREET  
INT. OF YORK AVENUE AND E. 63RD STREET

Total quantity for CET 303.0 = 120.00

**CET 304A FURNISH, DELIVER, AND INSTALL CONCRETE ROAD BASE** **C.Y.**

At the following locations:

E. 63RD STREET W/O YORK AVENUE  
YORK AVENUE BTW E. 63RD STREET AND E. 64TH STREET

Total quantity for CET 304A = 50.00

**CET 304B FURNISH, DELIVER, AND INSTALL CONCRETE SIDEWALK** **C.Y.**

At the following locations:

NWC YORK AVENUE AND E. 62ND STREET  
NWC YORK AVENUE AND E. 63RD STREET

Total quantity for CET 304B = 24.00

**CET 304C BREAK, REMOVE, AND DISPOSE CONCRETE SIDEWALK** **C.Y.**

At the following locations:

NWC YORK AVENUE AND E. 62ND STREET  
NWC YORK AVENUE AND E. 63RD STREET

Total quantity for CET 304C = 24.00

**CON EDISON CET SCOPE OF WORK**  
**SUPPORT & PROTECTION**  
**SEN002169 - FOR THE CONSTRUCTION OF**  
**COMBINED SEWERS IN YORK AVENUE**  
**FROM E. 61ST STREET TO E. 63RD STREET/**  
**E. 62ND STREET 200' WEST OF YORK AVENUE**

- CET 305 FURNISH, DELIVER & INSTALL ASPHALT PAVING MIXTURES** **TONS**  
At the following locations:  
  
E. 63RD STREET W/O YORK AVENUE  
YORK AVENUE BTW E. 63RD STREET AND E. 64TH STREET  
  
Total quantity for CET 305 = 50.00
- CET 330EA.1 SUPPORT & PROTECTION OF ELECTRIC, GAS AND STEAM FACILITIES DURING EXCAVATION OF CITY TRENCH WHEN FACILITIES LIE WITHIN TRENCH LIMITS (CITY EXCAVATIONS FOR THE INSTALLATION OF CITY FACILITIES THAT DO NOT REQUIRE SHEETING (TYPE .1))** **L.F.**  
At the following locations:  
  
N/S E. 62ND STREET W/O YORK AVENUE  
  
Total quantity for CET 330EA.1 = 80.00
- CET 330EA.2 SUPPORT & PROTECTION OF ELECTRIC, GAS AND STEAM FACILITIES DURING EXCAVATION OF CITY TRENCH WHEN FACILITIES LIE WITHIN TRENCH LIMITS (CITY EXCAVATIONS FOR THE INSTALLATION OF CITY FACILITIES THAT DO NOT REQUIRE SHEETING (TYPE .2))** **L.F.**  
At the following locations:  
  
AS ENCOUNTERED AND DIRECTED BY CON EDISON REPRESENTATIVE  
  
Total quantity for CET 330EA.2 = 50.00
- CET 330EA.3 SUPPORT & PROTECTION OF ELECTRIC, GAS AND STEAM FACILITIES DURING EXCAVATION OF CITY TRENCH WHEN FACILITIES LIE WITHIN TRENCH LIMITS (CITY EXCAVATIONS FOR THE INSTALLATION OF CITY FACILITIES THAT DO NOT REQUIRE SHEETING (TYPE .3))** **L.F.**  
At the following locations:  
  
W/S YORK AVENUE BTW E. 62ND STREET AND E. 63RD STREET  
  
Total quantity for CET 330EA.3 = 50.00
- CET 330EA.4 SUPPORT & PROTECTION OF ELECTRIC, GAS AND STEAM FACILITIES DURING EXCAVATION OF CITY TRENCH WHEN FACILITIES LIE WITHIN TRENCH LIMITS (CITY EXCAVATIONS FOR THE INSTALLATION OF CITY FACILITIES THAT DO NOT REQUIRE SHEETING (TYPE .4))** **L.F.**  
At the following locations:  
  
YORK AVENUE BTW E. 61ST STREET AND E. 62ND STREET  
  
Total quantity for CET 330EA.4 = 200.00



**CON EDISON CET SCOPE OF WORK**  
**SUPPORT & PROTECTION**  
**SEN002169 - FOR THE CONSTRUCTION OF**  
**COMBINED SEWERS IN YORK AVENUE**  
**FROM E. 61ST STREET TO E. 63RD STREET/**  
**E. 62ND STREET 200' WEST OF YORK AVENUE**

**CET 330EB.1 SUPPORT & PROTECTION OF ELECTRIC, GAS AND STEAM FACILITIES DURING EXCAVATION OF CITY TRENCH WHEN FACILITIES LIE WITHIN TRENCH LIMITS (CITY EXCAVATIONS FOR THE INSTALLATION OF CITY FACILITIES THAT REQUIRE SHEETING (TYPE .1))** L.F.

At the following locations:

YORK AVENUE BTW E. 62ND STREET AND E. 63RD STREET  
YORK AVENUE BTW E. 63RD STREET AND E. 64TH STREET

Total quantity for CET 330EB.1 = 490.00

**CET 330EB.2 SUPPORT & PROTECTION OF ELECTRIC, GAS AND STEAM FACILITIES DURING EXCAVATION OF CITY TRENCH WHEN FACILITIES LIE WITHIN TRENCH LIMITS (CITY EXCAVATIONS FOR THE INSTALLATION OF CITY FACILITIES THAT REQUIRE SHEETING (TYPE .2))** L.F.

At the following locations:

YORK AVENUE BTW E. 61ST STREET AND E. 62ND STREET

Total quantity for CET 330EB.2 = 250.00

**CET 330EB.3 SUPPORT & PROTECTION OF ELECTRIC, GAS AND STEAM FACILITIES DURING EXCAVATION OF CITY TRENCH WHEN FACILITIES LIE WITHIN TRENCH LIMITS (CITY EXCAVATIONS FOR THE INSTALLATION OF CITY FACILITIES THAT REQUIRE SHEETING (TYPE .3))** L.F.

At the following locations:

N/ INT. OF YORK AVENUE AND E. 63RD STREET

Total quantity for CET 330EB.3 = 70.00

**CET 330EB.4 SUPPORT & PROTECTION OF ELECTRIC, GAS AND STEAM FACILITIES DURING EXCAVATION OF CITY TRENCH WHEN FACILITIES LIE WITHIN TRENCH LIMITS (CITY EXCAVATIONS FOR THE INSTALLATION OF CITY FACILITIES THAT REQUIRE SHEETING (TYPE .4))** L.F.

At the following locations:

W/S YORK AVENUE BTW E. 62ND STREET AND E. 63RD STREET

Total quantity for CET 330EB.4 = 160.00

**CET 400 TEST PITS FOR UTILITY FACILITIES** C.Y.

At the following locations:

AS ENCOUNTERED AND DIRECTED BY CON EDISON REPRESENTATIVE

Total quantity for CET 400 = 100.00

**CON EDISON CET SCOPE OF WORK**  
**SUPPORT & PROTECTION**  
**SEN002169 - FOR THE CONSTRUCTION OF**  
**COMBINED SEWERS IN YORK AVENUE**  
**FROM E. 61ST STREET TO E. 63RD STREET/**  
**E. 62ND STREET 200' WEST OF YORK AVENUE**

**CET 401      TRENCH EXCAVATION FOR ADJUSTMENT OF UTILITY FACILITIES      C.Y.**

At the following locations:

INT. OF YORK AVENUE AND E. 61ST STREET  
E/S YORK AVENUE N/O E. 61ST STREET  
INT. OF YORK AVENUE AND E. 62ND STREET

Total quantity for    CET 401                    =        260.00

**CET 401A      SPECIAL CARE PAVEMENT EXCAVATION FOR ADJUSTMENT OF UTILITY FACILITIES      C.Y.**  
**CONNECTED TO THE BASE PAVEMENT**

At the following locations:

AS SHOWN ON THE SPECIAL CARE EXCAVATION PLANS

Total quantity for    CET 401A                    =        105.00

**CET 402.2      HORIZONTAL AND VERTICAL ADJUSTMENT OF UTILITY FACILITIES (EXIST.      L.F.**  
**OCCUPIED NON-CONCR. ENCASED CONDUITS PLCD. IN FINAL POS. WITHOUT CONCR.**  
**ENCSMNT.)**

At the following locations:

INT. OF YORK AVENUE AND E. 61ST STREET  
E/S YORK AVENUE N/O E. 61ST STREET  
INT. OF YORK AVENUE AND E. 62ND STREET

Total quantity for    CET 402.2                    =        1050.00

**CET 403.0      PLACING STEEL PROTECTION PLATES FOR UTILITY FACILITIES      S.F.**

At the following locations:

AS ENCOUNTERED AND DIRECTED BY CON EDISON REPRESENTATIVE

Total quantity for    CET 403.0                    =        400.00

**CET 404      PIER & PLATE METHOD OF PROTECTION FOR DUCTILE IRON WATER MAINS AND      S.F.**  
**OTHER SHALLOW FACILITIES**

At the following locations:

AS ENCOUNTERED AND DIRECTED BY CON EDISON REPRESENTATIVE

Total quantity for    CET 404                        =        100.00

**CON EDISON CET SCOPE OF WORK**  
**SUPPORT & PROTECTION**  
**SEN002169 - FOR THE CONSTRUCTION OF**  
**COMBINED SEWERS IN YORK AVENUE**  
**FROM E. 61ST STREET TO E. 63RD STREET/**  
**E. 62ND STREET 200' WEST OF YORK AVENUE**

**CET 405.1 TRENCH EXCAVATION FOR INSTALLATION OF UTILITY FACILITIES WITH TOTAL DEPTHS LESS THAN FIVE FEET C.Y.**

At the following locations:

AS ENCOUNTERED AND DIRECTED BY CON EDISON REPRESENTATIVE

Total quantity for CET 405.1 = 1280.00

**CET 405.2 TRENCH EXCAVATION FOR INSTALLATION OF UTILITY FACILITIES WITH TOTAL DEPTHS EQUAL TO OR GREATER THAN FIVE FEET C.Y.**

At the following locations:

AS ENCOUNTERED AND DIRECTED BY CON EDISON REPRESENTATIVE

Total quantity for CET 405.2 = 200.00

**CET 406 EXCAVATION FOR UTILITY STRUCTURE C.Y.**

At the following locations:

INT. OF YORK AVENUE AND E. 62ND STREET  
 YORK AVENUE BTW E. 62ND STREET AND E. 63RD STREET  
 INT. OF YORK AVENUE AND E. 63RD STREET  
 AS ENCOUNTERED AND DIRECTED BY CON EDISON REPRESENTATIVE

Total quantity for CET 406 = 420.00

**CET 450.1 CONSTRUCTION FIELD SUPPORT REQUIRING AN AVERAGE SIZE SURVEY CREW THAT WILL PERFORM TYPICAL FIELD SURVEY FUNCTIONS AND PROVIDE QUALITY DATA ANALYSIS REPORTS Crhrs.**

At the following locations:

AS ENCOUNTERED AND DIRECTED BY CON EDISON REPRESENTATIVE

Total quantity for CET 450.1 = 296.00

**CET 450.2 CONSTRUCTION FIELD SUPPORT REQUIRING AN AVERAGE SIZE SMALL CREW CAPABLE OF PERFORMING VARIOUS TASKS, WHICH MAY INCLUDE BUT ARE NOT LIMITED: OPENING/CLOSING SUBSURFACE STRUCTURE COVER(S), SETTING/RESETTING MPT SET UP(S), ASSISTING UTILITY FACILITY/SPECIALTY CREW(S), PERFORMING CONDUIT OCCUPANCY IDENTIFICATION, CLEAN-UP STORAGE WORK-SITE AREA, ETC. Crhrs.**

At the following locations:

AS ENCOUNTERED AND DIRECTED BY CON EDISON REPRESENTATIVE

Total quantity for CET 450.2 = 536.00

**CON EDISON CET SCOPE OF WORK**  
**SUPPORT & PROTECTION**  
**SEN002169 - FOR THE CONSTRUCTION OF**  
**COMBINED SEWERS IN YORK AVENUE**  
**FROM E. 61ST STREET TO E. 63RD STREET/**  
**E. 62ND STREET 200' WEST OF YORK AVENUE**

**CET 450.3 CONSTRUCTION FIELD SUPPORT REQUIRING AN AVERAGE MEDIUM SIZE CREW CAPABLE OF PERFORMING VARIOUS TASKS, WHICH MAY INCLUDE BUT ARE NOT LIMITED TO: EXCAVATIONS, CONSTRUCTION MANHOLE ENCLOSURES, INSTALLING SUPPORT SYSTEM FOR UTILITY FACILITIES, DEWATERING UTILITY STRUCTURES AND EXCAVATIONS, OPENING/CLOSING TRAFFIC AND/OR PEDESTRIAN PLATES (WHEN NOT ALREADY INCLUDED AND COVERED IN OTHER APPLICABLE CET ITEMS), ETC.** **Crhrs.**

At the following locations:

AS ENCOUNTERED AND DIRECTED BY CON EDISON REPRESENTATIVE

Total quantity for CET 450.3 = 960.00

**CET 500.0 REMOVAL OF ABANDONED UTILITY CONDUITS (NON-CONCRETE ENCASED)** **L.F.**

At the following locations:

INT. OF YORK AVENUE AND E. 61ST STREET  
YORK AVENUE BTW E. 61ST STREET AND E. 62ND STREET  
INT. OF YORK AVENUE AND E. 62ND STREET  
YORK AVENUE BTW E. 62ND STREET AND E. 63RD STREET  
E. 62ND STREET BTW YORK AVENUE AND 1ST AVENUE  
INT. OF YORK AVENUE AND E. 63RD STREET  
YORK AVENUE BTW E. 63RD STREET AND E. 64TH STREET

Total quantity for CET 500.0 = 16940.00

**CET 501.0 REMOVAL OF ABANDONED MASONRY FOR UTILITY FACILITIES** **C.Y.**

At the following locations:

AS ENCOUNTERED AND DIRECTED BY CON EDISON REPRESENTATIVE

Total quantity for CET 501.0 = 20.00

**CET 600.1 INSTALL 1 EA. 2", 4" OR 5" CONDUIT (ALL TYPES) IN UNPAVED AREA** **L.F.**

At the following locations:

AS ENCOUNTERED AND DIRECTED BY CON EDISON REPRESENTATIVE

Total quantity for CET 600.1 = 100.00

**CET 600.2 INSTALL 2 EA. 2", 4" OR 5" CONDUIT (ALL TYPES) IN UNPAVED AREA** **L.F.**

At the following locations:

AS ENCOUNTERED AND DIRECTED BY CON EDISON REPRESENTATIVE

Total quantity for CET 600.2 = 100.00



**CON EDISON CET SCOPE OF WORK**  
**SUPPORT & PROTECTION**  
**SEN002169 - FOR THE CONSTRUCTION OF**  
**COMBINED SEWERS IN YORK AVENUE**  
**FROM E. 61ST STREET TO E. 63RD STREET/**  
**E. 62ND STREET 200' WEST OF YORK AVENUE**

|                          |  |             |
|--------------------------|--|-------------|
| <b>CET 636 EG<br/>RD</b> | <b>ADJUSTMENT OF UTILITY HARWARE ( 41" TO UNDER 75" WIDTH )</b><br><br>At the following locations:<br><br>YORK AVENUE BTW E. 61ST STREET AND E. 62ND STREET<br>YORK AVENUE BTW E. 62ND STREET AND E. 63RD STREET<br><br>Total quantity for CET 636 EG RD = 11.00 | <b>EA.</b>  |
| <b>CET 636 SMC</b>       | <b>MODIFICATION OF WORK METHODS TO ACCOMMODATE UTILITY STEAM<br/>HARDWARE (ABOVE 8" TO 34" WIDTH)</b><br><br>At the following locations:<br><br>YORK AVENUE BTW E. 61ST STREET AND E. 62ND STREET<br><br>Total quantity for CET 636 SMC = 4.00                   | <b>EA.</b>  |
| <b>CET 636 SA</b>        | <b>ADJUSTMENT TO UTILITY STEAM HARDWARE ( CONCRETE COLLAR)</b><br><br>At the following locations:<br><br>YORK AVENUE BTW E. 61ST STREET AND E. 62ND STREET<br><br>Total quantity for CET 636 SA = 20.00  | <b>S.F.</b> |
| <b>CET 636 SB</b>        | <b>ADJUSTMENT TO UTILITY STEAM CASTINGS ( UNDER AND INCLUDING 8" WIDTH )</b><br><br>At the following locations:<br><br>YORK AVENUE BTW E. 61ST STREET AND E. 62ND STREET<br><br>Total quantity for CET 636 SB = 1.00   | <b>EA.</b>  |
| <b>CET 636 SC</b>        | <b>ADJUSTMENT TO UTILITY STEAM CASTINGS ( ABOVE 8" TO 34" WIDTH )</b><br><br>At the following locations:<br><br>YORK AVENUE BTW E. 61ST STREET AND E. 62ND STREET<br><br>Total quantity for CET 636 SC = 1.00  | <b>EA.</b>  |
| <b>CET 636 RM</b>        | <b>REBUILDING AND MODIFICATIONS TO UTILITY STRUCTURES</b><br><br>At the following locations:<br><br>AS ENCOUNTERED AND DIRECTED BY CON EDISON REPRESENTATIVE<br><br>Total quantity for CET 636 RM = 50.00  | <b>C.Y.</b> |

**CON EDISON CET SCOPE OF WORK**  
**SUPPORT & PROTECTION**  
**SEN002169 - FOR THE CONSTRUCTION OF**  
**COMBINED SEWERS IN YORK AVENUE**  
**FROM E. 61ST STREET TO E. 63RD STREET/**  
**E. 62ND STREET 200' WEST OF YORK AVENUE**

**CET 636 RS STRUCTURAL REPAIR TO UTILITY STRUCTURES C.Y.**

At the following locations:

AS ENCOUNTERED AND DIRECTED BY CON EDISON REPRESENTATIVE

Total quantity for CET 636 RS = 50.00

**CET 638 N INSTALLATION OF FIELD CONSTRUCTED UTILITY STRUCTURE C.Y.**

At the following locations:

INT. OF YORK AVENUE AND E. 62ND STREET  
YORK AVENUE BTW E. 62ND STREET AND E. 63RD STREET  
INT. OF YORK AVENUE AND E. 63RD STREET

Total quantity for CET 638 N = 100.00

**CET 638 R BREAK OUT AND REMOVE UTILITY STRUCTURE C.Y.**

At the following locations:

INT. OF YORK AVENUE AND E. 62ND STREET  
YORK AVENUE BTW E. 62ND STREET AND E. 63RD STREET  
INT. OF YORK AVENUE AND E. 63RD STREET

Total quantity for CET 638 R = 50.00

**CET 700.0 SPECIAL MODIFICATION OF WORK METHODS TO ACCOMMODATE/ PROTECT UNDERGROUND FACILITIES WITH LIMITED COVER C.Y.**

At the following locations:

AS SHOWN ON THE SPECIAL CARE EXCAVATION PLANS

Total quantity for CET 700.0 = 250.00

**CET 710.1 REMOVAL OF ABANDONED UTILITY STEEL/ CAST IRON/ PLASTIC PIPES, UP TO AND INCLUDING 12" DIAMETER PIPES L.F.**

At the following locations:

INT. OF YORK AVENUE AND E. 61ST STREET  
YORK AVENUE BTW E. 61ST STREET AND E. 62ND STREET  
INT. OF YORK AVENUE AND E. 62ND STREET  
YORK AVENUE BTW E. 62ND STREET AND E. 63RD STREET  
E. 62ND STREET BTW YORK AVENUE AND 1ST AVENUE  
INT. OF YORK AVENUE AND E. 63RD STREET  
YORK AVENUE BTW E. 63RD STREET AND E. 64TH STREET

Total quantity for CET 710.1 = 780.00

**CON EDISON CET SCOPE OF WORK**  
**SUPPORT & PROTECTION**  
**SEN002169 - FOR THE CONSTRUCTION OF**  
**COMBINED SEWERS IN YORK AVENUE**  
**FROM E. 61ST STREET TO E. 63RD STREET/**  
**E. 62ND STREET 200' WEST OF YORK AVENUE**

**CET 711 USE SHEETING LINE AS FORM**

**L.F.**

At the following locations:

INT. OF YORK AVENUE AND E. 61ST STREET  
YORK AVENUE BTW E. 61ST STREET AND E. 62ND STREET  
INT. OF YORK AVENUE AND E. 62ND STREET  
YORK AVENUE BTW E. 62ND STREET AND E. 63RD STREET  
E. 62ND STREET BTW YORK AVENUE AND 1ST AVENUE  
INT. OF YORK AVENUE AND E. 63RD STREET  
YORK AVENUE BTW E. 63RD STREET AND E. 64TH STREET

Total quantity for CET 711 = 1000.00

**CET 802A SPECIAL CARE EXCAVATION AND RESTORATION FOR SIDEWALK WORK**

**S.F.**

At the following locations:

AS ENCOUNTERED AND DIRECTED BY CON EDISON REPRESENTATIVE

Total quantity for CET 802A = 1800.00

**CET 802B SPECIAL CARE EXCAVATION AND RESTORATION FOR CURB WORK**

**L.F.**

At the following locations:

AS ENCOUNTERED AND DIRECTED BY CON EDISON REPRESENTATIVE

Total quantity for CET 802B = 250.00

**CET 803.2 LINE CUT BY PNEUMATIC TOLLS IN LIEU OF SAW CUT ASSOCIATED WITH ROADWAY REMOVAL OPERATIONS (ANY COMBINATION OF ASPHALT AND CONCRETE ROADWAY)**

**L.F.**

At the following locations:

INT. OF YORK AVENUE AND E. 61ST STREET  
YORK AVENUE BTW E. 61ST STREET AND E. 62ND STREET  
INT. OF YORK AVENUE AND E. 62ND STREET  
YORK AVENUE BTW E. 62ND STREET AND E. 63RD STREET  
INT. OF YORK AVENUE AND E. 63RD STREET  
AS ENCOUNTERED AND DIRECTED BY CON EDISON REPRESENTATIVE

Total quantity for CBT 803.2 = 800.00



**CON EDISON CET SCOPE OF WORK**  
**SUPPORT & PROTECTION**  
**SEN002169 - FOR THE CONSTRUCTION OF**  
**COMBINED SEWERS IN YORK AVENUE**  
**FROM E. 61ST STREET TO E. 63RD STREET/**  
**E. 62ND STREET 200' WEST OF YORK AVENUE**

**CET 1006V 6" VERTICAL OR ROLLED WATERMAIN OFFSET EA.**

At the following locations:

AS ENCOUNTERED AND DIRECTED BY CON EDISON REPRESENTATIVE

Total quantity for CET 1006V = 5.00

**CET 1006H 6" HORIZONTAL WATERMAIN OFFSET EA.**

At the following locations:

AS ENCOUNTERED AND DIRECTED BY CON EDISON REPRESENTATIVE

Total quantity for CET 1006H = 2.00

**CET 1012V 12" VERTICAL OR ROLLED WATERMAIN OFFSET EA.**

At the following locations:

AS ENCOUNTERED AND DIRECTED BY CON EDISON REPRESENTATIVE

Total quantity for CET 1012V = 3.00

**CET 1012H 12" HORIZONTAL WATERMAIN OFFSET EA.**

At the following locations:

AS ENCOUNTERED AND DIRECTED BY CON EDISON REPRESENTATIVE

Total quantity for CET 1012H = 2.00

**CET 1020V 20" VERTICAL OR ROLLED WATERMAIN OFFSET EA.**

At the following locations:

AS ENCOUNTERED AND DIRECTED BY CON EDISON REPRESENTATIVE

Total quantity for CET 1020V = 3.00

**CET 1020H 20" HORIZONTAL WATERMAIN OFFSET EA.**

At the following locations:

AS ENCOUNTERED AND DIRECTED BY CON EDISON REPRESENTATIVE

Total quantity for CET 1020H = 2.00

**SEN002169 - Combined Sewers in York Avenue, etc., Manhattan**

Schedule U-2 Preliminary Engineer's Estimate of Quantity and Types of Interference Expected to be Encountered

| CET ITEM | UNITS | ESTIMATED QUANTITY | DESCRIPTION   |
|----------|-------|--------------------|---|
| 100.1    | EACH  | 3                  | SUPPORT OF FACILITIES UP TO & INCL. 0.75 SF X-ING CATCH BASIN CHUTE CONNECTIONS & /OR TEST PITS   |
| 100.2    | EACH  | 6                  | SUPPORT OF FACILITIES OVER 0.75 SF UP TO & INCL. 2.00 SF X-ING CATCH BASIN CHUTE CONNECTIONS & /OR TEST PITS  |
| 100.3    | EACH  | 1                  | SUPPORT OF FACILITIES OVER 2.00 SF UP TO & INCL. 6.00 SF X-ING CATCH BASIN CHUTE CONNECTIONS & /OR TEST PITS  |
| 103.1    | EACH  | 1                  | SUPPORT OF FACILITIES UP TO & INCL. 0.75 SF X-ING SEWERS OVER 36" UP TO & INCL. 48" IN DIAMETER   |
| 103.2    | EACH  | 1                  | SUPPORT OF FACILITIES OVER 0.75 SF UP TO & INCL. 2.00 SF X-ING SEWERS OVER 36" UP TO & INCL. 48" IN DIAMETER  |
| 103.3    | EACH  | 1                  | SUPPORT OF FACILITIES OVER 2.00 SF UP TO & INCL. 6.00 SF X-ING SEWERS OVER 36" UP TO & INCL. 48" IN DIAMETER  |
| 108.1    | EACH  | 4                  | SUPPORT OF FACILITIES UP TO & INCL. 0.75 SF X-ING WATER MAINS UP TO & INCL. 12" IN DIAMETER   |
| 108.2    | EACH  | 6                  | SUPPORT OF FACILITIES OVER 0.75 SF UP TO & INCL. 2.00 SF X-ING WATER MAINS UP TO & INCL. 12" IN DIAMETER  |
| 108.3    | EACH  | 3                  | SUPPORT OF FACILITIES OVER 2.00 SF UP TO & INCL. 6.00 SF X-ING WATER MAINS UP TO & INCL. 12" IN DIAMETER  |
| 109.1    | EACH  | 2                  | SUPPORT OF FACILITIES UP TO & INCL. 0.75 SF X-ING WATER MAINS OVER 12" UP TO & INCL. 24" IN DIAMETER  |
| 109.2    | EACH  | 3                  | SUPPORT OF FACILITIES OVER 0.75 SF UP TO & INCL. 2.00 SF X-ING WATER MAINS OVER 12" UP TO & INCL. 24" IN DIAMETER   |
| 109.3    | EACH  | 2                  | SUPPORT OF FACILITIES OVER 2.00 SF UP TO & INCL. 6.00 SF X-ING WATER MAINS OVER 12" UP TO & INCL. 24" IN DIAMETER   |
| 200      | LF    | 80                 | EXTRA DEPTH EXCAVATION OF CATCH BASIN CHUTE CONNECTION PIPES.   |
| 225      | EACH  | 5                  | INSTALLATION AND/OR REMOVAL OF CATCH BASINS WITH UTILITY INTERFERENCES  |
| 300      | CY    | 32                 | SPECIAL CARE EXCAVATION & BACKFILLING   |
| 330T     | LF    | 120                | SUPPORT AND PROTECTION OF COMMUNICATION UTILITY FACILITIES DURING EXCAVATION OF CITY TRENCH WHEN FACILITIES LIE IN OR IN CLOSE PROXIMITY TO TRENCH LIMITS |

**ECS**

For Information only

June '10

**SEN002169 - Combined Sewers in York Avenue, etc., Manhattan**Schedule U-2 Preliminary Engineer's Estimate of Quantity and Types of  
Interference Expected to be Encountered

| CET ITEM | UNITS | ESTIMATED QUANTITY | DESCRIPTION   |
|----------|-------|--------------------|---|
| 400      | CY    | 10                 | TEST PITS   |
| 401      | CY    | 360                | TRENCH EXCAVATION FOR ADJUSTMENT OF UTILITY FACILITIES                                      |
| 402.1A   | LF    | 1,920              | EXISTING CONCRETE ENCASED CONDUITS PLACED IN FINAL POSITION WITH CONCRETE ENCASEMENT        |
| 402.2A   | LF    | 220                | EXISTING NON-CONCRETE ENCASED CONDUITS PLACED IN FINAL POSITION WITHOUT CONCRETE ENCASEMENT |
| 403      | SF    | 50                 | PLACING STEEL PROTECTION PLATES FOR UTILITY FACILITIES                                      |
| 500      | LF    | 25                 | REMOVAL OF ABANDONED UTILITY CONDUITS (NON-CONCRETE ENCASED)                                |
| 501      | CY    | 5                  | REMOVAL OF ABANDONED MASONRY FOR UTILITY FACILITIES   |
| 711      | LF    | 15                 | USE SHEETING LINE AS FORM   |
| 1006V    | EACH  | 2                  | 6" VERTICAL OR ROLLED WATER MAIN OFFSET   |
| 1012V    | EACH  | 2                  | 12" VERTICAL OR ROLLED WATER MAIN OFFSET  |
| 1020V    | EACH  | 2                  | 20" VERTICAL OR ROLLED WATER MAIN OFFSET  |

**SEN 002169 – Construction of Combined Sewers in York Avenue, etc.,**

**Borough of Manhattan**

**Schedule U-2: Scope of Work for CET items**

**CET 100.1**

**SUPPORT OF FACILITIES UP TO & INCL. 0.75 SF X-ING C.B. CHUTE CONNECTIONS &/OR TEST PITS**

| @ THE FOLLOWING LOCATIONS   | QTY(EA)      |
|---|--------------|
| NWC OF INT OF YORK AVE & E. 61 <sup>ST</sup> ST.                            | 1            |
| N. SIDE OF E. 62 <sup>ND</sup> ST. BETWEEN YORK AVE. & 1 <sup>ST</sup> AVE. | 1            |
| S. SIDE OF E. 62 <sup>ND</sup> ST. BETWEEN YORK AVE. & 1 <sup>ST</sup> AVE. | 1            |
| <b>CET 100.1</b>  | <b>TOTAL</b> |
|   | <b>3</b>     |

**CET 100.2**

**SUPPORT OF FACILITIES OVER 0.75 SF UP TO & INCL. 2.00 SF X-ING C.B. CHUTE CONNECTIONS &/OR TEST PITS**

| @ THE FOLLOWING LOCATIONS   | QTY(EA)      |
|---|--------------|
| NWC OF INT OF YORK AVE & E. 61 <sup>ST</sup> ST.                            | 1            |
| NEC OF INT OF YORK AVE & E. 61 <sup>ST</sup> ST.                            | 1            |
| NEC OF INT OF YORK AVE & E. 62 <sup>ND</sup> ST.                            | 2            |
| S. SIDE OF E. 62 <sup>ND</sup> ST. BETWEEN YORK AVE. & 1 <sup>ST</sup> AVE. | 2            |
| <b>CET 100.2</b>  | <b>TOTAL</b> |
|   | <b>6</b>     |

**CET 100.3**

**SUPPORT OF FACILITIES OVER 2.00 SF UP TO & INCL. 6.00 SF X-ING C.B. CHUTE CONNECTIONS &/OR TEST PITS**

| @ THE FOLLOWING LOCATIONS                        | QTY(EA)      |
|--|--------------|
| NEC OF INT OF YORK AVE & E. 62 <sup>ND</sup> ST. | 1            |
| <b>CET 100.3</b>                                 | <b>TOTAL</b> |
|  | <b>1</b>     |

**CET 103.1**

**SUPPORT OF FACILITIES UP TO & INCL. 0.75 SF X-ING SEWERS OVER 36" UP TO & INCL. 48" IN DIAMETER**

| @ THE FOLLOWING LOCATIONS                        | QTY(EA)      |
|--|--------------|
| SWC OF INT OF YORK AVE & E. 62 <sup>ND</sup> ST. | 1            |
| <b>CET 103.1</b>                                 | <b>TOTAL</b> |
|  | <b>1</b>     |

**SEN 002169 – Construction of Combined Sewers in York Avenue, etc.,****Borough of Manhattan****Schedule U-2: Scope of Work for CET items****CET 103.2****SUPPORT OF FACILITIES OVER 0.75 SF UP TO & INCL. 2.00 SF X-ING  
SEWERS OVER 36" UP TO & INCL. 48" IN DIAMETER**

| <b>@ THE FOLLOWING LOCATIONS</b>                 |              | <b>QTY(EA)</b> |
|--|--------------|----------------|
| SWC OF INT OF YORK AVE & E. 62 <sup>ND</sup> ST. |              | 1              |
| <b>CET 103.2</b>                                 | <b>TOTAL</b> | <b>1</b>       |

**CET 103.3****SUPPORT OF FACILITIES OVER 2.00 SF UP TO & INCL. 6.00 SF X-ING  
SEWERS OVER 36" UP TO & INCL. 48" IN DIAMETER**

| <b>@ THE FOLLOWING LOCATIONS</b>                 |              | <b>QTY(EA)</b> |
|--|--------------|----------------|
| SWC OF INT OF YORK AVE & E. 62 <sup>ND</sup> ST. |              | 1              |
| <b>CET 103.3</b>                                 | <b>TOTAL</b> | <b>1</b>       |

**CET 108.1****SUPPORT OF FACILITIES UP TO & INCL. 0.75 SF X-ING WATER MAINS UP  
TO & INCL.12" IN DIAMETER.**

| <b>@ THE FOLLOWING LOCATIONS</b>  |              | <b>QTY(EA)</b> |
|---|--------------|----------------|
| NWC OF INT OF YORK AVE & E. 61 <sup>ST</sup> ST.                            |              | 1              |
| S. SIDE OF E. 62 <sup>ND</sup> ST. BETWEEN YORK AVE. & 1 <sup>ST</sup> AVE. |              | 2              |
| NWC OF INT OF YORK AVE & E. 62 <sup>ND</sup> ST.                            |              | 1              |
| <b>CET 108.1</b>  | <b>TOTAL</b> | <b>4</b>       |

**CET 108.2****SUPPORT OF FACILITIES OVER 0.75 SF UP TO & INCL. 2.00 SF X-ING  
WATER MAINS UP TO & INCL.12" IN DIAMETER.**

| <b>@ THE FOLLOWING LOCATIONS</b>  |              | <b>QTY(EA)</b> |
|---|--------------|----------------|
| NWC OF INT OF YORK AVE & E. 61 <sup>ST</sup> ST.                            |              | 1              |
| NEC OF INT OF YORK AVE & E. 61 <sup>ST</sup> ST.                            |              | 1              |
| E. SIDE OF YORK AVE BTWN E. 61 <sup>ST</sup> ST & E. 62 <sup>ND</sup> ST    |              | 1              |
| SEC OF INT OF YORK AVE & E. 62 <sup>ND</sup> ST.                            |              | 1              |
| S. SIDE OF E. 62 <sup>ND</sup> ST. BETWEEN YORK AVE. & 1 <sup>ST</sup> AVE. |              | 2              |
| <b>CET 108.2</b>  | <b>TOTAL</b> | <b>6</b>       |

## SEN 002169 – Construction of Combined Sewers in York Avenue, etc.,

## Borough of Manhattan

## Schedule U-2: Scope of Work for CET items

**CET 108.3**

**SUPPORT OF FACILITIES OVER 2.00 SF UP TO & INCL. 6.00 SF X-ING  
WATER MAINS UP TO & INCL. 12" IN DIAMETER.**

| @ THE FOLLOWING LOCATIONS  | QTY(EA)        |
|--|----------------|
| NEC OF INT OF YORK AVE & E. 61 <sup>ST</sup> ST.                         | 1              |
| E. SIDE OF YORK AVE BTWN E. 61 <sup>ST</sup> ST & E. 62 <sup>ND</sup> ST | 1              |
| SEC OF INT OF YORK AVE & E. 62 <sup>ND</sup> ST.                         | 1              |
| <b>CET 108.3</b>   | <b>TOTAL 3</b> |

**CET 109.1**

**SUPPORT OF FACILITIES UP TO & INCL. 0.75 SF X-ING WATER MAINS  
OVER 12" UP TO & INCL. 24" IN DIAMETER.**

| @ THE FOLLOWING LOCATIONS                        | QTY(EA)        |
|--|----------------|
| SEC OF INT OF YORK AVE & E. 62 <sup>ND</sup> ST. | 1              |
| SEC OF INT OF YORK AVE & E. 63 <sup>RD</sup> ST. | 1              |
| <b>CET 109.1</b>                                 | <b>TOTAL 2</b> |

**CET 109.2**

**SUPPORT OF FACILITIES OVER 0.75 SF UP TO & INCL. 2.00 SF X-ING  
WATER MAINS OVER 12" UP TO & INCL. 24" IN DIAMETER.**

| @ THE FOLLOWING LOCATIONS                        | QTY(EA)        |
|--|----------------|
| NEC OF INT OF YORK AVE & E. 61 <sup>ST</sup> ST. | 1              |
| SEC OF INT OF YORK AVE & E. 62 <sup>ND</sup> ST. | 1              |
| SEC OF INT OF YORK AVE & E. 63 <sup>RD</sup> ST. | 1              |
| <b>CET 109.2</b>                                 | <b>TOTAL 3</b> |

**CET 109.3**

**SUPPORT OF FACILITIES OVER 2.00 SF UP TO & INCL. 6.00 SF X-ING  
WATER MAINS OVER 12" UP TO & INCL. 24" IN DIAMETER.**

| @ THE FOLLOWING LOCATIONS                        | QTY(EA)        |
|--|----------------|
| SEC OF INT OF YORK AVE & E. 62 <sup>ND</sup> ST. | 1              |
| SEC OF INT OF YORK AVE & E. 63 <sup>RD</sup> ST. | 1              |
| <b>CET 109.3</b>                                 | <b>TOTAL 2</b> |

**SEN 002169 – Construction of Combined Sewers in York Avenue, etc.,**

**Borough of Manhattan**

**Schedule U-2: Scope of Work for CET items**

**CET 200**

**EXTRA DEPTH EXCAVATION OF CATCH BASIN CHUTE CONNECTION PIPES**

| <b>@ THE FOLLOWING LOCATIONS</b>                               |              | <b>QTY(LF)</b> |
|--|--------------|----------------|
| NEC OF INT OF YORK AVE & E. 61 <sup>ST</sup> ST., ON YORK AVE. |              | 35             |
| NEC OF INT OF YORK AVE & E. 62 <sup>ND</sup> ST., ON YORK AVE. |              | 45             |
| <b>CET 200</b>   | <b>TOTAL</b> | <b>80</b>      |

**CET 225**

**INSTALLATION AND/OR REMOVAL OF CATCH BASINS WITH UTILITY INTERFERENCES**

| <b>@ THE FOLLOWING LOCATIONS</b>  |              | <b>QTY(EA)</b> |
|---|--------------|----------------|
| NWC OF INT OF YORK AVE & E. 61 <sup>ST</sup> ST., ON YORK AVE.              |              | 1              |
| NEC OF INT OF YORK AVE & E. 61 <sup>ST</sup> ST., ON YORK AVE.              |              | 1              |
| NEC OF INT OF YORK AVE & E. 62 <sup>ND</sup> ST., ON YORK AVE.              |              | 1              |
| S. SIDE OF E. 62 <sup>ND</sup> ST. BETWEEN YORK AVE. & 1 <sup>ST</sup> AVE. |              | 2              |
| <b>CET 225</b>  | <b>TOTAL</b> | <b>5</b>       |

**CET 300**

**SPECIAL CARE EXCAVATION AND BACKFILLING**

| <b>@ THE FOLLOWING LOCATIONS</b>   |              | <b>QTY(CY)</b> |
|--|--------------|----------------|
| E. SIDE OF YORK AVE BTWN E. 62 <sup>ND</sup> ST & E. 63 <sup>RD</sup> ST |              | 27             |
| NEC OF INT OF YORK AVE & E. 61 <sup>ST</sup> ST., ON YORK AVE.           |              | 5              |
| <b>CET 300</b>   | <b>TOTAL</b> | <b>32</b>      |

**CET 330T**

**SUPPORT & PROTECTION OF COMMUNICATION UTILITY FACILITIES DURING EXCAVATION OF CITY TRENCH WHEN FACILITIES LIE IN OR IN CLOSE PROXIMITY TO TRENCH LIMITS**

| <b>@ THE FOLLOWING LOCATIONS</b>   |              | <b>QTY(LF)</b> |
|--|--------------|----------------|
| E. SIDE OF YORK AVE BTWN E. 62 <sup>ND</sup> ST & E. 63 <sup>RD</sup> ST |              | 120            |
| <b>CET 330T</b>  | <b>TOTAL</b> | <b>120</b>     |

**CET 400**

**TEST PITS**

**EST TOTAL: 10 CY**

## SEN 002169 – Construction of Combined Sewers in York Avenue, etc.,

## Borough of Manhattan

## Schedule U-2: Scope of Work for CET items

AS ENCOUNTERED & DIRECTED BY THE ECS FIELD REP.

## CET 401

## TRENCH EXCAVATION FOR ADJUSTMENT OF UTILITY FACILITIES

| @ THE FOLLOWING LOCATIONS                                      | QTY(CY)          |
|--|------------------|
| NEC OF INT OF YORK AVE & E. 61 <sup>ST</sup> ST., ON YORK AVE. | 54               |
| NEC OF INT OF YORK AVE & E. 61 <sup>ST</sup> ST., ON YORK AVE. | 72               |
| NWC OF INT OF YORK AVE & E. 62 <sup>ND</sup> ST., ON YORK AVE. | 36               |
| NEC OF INT OF YORK AVE & E. 62 <sup>ND</sup> ST., ON YORK AVE. | 54               |
| SWC OF INT OF YORK AVE & E. 62 <sup>ND</sup> ST., ON YORK AVE. | 72               |
| SWC OF INT OF YORK AVE & E. 62 <sup>ND</sup> ST., ON YORK AVE. | 72               |
| <b>CET 401</b>   | <b>TOTAL 360</b> |

## CET 402.1A

## EXISTING CONCRETE ENCASED CONDUITS PLACED IN FINAL POSITION WITH CONCRETE ENCASEMENT.

| @ THE FOLLOWING LOCATIONS                                      | QTY (LF)          |
|--|-------------------|
| NEC OF INT OF YORK AVE & E. 61 <sup>ST</sup> ST., ON YORK AVE. | 480               |
| NEC OF INT OF YORK AVE & E. 61 <sup>ST</sup> ST., ON YORK AVE. | 480               |
| NEC OF INT OF YORK AVE & E. 62 <sup>ND</sup> ST., ON YORK AVE. | 480               |
| SWC OF INT OF YORK AVE & E. 62 <sup>ND</sup> ST., ON YORK AVE. | 480               |
| <b>CET 402.1A</b>  | <b>TOTAL 1920</b> |

## CET 402.2A

## EXISTING NON-CONCRETE ENCASED CONDUITS PLACED IN FINAL POSITION WITHOUT CONCRETE ENCASEMENT.

| @ THE FOLLOWING LOCATIONS                                      | QTY (LF)         |
|--|------------------|
| NWC OF INT OF YORK AVE & E. 62 <sup>ND</sup> ST., ON YORK AVE. | 60               |
| SWC OF INT OF YORK AVE & E. 62 <sup>ND</sup> ST., ON YORK AVE. | 160              |
| <b>CET 402.2A</b>  | <b>TOTAL 220</b> |

## CET 403

## PLACING STEEL PROTECTION PLATES FOR UTILITY FACILITIES



**ECS**

**For information only**

**June 2010**

**SEN 002169 – Construction of Combined Sewers in York Avenue, etc.,**

**Borough of Manhattan**

**Schedule U-2: Scope of Work for CET items**

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**EST TOTAL: 50 SF**

**AS ENCOUNTERED & DIRECTED BY THE ECS FIELD REP**

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**CET 500**

**REMOVAL OF ABANDONED UTILITY CONDUITS (NON –CONCRETE  
ENCASED)**

**EST TOTAL: 25 LF**

**AS ENCOUNTERED & DIRECTED BY THE ECS FIELD REP**

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**CET 501**

**REMOVAL OF ABANDONED MASONRY FOR UTILITY FACILITIES**

|  |                                  |                |
|--|----------------------------------|----------------|
|  | <b>@ THE FOLLOWING LOCATIONS</b> | <b>QTY(CY)</b> |
| AS ENCOUNTERED & DIRECTED BY THE ECS FIELD REP |                                  | <b>5</b>       |
| <b>CET 501</b>                                 | <b>TOTAL</b>                     | <b>5</b>       |

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**CET 711**

**USE SHEETING LINE AS FORM**

|  |                                  |                |
|--|----------------------------------|----------------|
|  | <b>@ THE FOLLOWING LOCATIONS</b> | <b>QTY(LF)</b> |
| SEC OF INT OF YORK AVE & E. 63 <sup>RD</sup> ST. |                                  | <b>15</b>      |
| <b>CET 711</b>                                   | <b>TOTAL</b>                     | <b>15</b>      |

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**CET 1006V**

**6" VERTICAL OR HORIZONTAL WATER MAIN OFFSET**

|  |                                  |                |
|--|----------------------------------|----------------|
|  | <b>@ THE FOLLOWING LOCATIONS</b> | <b>QTY(EA)</b> |
| AS ENCOUNTERED & DIRECTED BY THE ECS FIELD REP |                                  | <b>2</b>       |
| <b>CET 1006V</b>                               | <b>TOTAL</b>                     | <b>2</b>       |

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**CET 1012V**

**12" VERTICAL OR HORIZONTAL WATER MAIN OFFSET**

|  |                                  |                |
|--|----------------------------------|----------------|
|  | <b>@ THE FOLLOWING LOCATIONS</b> | <b>QTY(EA)</b> |
| AS ENCOUNTERED & DIRECTED BY THE ECS FIELD REP |                                  | <b>2</b>       |
| <b>CET 1012V</b>                               | <b>TOTAL</b>                     | <b>2</b>       |

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**ECS**

**For information only**

**June 2010**

**SEN 002169 – Construction of Combined Sewers in York Avenue, etc.,**

**Borough of Manhattan**

**Schedule U-2: Scope of Work for CET items**

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|   |                |
|---|----------------|
| <b>CET 1020V</b>  |                |
| <b>20" VERTICAL OR HORIZONTAL WATER MAIN OFFSET</b>       |                |
| <b>@ THE FOLLOWING LOCATIONS</b>                          | <b>QTY(EA)</b> |
| <b>AS ENCOUNTERED &amp; DIRECTED BY THE ECS FIELD REP</b> | <b>2</b>       |
| <b>CET 1020V</b>  | <b>TOTAL 2</b> |

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**FOR INFORMATION ONLY**  
**ENGINEER'S ESTIMATE OF QUANTITIES AND TYPES OF INTERFERENCE**  
**TIME WARNER CABLE OF NEW YORK CITY**  
**SEN002169**  
**COMBINED SEWERS YORK AVE FROM EAST 61 ST TO EAST 63 ST**  
**Borough of Manhattan**

| CET ITEM | DESCRIPTION  | UNITS | ESTIMATED QUANTITY |
|----------|--|-------|--------------------|
| 100.1    | UTILITIES CROSSING TRENCH FOR CB CHUTE CONNECTION                          | EA    | 4                  |
| 103.1    | UTILITIES CROSSING TRENCH FOR SEWERS OVER 36" TO 48" DIAMETER              | EA    | 1                  |
| 107.1    | UTILITIES CROSSING TRENCH FOR SEWERS OVER 72" TO 84" DIAMETER              | EA    | 6                  |
| 108.1    | UTILITIES CROSSING TRENCH FOR WATER MAIN UP TO & INCLUDING 12" DIAMETER    | EA    | 4                  |
| 109.1    | UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 12" DIAMETER TO 24" DIAMETER | EA    | 8                  |
| 225      | INSTALLATION / REMOVAL OF CATCH BASINS WITH UTILITY INTERFERENCES          | EA    | 3                  |
| 330      | SUPPORT AND PROTECTION OF UTILITY IN CITY TRENCH                           | LF    | 242                |

**TIME WARNER CABLE  
SUPPORT & PROTECTION  
SEN002168  
COMBINED SEWERS YORK AVE FROM EAST 61 STREET TO E 63 STREET  
Borough of Manhattan**

|  |           |
|--|-----------|
| <b>CET100.1 UTILITIES CROSSING TRENCH FOR CATCH BASIN CHUTE CONNECTION</b>                   | <b>EA</b> |
| At the following locations:  |           |
| NEC York Ave & 61 St   | 1         |
| E 62 St W/O York Ave   | 2         |
| NEC York Ave & 62 St   | 1         |
| Total quantity for CET 100.1   | 4         |
| <br>   |           |
| <b>CET103.1 UTILITIES CROSSING TRENCH FOR SEWERS OVER 36" TO 48" DIAMETER</b>                | <b>EA</b> |
| At the following locations:  |           |
| SWC York Ave & E 62 St   | 1         |
| Total quantity for CET 103.1   | 1         |
| <br>   |           |
| <b>CET 107.1 UTILITIES CROSSING TRENCH FOR SEWERS OVER 72" TO 84" DIAMETER</b>               | <b>EA</b> |
| At the following locations:  |           |
| Intersection of E 61 St & York Ave   | 1         |
| Intersection of E 62 St & York Ave   | 2         |
| WS York Ave bet E 62 St & E63 St   | 2         |
| NWC York Ave & E 62 St   | 1         |
| Total quantity for CET 107.1   | 6         |
| <br>   |           |
| <b>CET 108.1 UTILITIES CROSSING TRENCH FOR WATER MAIN UP TO &amp; INCLUDING 12" DIAMETER</b> | <b>EA</b> |
| At the following locations:  |           |
| NEC York Ave & E 61 St   | 1         |
| NWC York Ave & E 61 St   | 1         |
| SWC York Ave & E 62 St   | 1         |
| NWC York Ave & E 62 St   | 1         |
| Total quantity for CET 108.1   | 4         |
| <br>   |           |
| <b>CET 109.1 UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 12" TO 24" DIAMETER</b>           | <b>EA</b> |
| At the following location:   |           |
| Intersection of E 61 St & York Ave   | 1         |
| Intersection of E 62 St & York Ave   | 1         |
| ES York Ave bet E 62 St & E 63 St  | 1         |
| ES York Ave Intersection of E 63 St  | 2         |
| WS York Ave Intersection of E 63 St  | 2         |
| NWC York Ave & E 63 St   | 1         |
| Total quantity for CET 109.1   | 8         |

|               |  |            |
|---------------|--|------------|
| <b>CET225</b> | <b>INSTALLATION / REMOVAL OF CATCH BASINS WITH UTILITY INTERFERENCES</b> | <b>EA</b>  |
|               | At the following location:   |            |
|               | NEC York Ave & E 61 St   | 1          |
|               | NEC York Ave & E 62 St   | 1          |
|               | NWC York Ave & E 62 St   | 1          |
|               | <b>Total quantity for CET 225</b>  | <b>3</b>   |
| <br>          |  |            |
| <b>CET330</b> | <b>SUPPORT AND PROTECTION OF UTILITY IN CITY TRENCH</b>                  | <b>LF</b>  |
|               | At the following locations:  |            |
|               | ES York Ave from E 62 St to mid block                                    | 77         |
|               | NWC York Ave & E 62 St   | 17         |
|               | WS York Ave bet E 62 St & E 63 St  | 134        |
|               | INT York Ave & E 62 St   | 7          |
|               | NWC York Ave & E 63 St   | 7          |
|               | <b>Total quantity for CET 330</b>  | <b>242</b> |



**RCN TELECOM SERVICES OF NEW YORK**  
**NYC DDC CONTRACT NO. SEN002169**  
**COMBINED SEWER / WATERMAIN REPLACEMENT**  
**BOROUGH OF MANHATTAN**

***ENGINEER ESTIMATE***

| <b>ITEM NO.</b> | <b>ITEM DESCRIPTION</b>   | <b>UNIT</b> | <b>QTY.</b> |
|-----------------|---|-------------|-------------|
| CET 109         | UTILITY. XING WATERMAINS UP TO 12''to<br>24''-.75SF                             | EA.         | 4           |
| CET 330T        | SUPPORT & PROTECT COMM. FACILITIES IN<br>OR IN CLOSE PROXIMITY TO TRENCH LIMITS | LF.         | 360'        |
| CET 103         | UTILITY XING SEWER 36'' TO 48'' DIAMETER  | EA.         | 3           |
| CET 108         | UTILITY. XING WATER MAIN UP TO 12'' UP<br>TO .75SF.                             | EA.         | 5           |

**RCN TELECOM SERVICES OF NEW YORK**  
**SUPPORT & PROTECTION**  
**DDC PROJECT NUMBER : SEN002169**  
**COMBINED SEWER / WATER MAIN REPLACEMENT**  
**Borough of Manhattan**

|                      |  |                |
|----------------------|--|----------------|
| <b>CET 108.1</b>     | <b>UTILITIES CROSSING TRENCH FOR WATER MAIN UP TO &amp; INCLUDING 12" DIAMETER</b>   | <b>EA.</b>     |
|                      | INTERSECTION YORK AVE & E.61ST STREET  | 2              |
|                      | S/S E.61ST STREET W/O YORK AVE   | 3              |
|                      | <b>TOTAL</b>   | <b>5</b>       |
| <br><b>CET 330T1</b> | <br><b>SUPPORT &amp; PROTECTION OF COMMUNICATION UTILITY FACILITIES DURING EXCAVATION OF CITY TRENCH WHEN PARALLELING COMMUNICATION FACILITIES LIE COMPLETELY IN THE PROPOSED TRENCH</b> | <br><b>LF.</b> |
|                      | W/S YORK AVENUE S/O E.63RD STREET  | 110            |
|                      | W/S YORK AVENUE S/O 62ND STREET  | 140            |
|                      | INTERSECTION YORK AVENUE & E.61ST STREET   | 40             |
|                      | E.61ST STREET W/O YORK AVENUE  | 70             |
|                      | <b>TOTAL</b>   | <b>360</b>     |
| <br><b>CET 103.1</b> | <br><b>UTILITIES CROSSING TRENCH FOR SEWER OVER 36" TO 48" DIAMETER (TYPE 1)</b>   | <br><b>EA.</b> |
|                      | W/S YORK AVENUE B/T E.62ND TO E.63RD STREET  | 1              |
|                      | W/S YORK AVENUE S/O E.62ND STREET  | 2              |
|                      | <b>TOTAL</b>   | <b>3</b>       |
| <br><b>CET 109.1</b> | <br><b>UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 12" AND UP TO 24" DIAMETER (TYPE 1)</b>   | <br><b>EA.</b> |
|                      | INTERSECTION YORK AVENUE & E.63RD STREET   | 2              |
|                      | INTERSECTION YORK AVENUE & E.62ND STREET   | 1              |
|                      | INTERSECTION YORK AVENUE & E.61ST STREET   | 1              |
|                      | <b>TOTAL</b>   | <b>4</b>       |

**NO TEXT ON THIS PAGE**



## **SECTION 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)



Consolidated Edison  
Company of New York, Inc.

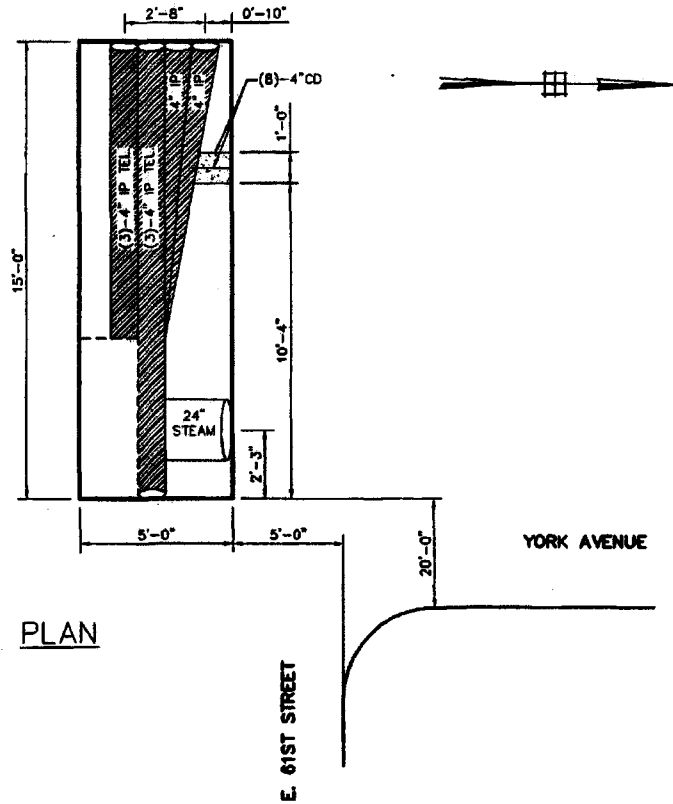
SHEET NO. 1 OF XX

conEdison  
a consolidated Edison company

JOB: COMB. SWRS IN YORK AVE. PREPARED BY: CA DATE: 02/17/2011  
 JOB NO: SEN002169 CHECKED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

TEST PIT # 1 LOCATION: N/INT. OF YORK AVENUE AND E. 61ST STREET  
 PURPOSE: LOCATE FACILITIES

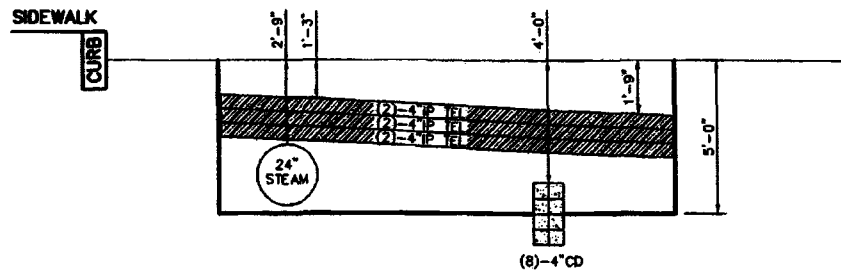
TEST PIT DIMENSION 5'-0"X15'-0"X5'-0"



PLAN

NOTE:  
 1. ALL DRAWINGS SHOWING UTILITY  
 SUPPORT AND PROTECT WORK ARE  
 FOR REFERENCE ONLY.

CET  
 ITEMS



SECTION LOOKING SOUTH



Consolidated Edison  
Company of New York, Inc.

SHEET NO. 2 OF XX

conEdison  
a Consolidated Edison, Inc. company

JOB: COMB. SWRS IN YORK AVE. PREPARED BY: CA DATE: 02/22/2011

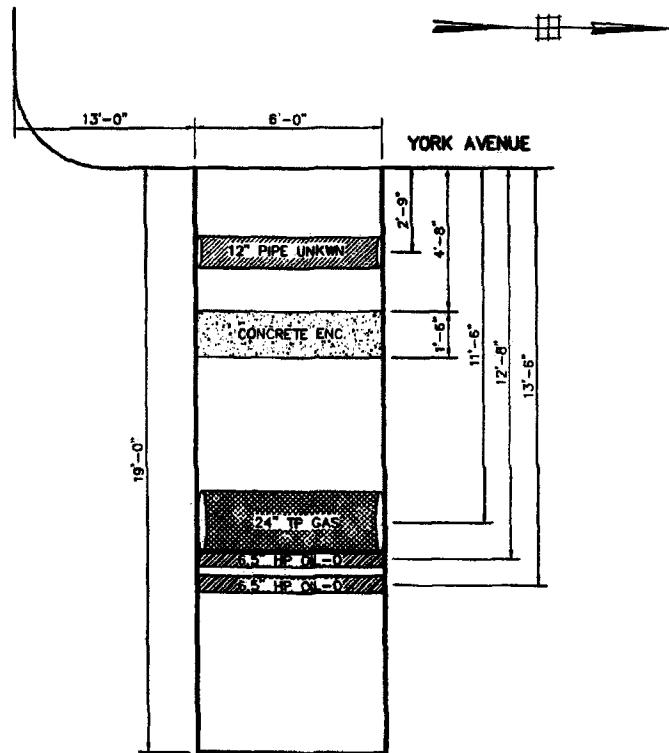
JOB NO: SEN002169 CHECKED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

TEST PIT # 2 LOCATION: W/S YORK AVENUE + 13' N/O E. 61ST STREET

PURPOSE: LOCATE FACILITIES

TEST PIT DIMENSION 6'-0" X 10'-0" X 5'-0"

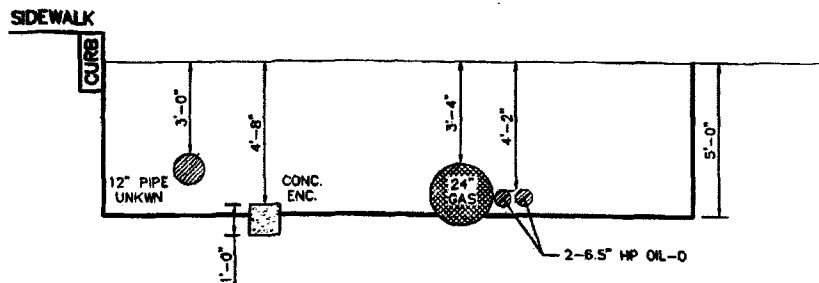
E. 61ST STREET



NOTE:  
1. ALL DRAWINGS SHOWING UTILITY  
SUPPORT AND PROTECT WORK ARE  
FOR REFERENCE ONLY.

PLAN

CET  
ITEMS



SECTION LOOKING NORTH



Consolidated Edison  
Company of New York, Inc.

SHEET NO. 3 OF XX

conEdison  
a Consolidated Edison Company

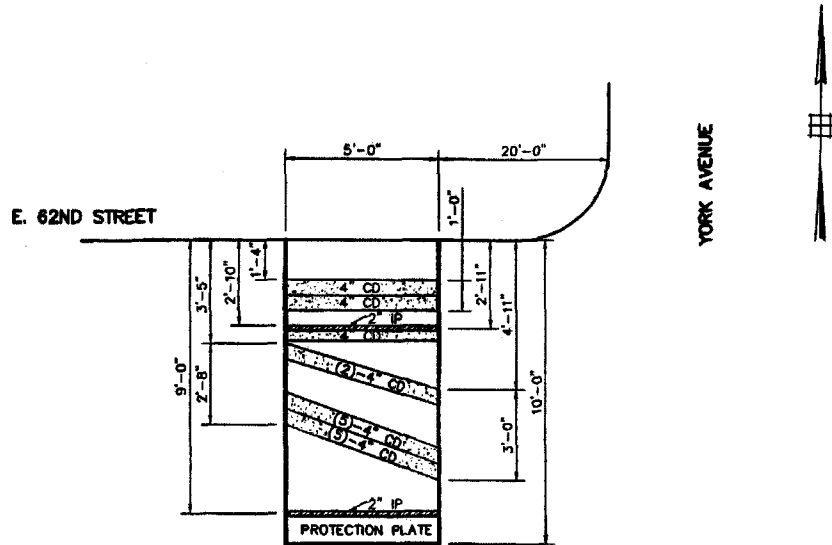
JOB: COMB. SWRS IN YORK AVE. PREPARED BY: CA DATE: 02/23/2011

JOB NO: SEN002169 CHECKED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

TEST PIT # 4 LOCATION: N/S E. 62ND STREET +20' W/O YORK AVENUE

PURPOSE: LOCATE FACILITIES

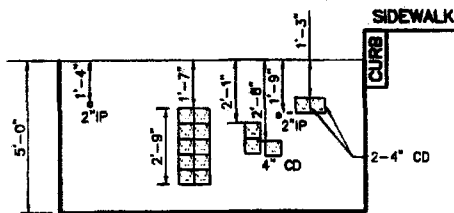
TEST PIT DIMENSION 5'-0"X10'-0"X5'-0"



PLAN

NOTE:  
1. ALL DRAWINGS SHOWING UTILITY  
SUPPORT AND PROTECT WORK ARE  
FOR REFERENCE ONLY.

CET  
ITEMS



SECTION LOOKING WEST



Consolidated Edison  
Company of New York, Inc.

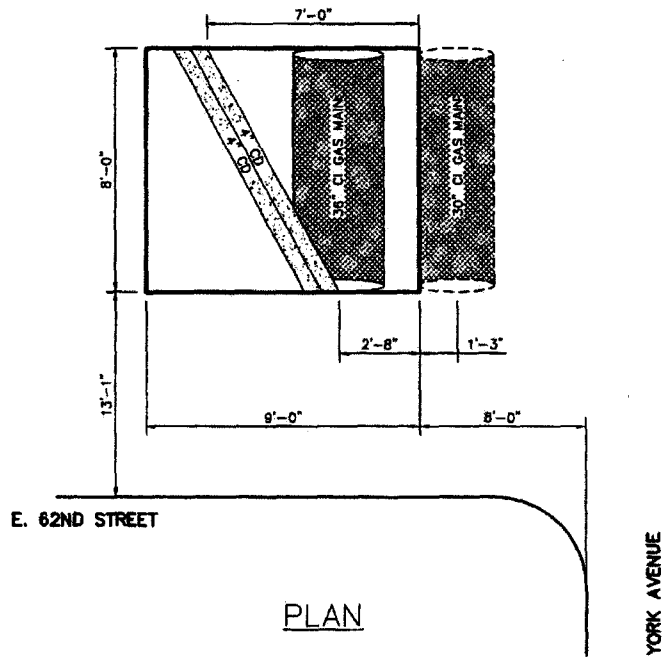
SHEET NO. 4 OF XX

conEdison  
a Consolidated Edison, Inc. company

JOB: COMB. SWRS IN YORK AVE. PREPARED BY: CA DATE: 02/23/2011  
 JOB NO: SEN002169 CHECKED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

TEST PIT # 4A LOCATION: W/INT. YORK AVENUE AND E. 62ND STREET  
 PURPOSE: LOCATE FACILITIES

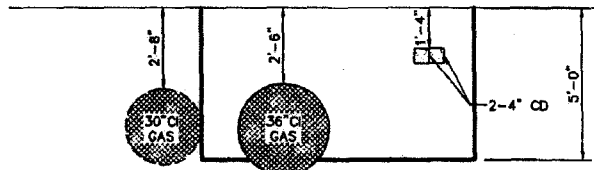
TEST PIT DIMENSION 9'-0"X8'-0"X5'-0"



PLAN

NOTE:  
1. ALL DRAWINGS SHOWING UTILITY  
SUPPORT AND PROTECT WORK ARE  
FOR REFERENCE ONLY.

CET  
ITEMS



SECTION LOOKING SOUTH



Consolidated Edison  
Company of New York, Inc.

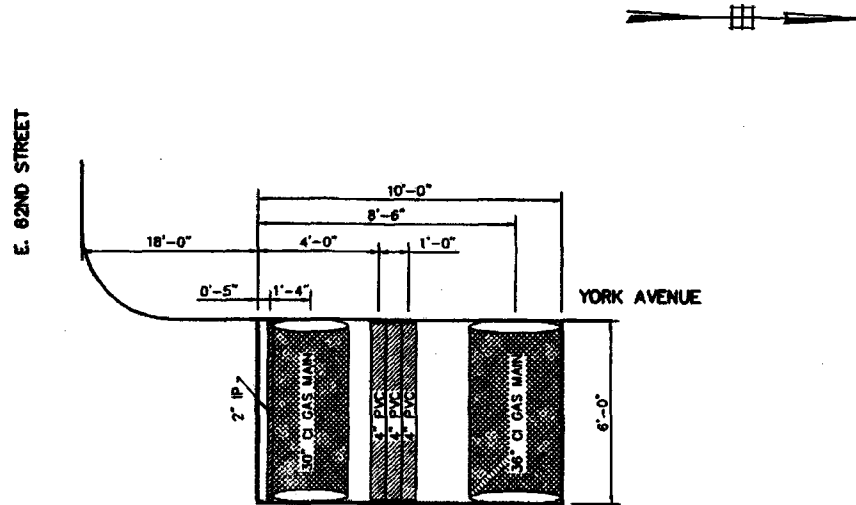
SHEET NO. 5 OF XX

conEdison  
A Consolidated Edison Company

JOB: COMB. SWRS IN YORK AVE. PREPARED BY: CA DATE: 02/24/2011  
 JOB NO: SEN002169 CHECKED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

TEST PIT # 5 LOCATION: W/S YORK AVENUE + 18' N/O E. 62ND STREET  
 PURPOSE: LOCATE FACILITIES

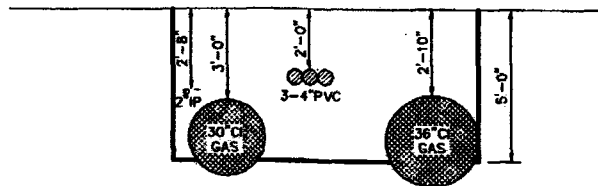
TEST PIT DIMENSION 6'-0"X10'-0"X5'-0"



PLAN

NOTE:  
 1. ALL DRAWINGS SHOWING UTILITY  
 SUPPORT AND PROTECT WORK ARE  
 FOR REFERENCE ONLY.

CET  
 ITEMS



SECTION LOOKING WEST



Consolidated Edison  
Company of New York, Inc.

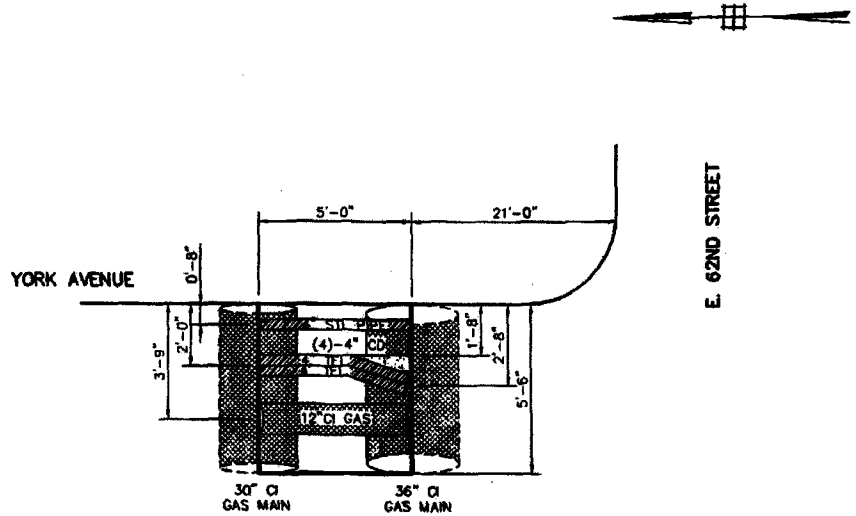
SHEET NO. 6 OF XX

conEdison  
a Consolidated Edison Company

JOB: COMB. SWRS IN YORK AVE. PREPARED BY: CA DATE: 02/24/2011  
 JOB NO: SEN002169 CHECKED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

TEST PIT # 6 LOCATION: E/S YORK AVENUE + 21' N/O E. 62ND STREET  
 PURPOSE: LOCATE FACILITIES

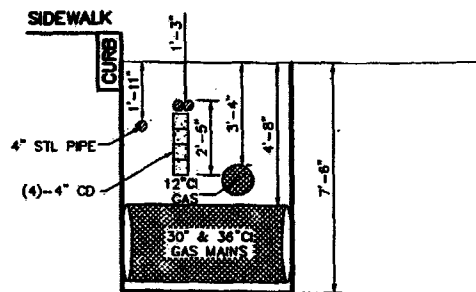
TEST PIT DIMENSION 5'-0"X5'-6"X7'-6"



PLAN

NOTE:  
1. ALL DRAWINGS SHOWING UTILITY  
SUPPORT AND PROTECT WORK ARE  
FOR REFERENCE ONLY.

CET  
ITEMS



SECTION LOOKING SOUTH





Consolidated Edison  
Company of New York, Inc.

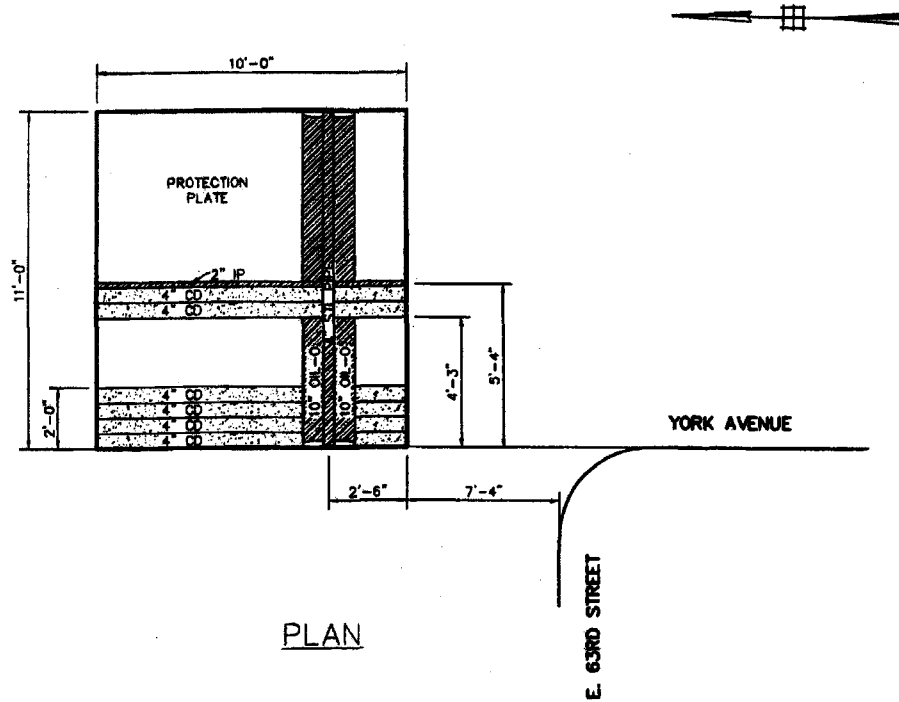
SHEET NO. 7 OF XX

conEdison  
a consolidated Edison company

JOB: COMB. SWRS IN YORK AVE. PREPARED BY: CA DATE: 02/28/2011  
JOB NO: SEN002169 CHECKED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

TEST PIT # 7 LOCATION: SWC YORK AVENUE AND E. 63RD STREET  
PURPOSE: LOCATE FACILITIES

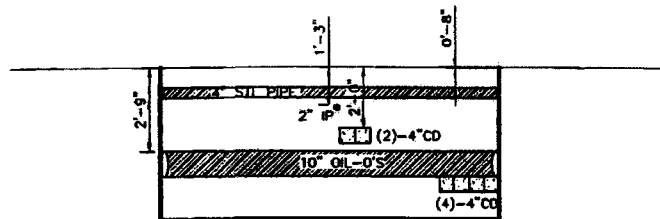
TEST PIT DIMENSION 10'-0"X11'-0"X5'-0"



PLAN

NOTE:  
1. ALL DRAWINGS SHOWING UTILITY  
SUPPORT AND PROTECT WORK ARE  
FOR REFERENCE ONLY.

CET  
ITEMS



SECTION LOOKING SOUTH



Consolidated Edison  
Company of New York, Inc.

SHEET NO. 8 OF XX

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a consolidated Edison company

JOB: COMB. SWRS IN YORK AVE.

PREPARED BY: CA

DATE: 02/28/2011

JOB NO: SEN002169

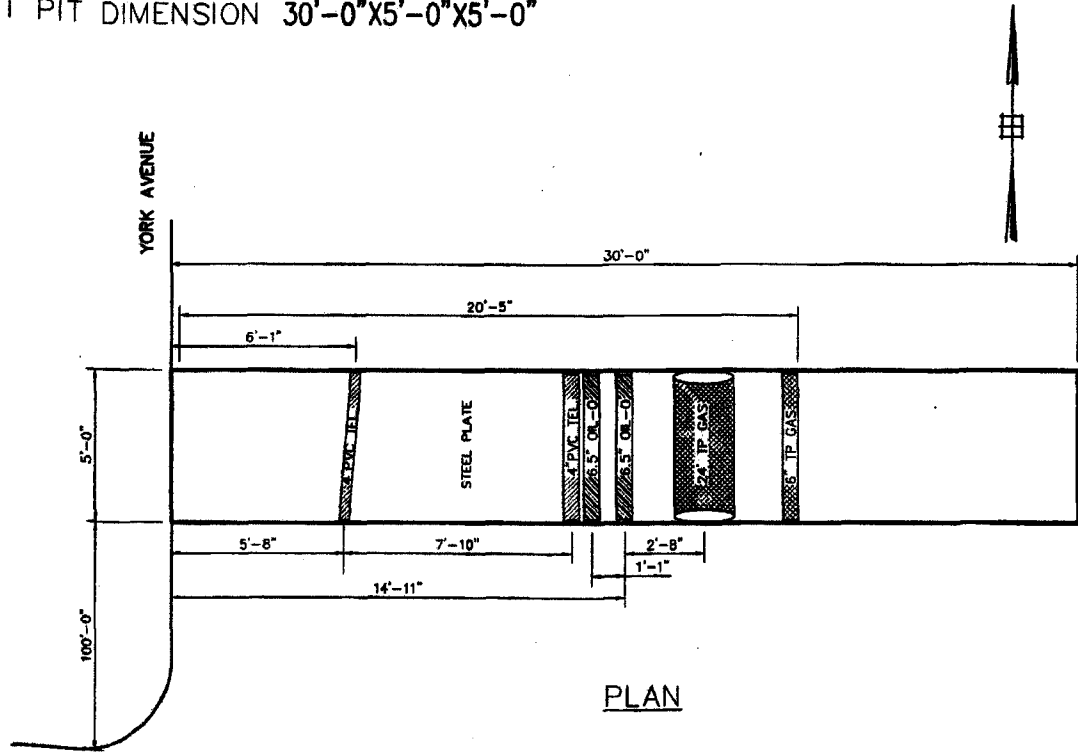
CHECKED BY: \_\_\_\_\_

DATE: \_\_\_\_\_

TEST PIT # 9 LOCATION: W/S YORK AVENUE +100' N/O E. 62ND STREET

PURPOSE: LOCATE FACILITIES

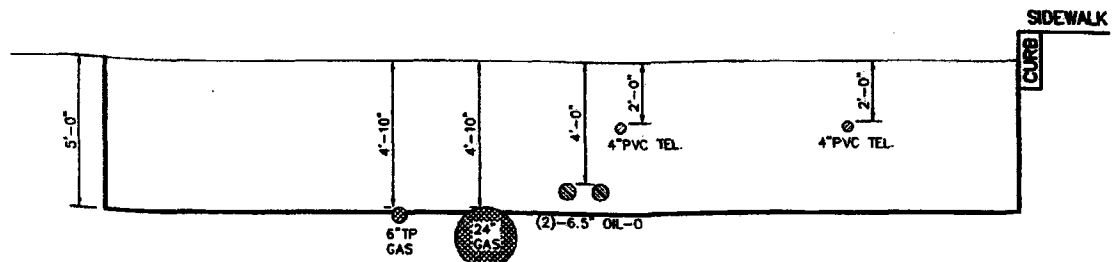
TEST PIT DIMENSION 30'-0"X5'-0"X5'-0"



PLAN

NOTE:  
1. ALL DRAWINGS SHOWING UTILITY  
SUPPORT AND PROTECT WORK ARE  
FOR REFERENCE ONLY.

CET  
ITEMS



SECTION LOOKING SOUTH



Consolidated Edison  
Company of New York, Inc.

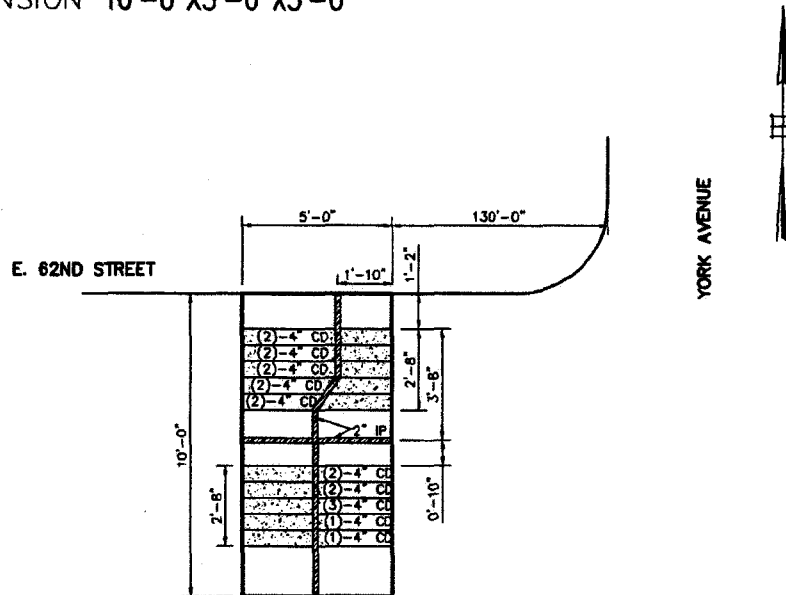
SHEET NO. 8 OF XX

conEdison  
a Consolidated Edison, Inc. company

JOB: COMB. SWRS IN YORK AVE. PREPARED BY: CA DATE: 02/28/2011  
JOB NO: SEN002169 CHECKED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

TEST PIT # 8 LOCATION: N/S E. 62ND STREET +130' W/O YORK AVENUE  
PURPOSE: LOCATE FACILITIES

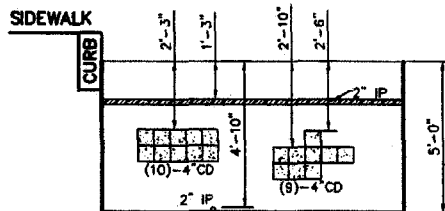
TEST PIT DIMENSION 10'-0"X5'-0"X5'-0"



PLAN

NOTE:  
1. ALL DRAWINGS SHOWING UTILITY  
SUPPORT AND PROTECT WORK ARE  
FOR REFERENCE ONLY.

CET  
ITEMS



SECTION LOOKING EAST



Consolidated Edison  
Company of New York, Inc.

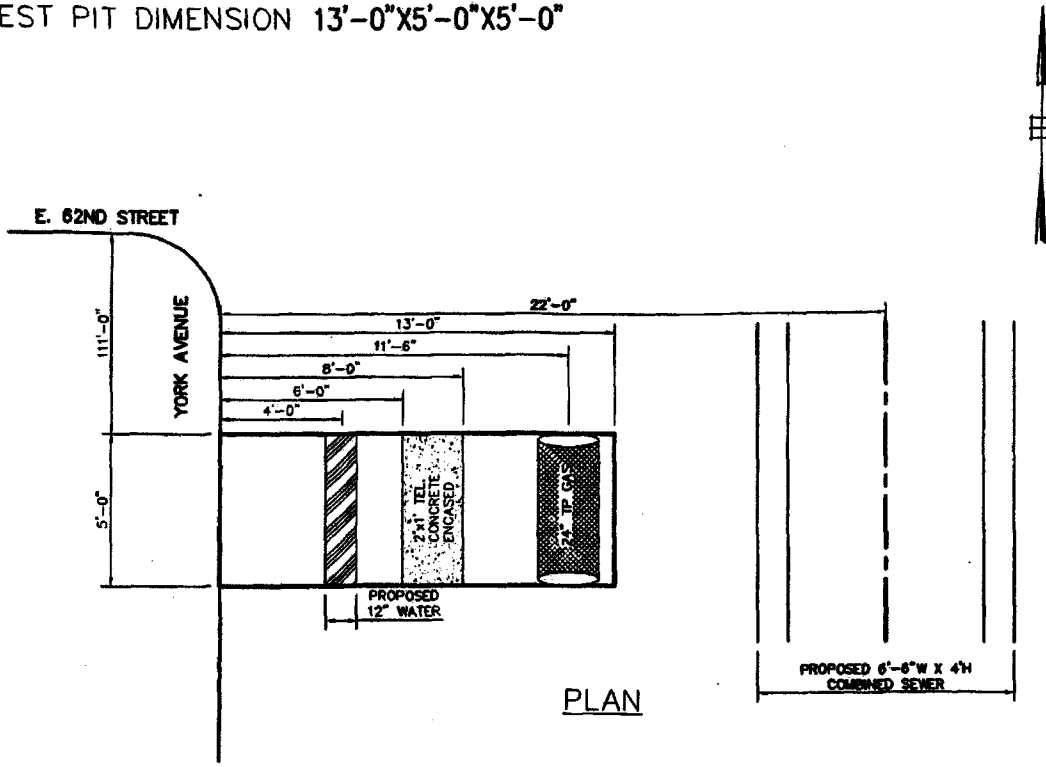
SHEET NO. 9 OF XX

conEdison  
a Consolidated Edison, Inc. company

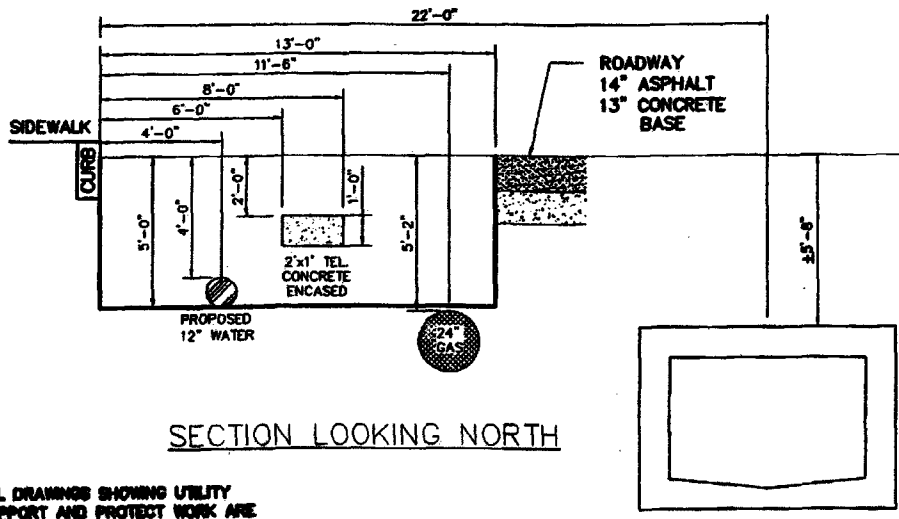
JOB: COMB. SWRS IN YORK AVE. PREPARED BY: CA DATE: 08/26/2014  
 JOB NO: SEN002169 CHECKED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

TEST PIT # 10 LOCATION: W/S YORK AVENUE +111' S/O E. 62ND STREET  
 PURPOSE: LOCATE FACILITIES

TEST PIT DIMENSION 13'-0" X 5'-0" X 5'-0"



PLAN



SECTION LOOKING NORTH

NOTE:  
 1. ALL DRAWINGS SHOWING UTILITY  
 SUPPORT AND PROTECT WORK ARE  
 FOR REFERENCE ONLY.

PROPOSED 6'-8" X 4" COMBINED SEWER



Consolidated Edison  
Company of New York, Inc.

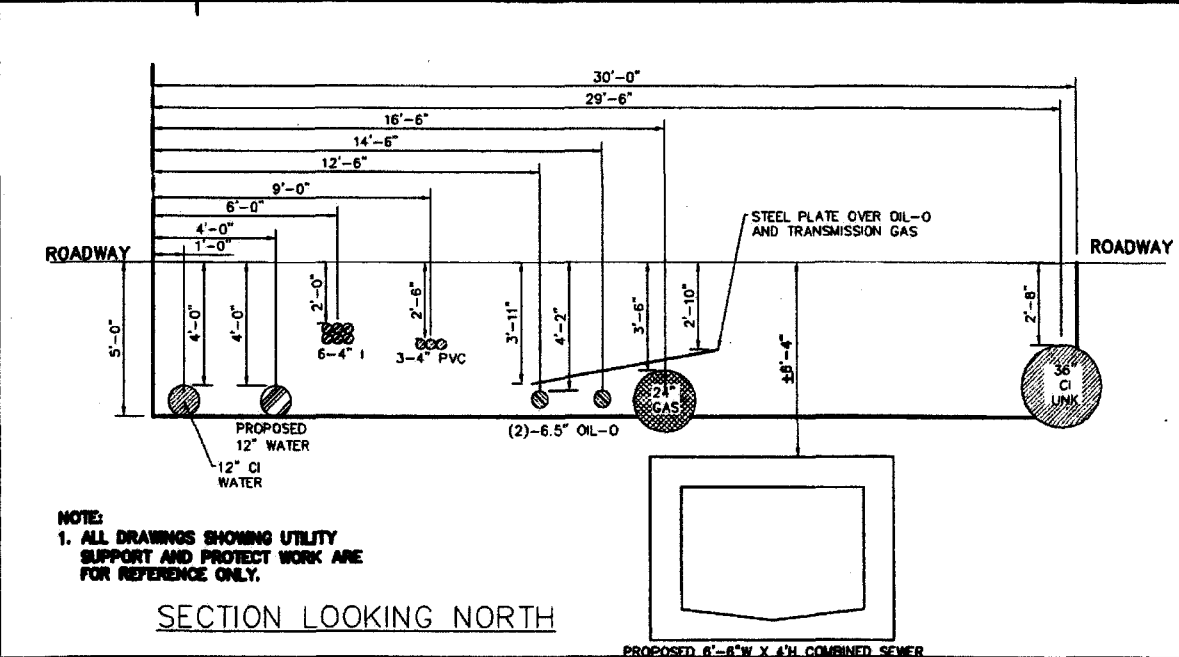
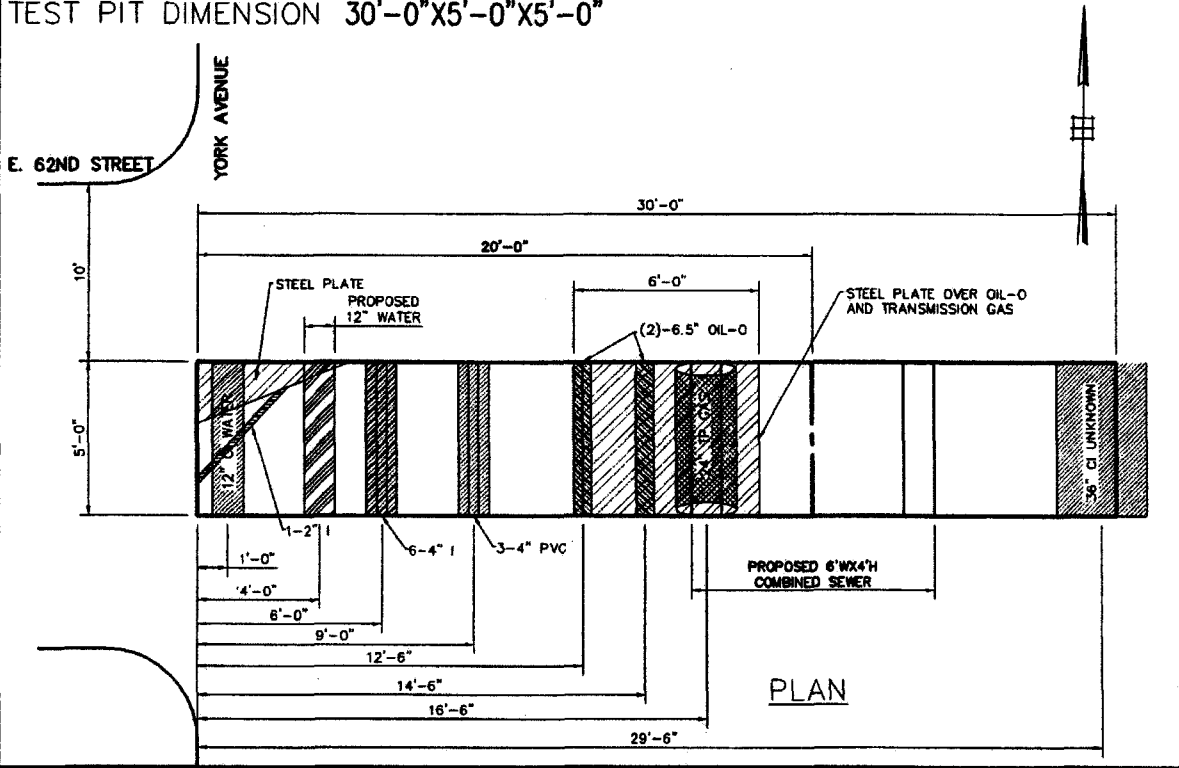
SHEET NO. 10 OF XX

conEdison  
a Consolidated Edison, Inc. company

JOB: COMB. SWRS IN YORK AVE. PREPARED BY: CA DATE: 08/26/2014  
 JOB NO: SENO02169 CHECKED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

TEST PIT # 11 LOCATION: W/S YORK AVENUE +10' S/N/C E. 62ND STREET  
 PURPOSE: LOCATE FACILITIES

TEST PIT DIMENSION 30'-0"X5'-0"X5'-0"



NOTE:  
1. ALL DRAWINGS SHOWING UTILITY  
SUPPORT AND PROTECT WORK ARE  
FOR REFERENCE ONLY.

SECTION LOOKING NORTH



Consolidated Edison  
Company of New York, Inc.

SHEET NO. 11 OF XX

conEdison  
a consolidated Edison company

JOB: COMB. SWRS IN YORK AVE.

PREPARED BY: CA

DATE: 08/26/2014

JOB NO: SEN002169

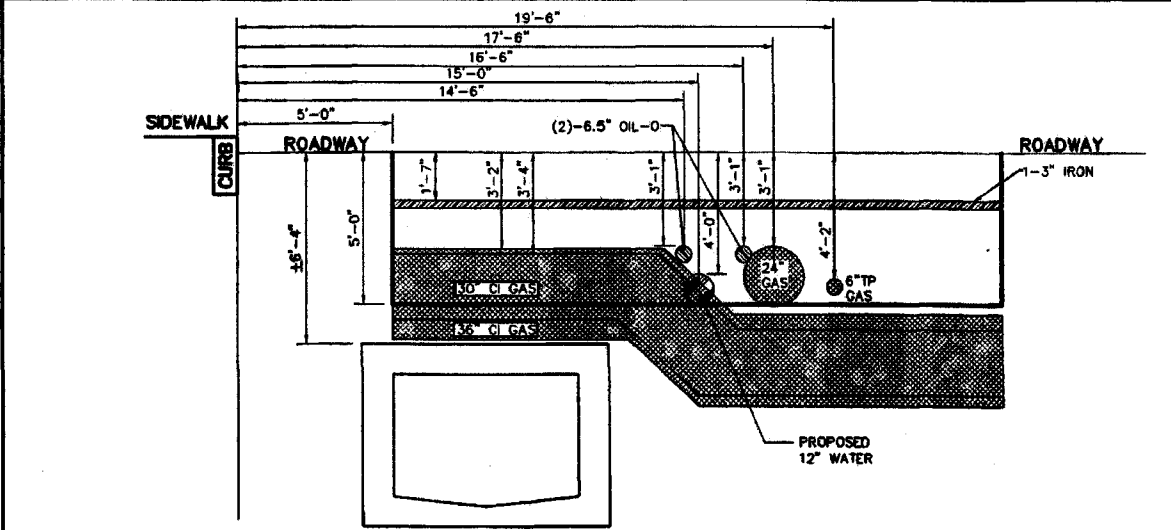
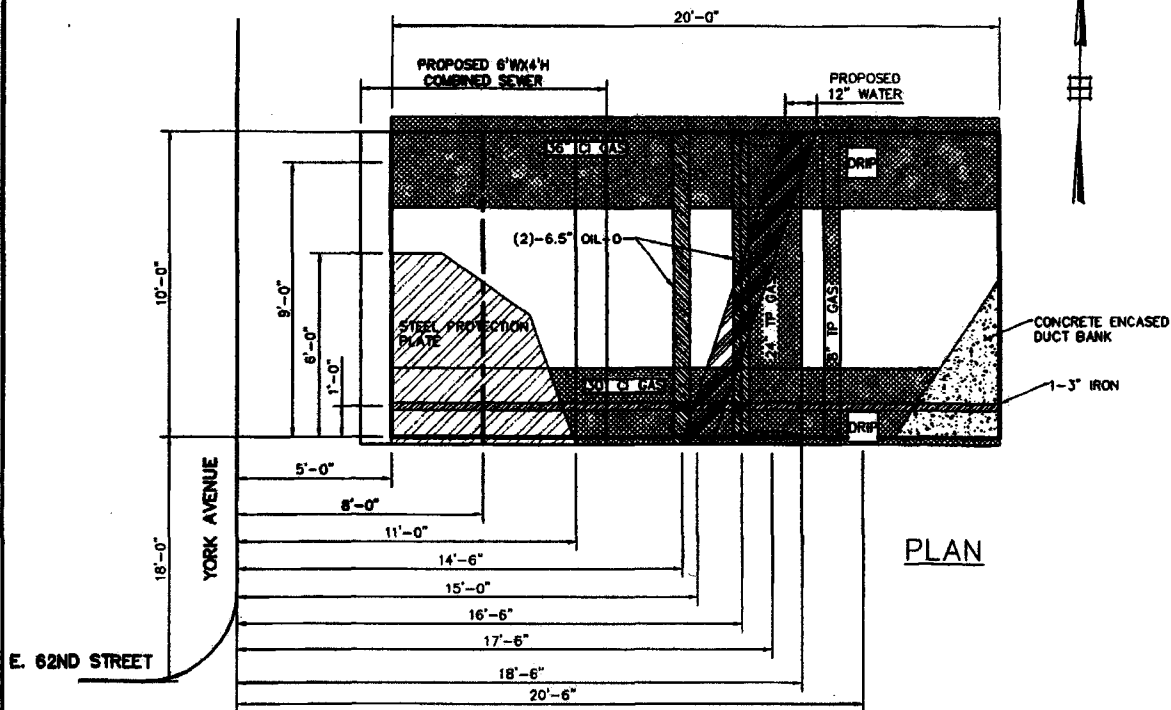
CHECKED BY:

DATE:

TEST PIT # 12 LOCATION: 5' E/W/C YORK AVENUE 18' N/N/C E. 62ND STREET

PURPOSE: LOCATE FACILITIES

TEST PIT DIMENSION 20'-0" X 10'-0" X 5'-0"



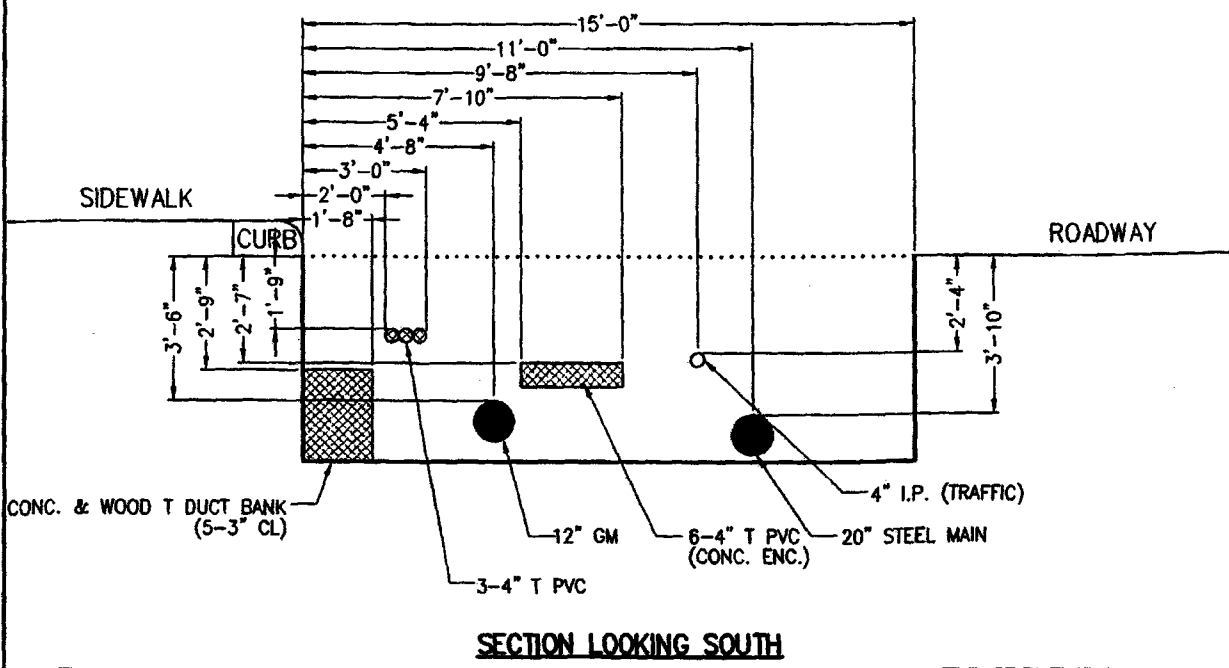
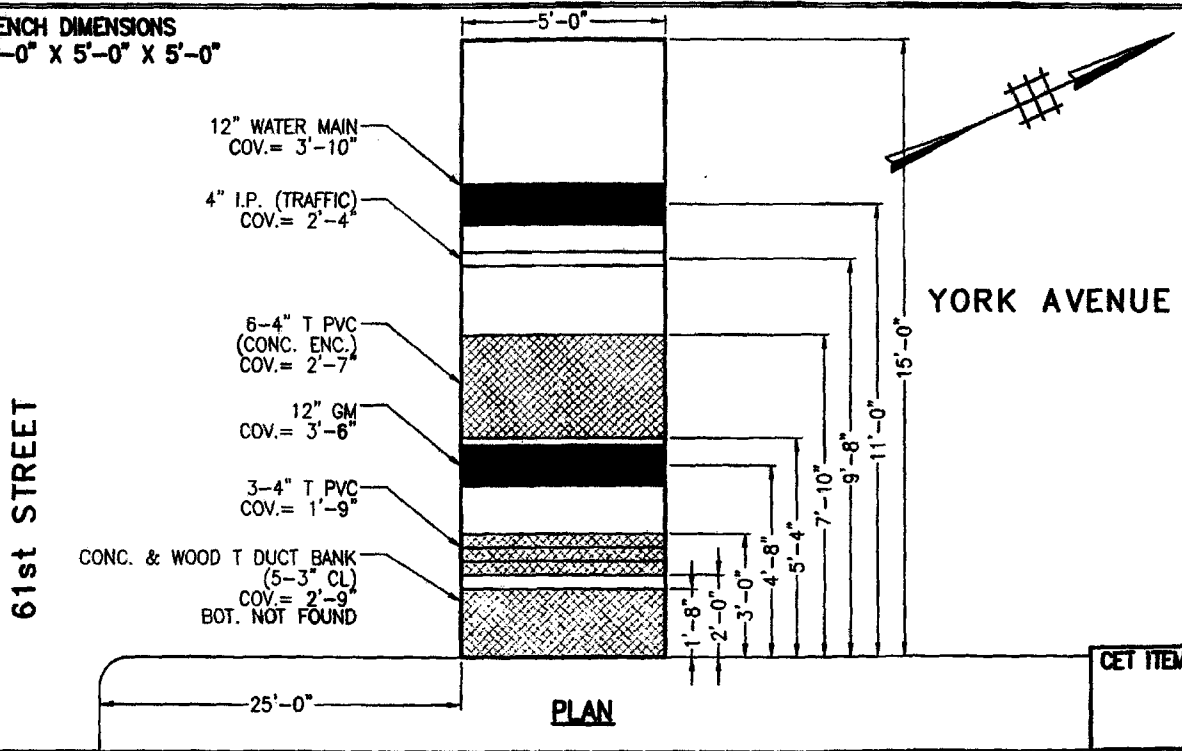
NOTE:  
1. ALL DRAWINGS SHOWING UTILITY  
SUPPORT AND PROTECT WORK ARE  
FOR REFERENCE ONLY.

SECTION LOOKING NORTH

JOB: YORK AVE. CATCH BASINS PREPARED BY: ANDREW MATARAZZO DATE: 5-15-10  
 JOB NO: SEN002169 CHECKED BY: LIAM MADDEN DATE: 5-17-10

TEST PIT #2 LOCATION: YORK AVE. BTWN E. 61ST & E. 62ND STS.  
 PURPOSE: LOCATE UTILITIES

TRENCH DIMENSIONS  
 15'-0" X 5'-0" X 5'-0"



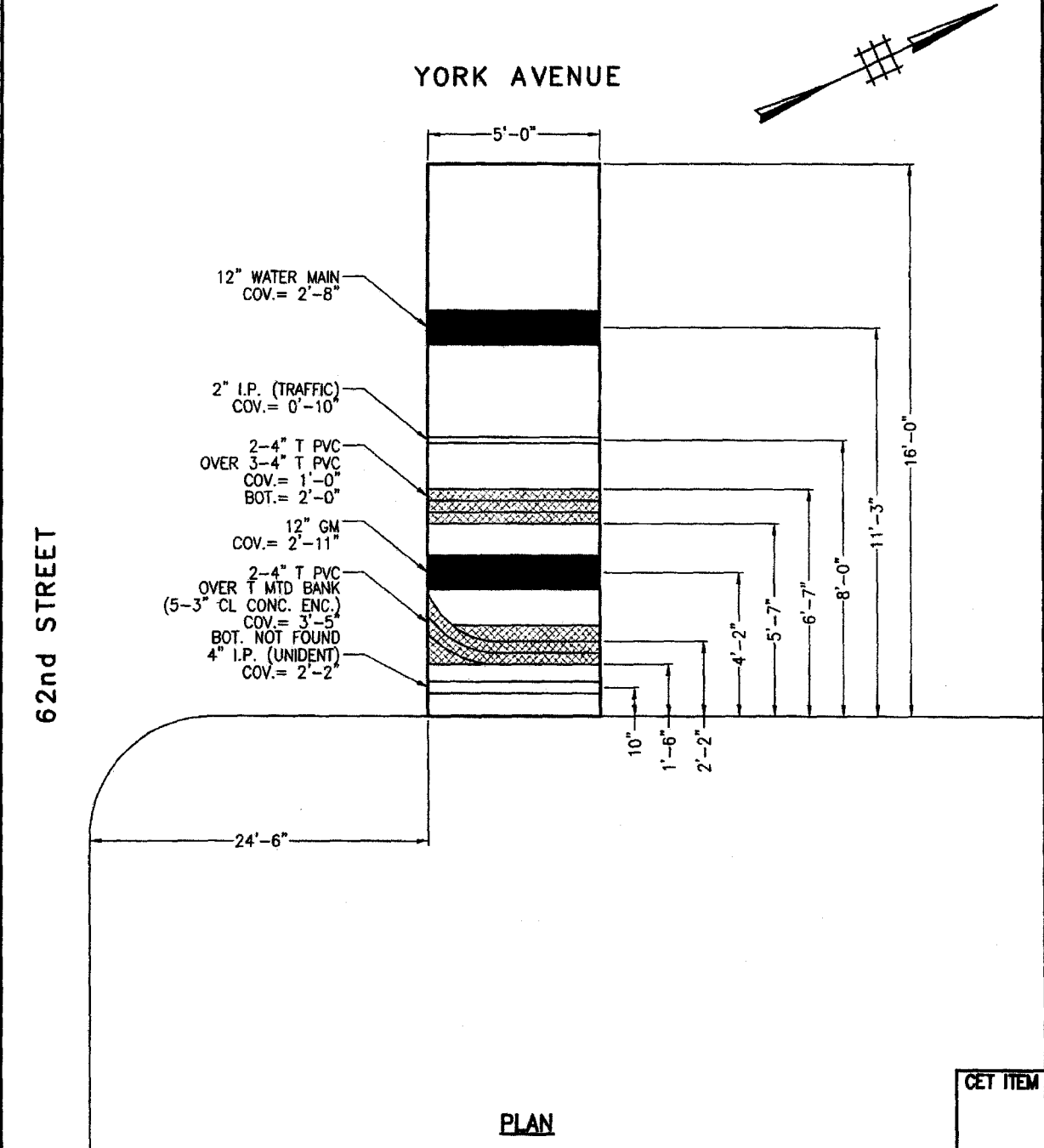
JOB: YORK AVE. CATCH BASINS PREPARED BY: ANDREW MATARAZZO DATE: 5-15-10

JOB NO: SEN002169 CHECKED BY: LIAM MADDEN DATE: 5-17-10

TEST PIT \*3 LOCATION: YORK AVE. BTWN E. 62ND & E. 63RD STS.

PURPOSE: LOCATE UTILITIES

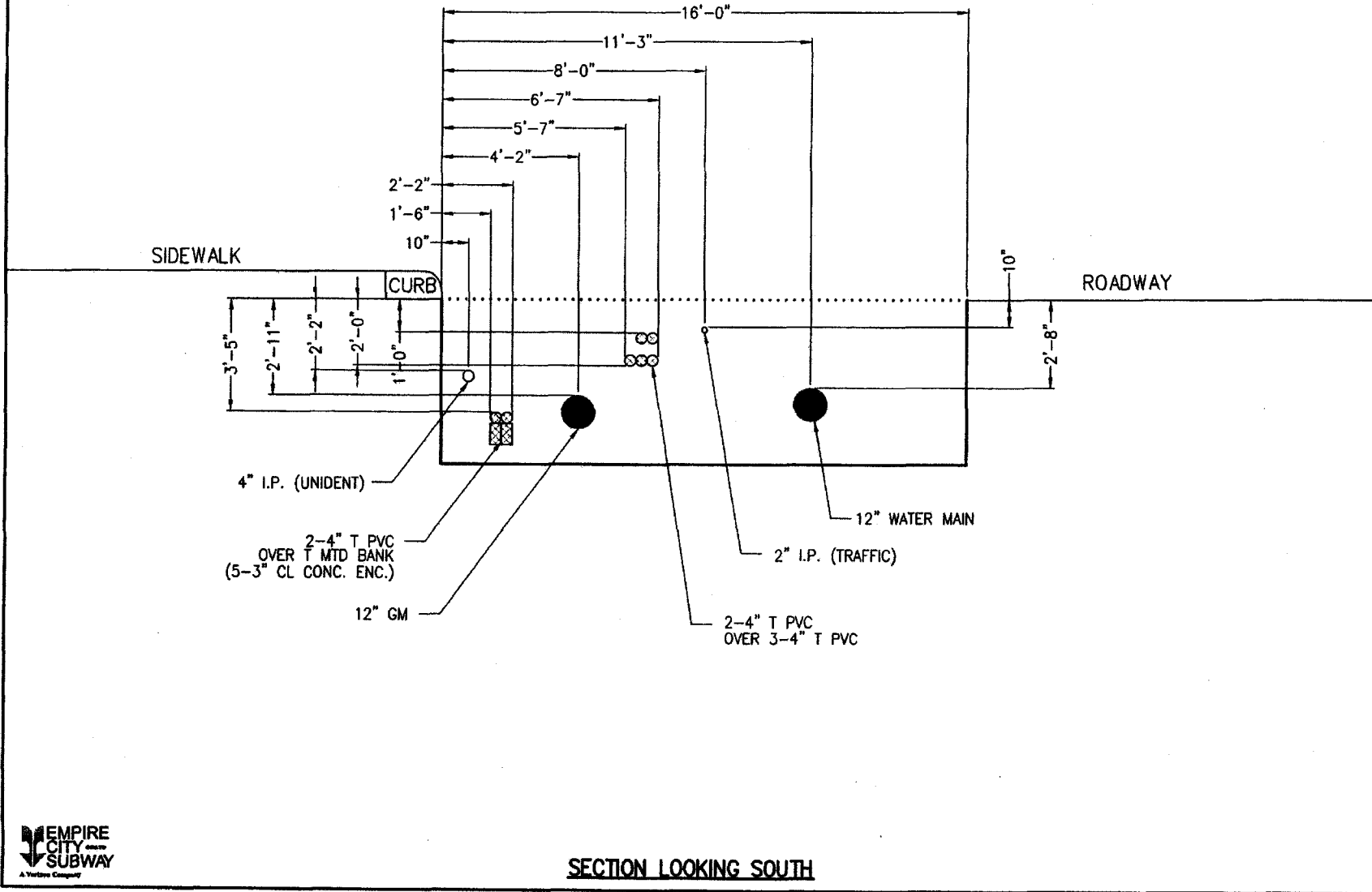
TRENCH DIMENSIONS  
16'-0" X 5'-0" X 5'-0"





TRENCH DIMENSIONS  
16'-0" X 5'-0" X 5'-0"

SHEET NO. 2 OF 2



SECTION LOOKING SOUTH

A5-70

JOB: YORK AVE. CATCH BASINS PREPARED BY: ANDREW MATARAZZO DATE: 5-15-10

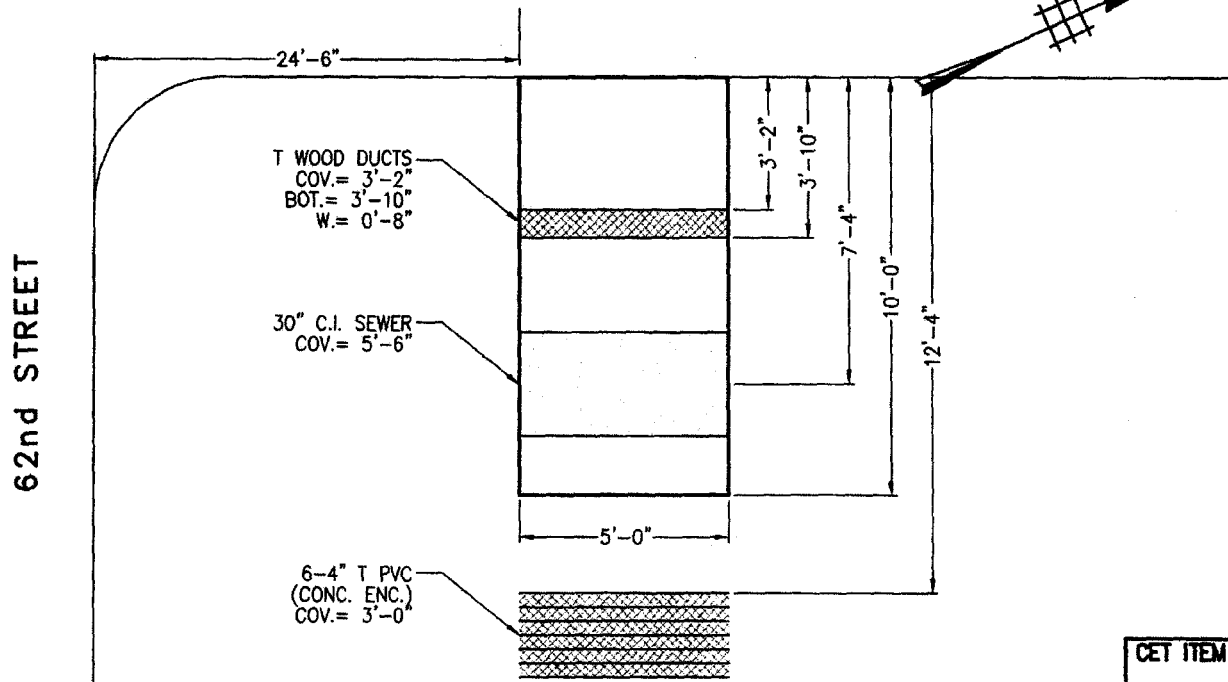
JOB NO: SEN002169 CHECKED BY: LIAM MADDEN DATE: 5-17-10

TEST PIT \*4 LOCATION: YORK AVE. BTWN E. 62ND & E. 63RD STS.

PURPOSE: LOCATE UTILITIES (IN SIDEWALK)

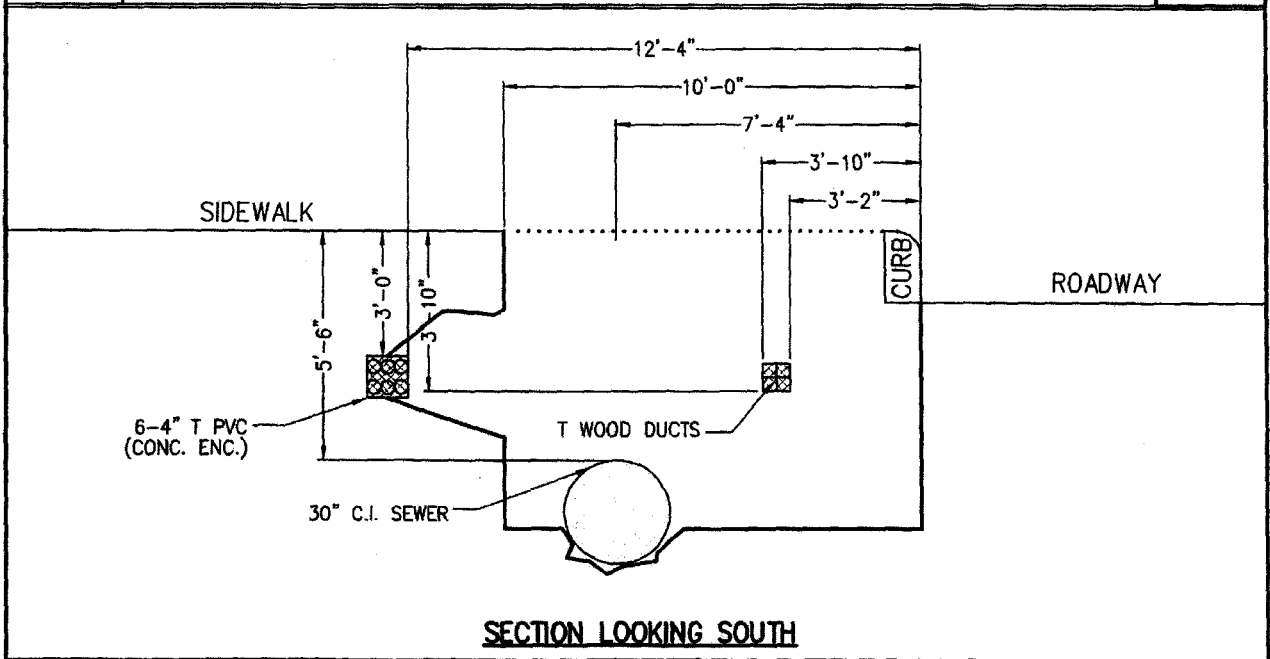
**TRENCH DIMENSIONS**  
10'-0" X 5'-0" X 6'-0"

**YORK AVENUE**



**PLAN**

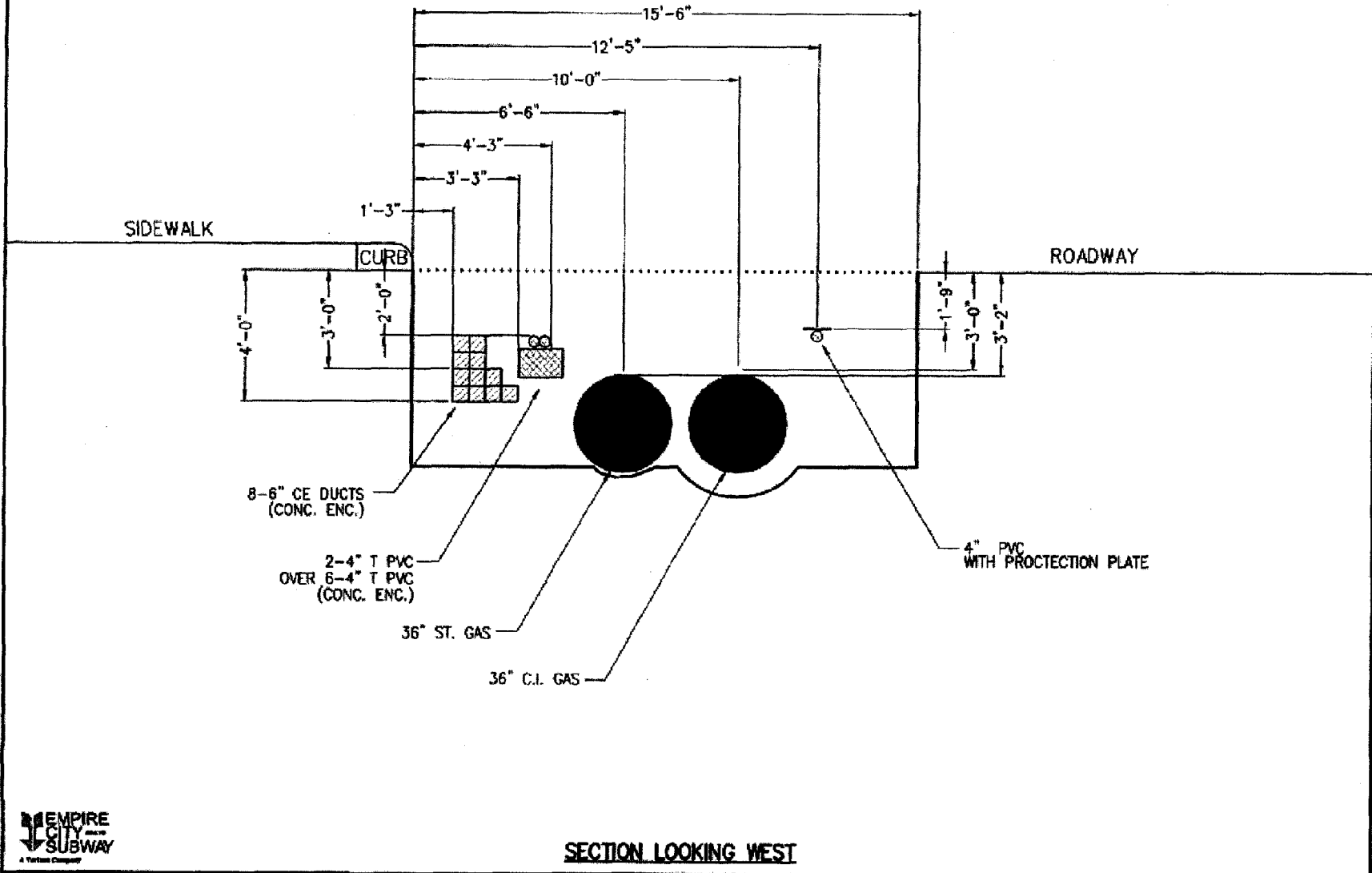
CET ITEM



**SECTION LOOKING SOUTH**

TRENCH DIMENSIONS  
15'-6" X 6'-0" X 5'-0"

SHEET NO. 2 OF 2

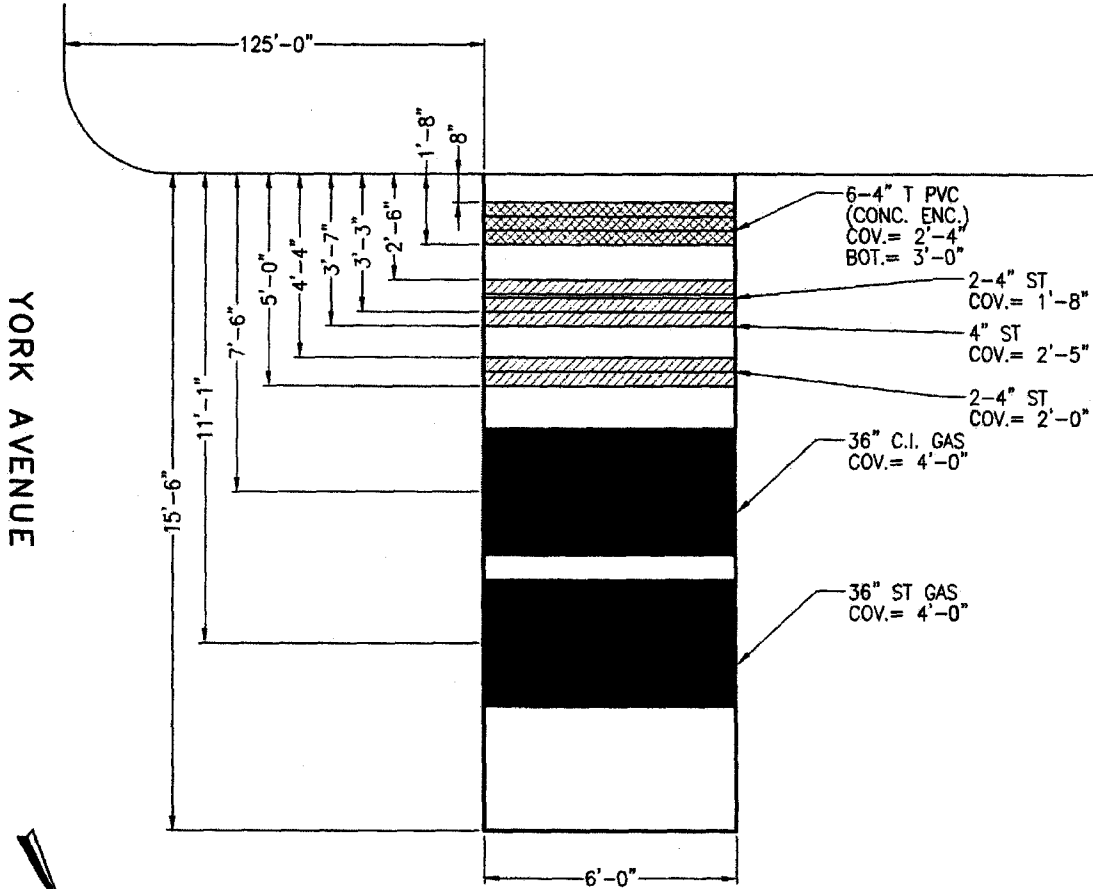


AS-72

JOB: YORK AVE. CATCH BASINS PREPARED BY: ANDREW MATARAZZO DATE: 5-15-10  
 JOB NO: SEN002169 CHECKED BY: LIAM MADDEN DATE: 5-17-10

TEST PIT #6 LOCATION: E. 62ND STREET BTWN FIRST & YORK AVENUES  
 PURPOSE: LOCATE UTILITIES

TRENCH DIMENSIONS  
 15'-6" X 6'-0" X 5'-0"



62nd STREET

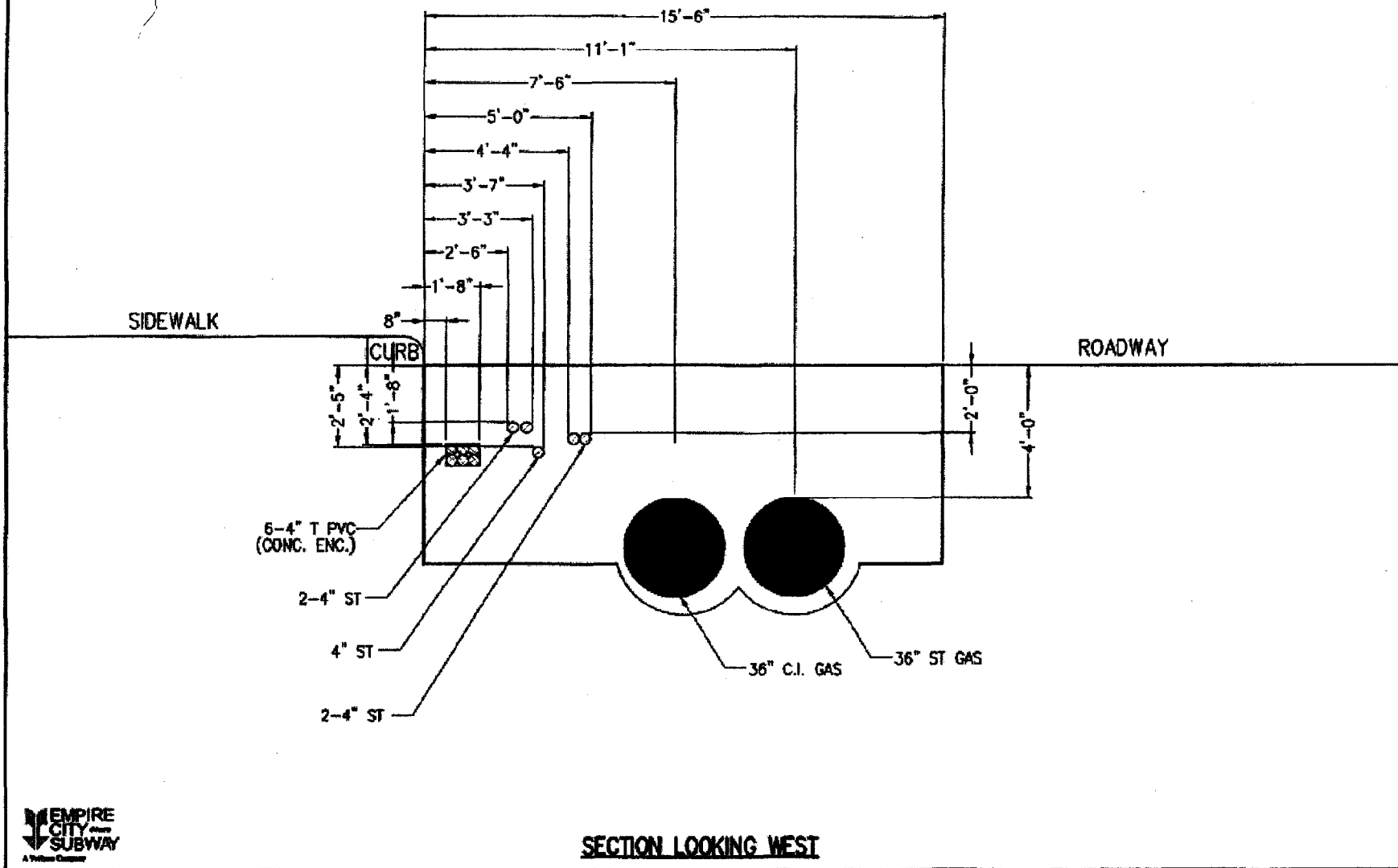
PLAN

CET ITEM

TRENCH DIMENSIONS  
15'-6" X 6'-0" X 5'-0"

SHEET NO. 2 OF 2

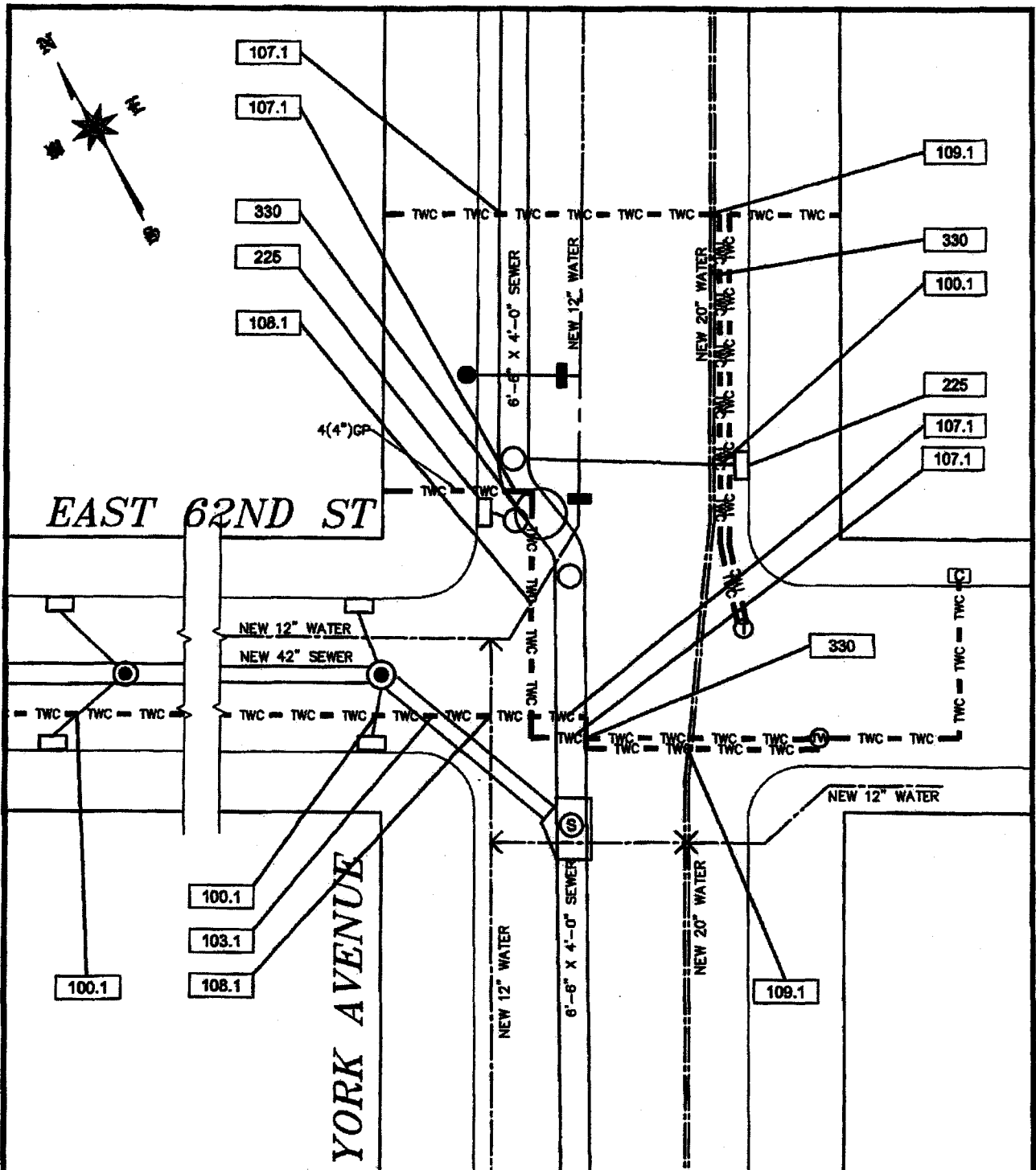
AS-74




# SKETCHES

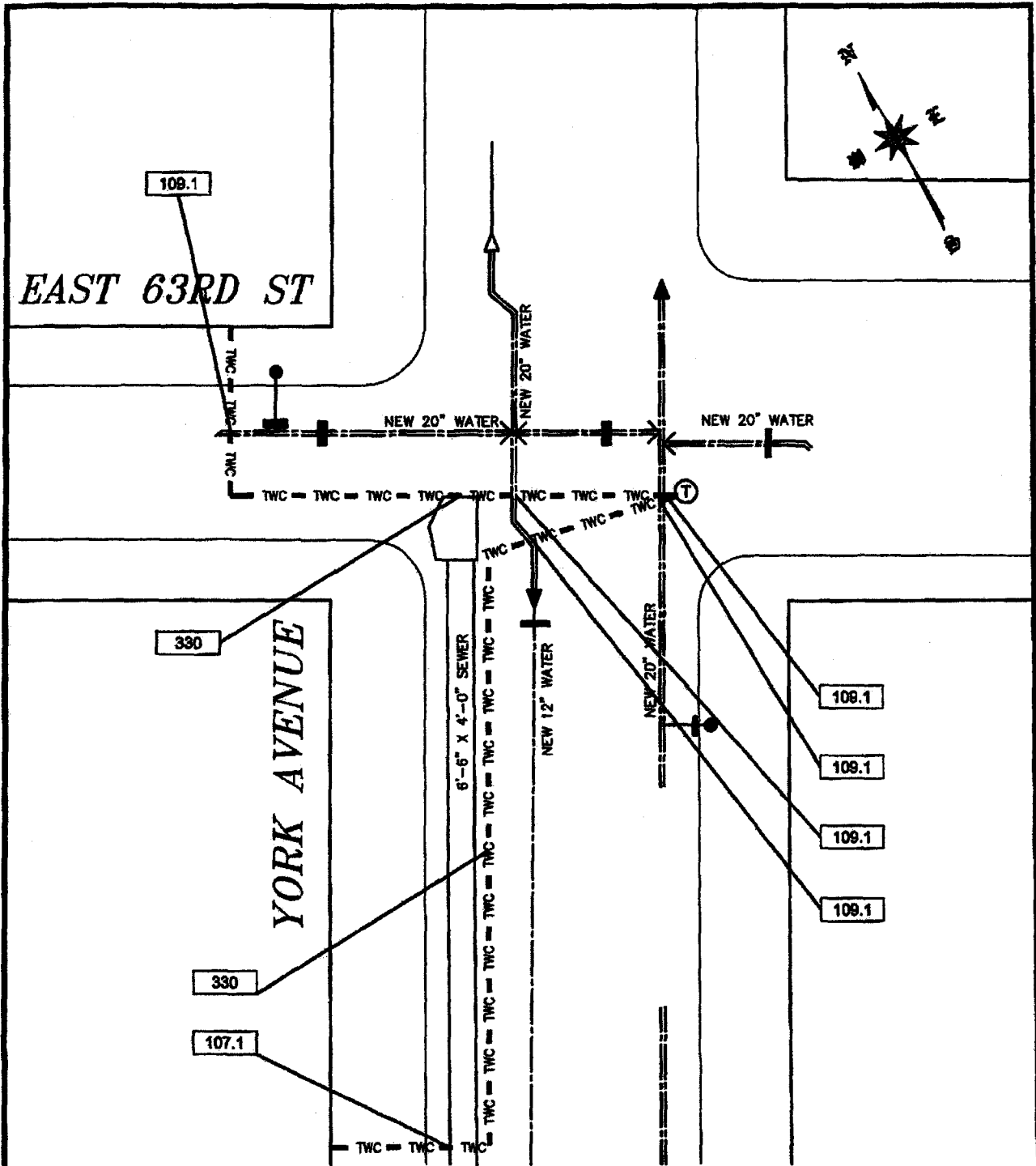
(NO TEXT IN THIS SECTION)





|  |  |                                      |
|--|--|--------------------------------------|
|  <b>TIME WARNER</b><br><b>CABLE OF NEW YORK CITY</b> |  |                                      |
| <b>SEN002169 COMBINED SEWERS YORK AVE</b><br><b>Intersection of 62 St &amp; York Ave</b>   |  |                                      |
|  | <small>DATE</small><br><b>11/11/14</b> | <small>PAGE</small><br><b>2 of 3</b> |





**TIME WARNER  
CABLE OF NEW YORK CITY**

**SEN002169 COMBINED SEWERS YORK AVE  
Intersection of 63 St & York Ave**

| DATE     | PAGE   |
|----------|--------|
| 11/11/14 | 3 of 3 |

**END OF ADDENDUM No.5**

**This Addendum consists of Seventy-Nine (79) pages  
And Sixteen (16) sheets of Contract Drawings**



**ATTACH TO CONTRACT DOCUMENTS**

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

**PROJECT ID: SEN002169**

**FOR THE CONSTRUCTION OF COMBINED SEWERS AND APPURTENANCES IN: YORK AVENUE  
BETWEEN EAST 61<sup>ST</sup> STREET AND EAST 63<sup>RD</sup> STREET; AND EAST 62<sup>ND</sup> STREET BETWEEN  
YORK AVENUE AND 1<sup>ST</sup> AVENUE**

**INCLUDING SEWER, WATER MAIN, STREET LIGHTING AND TRAFFIC WORK**

**Together With All Work Incidental Thereto**

**BOROUGH OF MANHATTAN**

**ADDENDUM NO. 6**

**DATED: February 11, 2015**

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**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.**

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- (1) Refer to the Bid and Contract Documents, VOLUME 1 OF 3, BID SCHEDULE, pages B-3 to B-36;  
Delete all pages in their entirety;  
Substitute attached revised pages B-3 (REVISION #1) to B-36 (REVISION #1).
- (2) Refer to the Bid and Contract Documents, VOLUME 1 OF 3, Page A-1, Attachment 1 - Bid Information;  
Change the dates shown for Submission of Bids To: and for Bid Opening: from "February 24, 2015 to read "March 10, 2015."
- (3) Refer to the Bid and Contract Documents, VOLUME 1 OF 3, Page 13, Schedule B - MWBE;  
Change the dates shown for Bid/Proposal Response Date: from "February 24, 2015" to read "March 10, 2015."
- (4) Refer to the Bid and Contract Documents, VOLUME 3 OF 3, SCHEDULE A, page SA-4, Date for Substantial Completion;  
Change the Base Contract Duration from a quantity of "365" to read "545".

**By signing in the space provided below, the bidder acknowledges receipt of the one (1) page of this Addendum plus thirty-four (34) pages of attachments.**

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



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**GURDIP SAINI, P.E.  
Assistant Commissioner/Design**

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**Name of Bidder**

**By: \_\_\_\_\_**



2/11/2015 12:00 AM

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

CONTRACT PIN: 8502014SE0042C  
PROJECT ID: SEN002169

## BID SCHEDULE

- NOTE:** (1) The Agency may reject a bid if it contains unbalanced bid prices. An unbalanced bid is considered to be one containing lump sum or unit items which do not reflect reasonable actual costs plus a reasonable proportionate share of the Bidder's anticipated profit, overhead costs, and other indirect costs, anticipated for the performance of the items in question.
- (2) The following bid prices on Unit Price Contracts are to be paid for the actual quantities of the item numbers in the completed work or structure, and they cover the cost of all work, labor, material, tools, plant and appliances of every description necessary to complete the entire work, as specified, and the removal of all debris, temporary work and appliances.
- (3) PLEASE BE SURE A LEGIBLE BID IS ENTERED, IN INK, FOR EACH ITEM.  
Alterations must be initialed in ink by the bidder.
- (4) The Extended Amount entered in Column 6 shall be the product of the Estimated Quantity in Column 3 times the Unit Price Bid in Column 5.
- (5) Prospective bidders must examine the Bid Schedule carefully and, before bidding, must advise the Commissioner, in writing, if any pages are missing, and must request that such missing pages be furnished them. The pages of this Bid Schedule are numbered consecutively, as follows:  
B - 3 [REVISION # 1] Through B - 36 [REVISION # 1]

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

**BID SCHEDULE FORM**

| COL 1   | COL 2   | COL 3                                 | COL 4 | COL 5                      |     | COL 6                           |     |
|---------|---|---------------------------------------|-------|----------------------------|-----|---------------------------------|-----|
| SEQ. NO | ITEM NUMBER and DESCRIPTION   | ENGINEER'S<br>ESTIMATE<br>OF QUANTITY | UNIT  | UNIT PRICE<br>(IN FIGURES) |     | EXTENDED AMOUNT<br>(IN FIGURES) |     |
|         |   |                                       |       | DOLLARS                    | CTS | DOLLARS                         | CTS |
| 001     | 4.02 AF-R<br>ASPHALTIC CONCRETE WEARING COURSE, 2" THICK  | 4,500.00                              | S.Y.  |                            |     |                                 |     |
| 002     | 4.02 CA<br>BINDER MIXTURE   | 365.00                                | TONS  |                            |     |                                 |     |
| 003     | 4.04 H<br>CONCRETE BASE FOR PAVEMENT, VARIABLE THICKNESS FOR<br>TRENCH RESTORATION, (HIGH-EARLY STRENGTH) | 450.00                                | C.Y.  |                            |     |                                 |     |
| 004     | 4.05 AX<br>HIGH-EARLY STRENGTH REINFORCED CONCRETE PAVEMENT (BUS<br>STOPS)                                | 50.00                                 | C.Y.  |                            |     |                                 |     |
| 005     | 4.07 CD<br>NEW STRAIGHT GRANITE CURB, DEPRESSED AND TRANSITION  | 250.00                                | L.F.  |                            |     |                                 |     |
| 006     | 4.09 AF<br>STRAIGHT STEEL FACED CONCRETE CURB (27" DEEP)  | 150.00                                | L.F.  |                            |     |                                 |     |

# 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) |     | EXTENDED AMOUNT (IN FIGURES) |     |
|         |  |                                 |       | DOLLARS                 | CTS | DOLLARS                      | CTS |
| 007     | 4.09 CD<br>CORNER STEEL FACED CONCRETE CURB (18" DEEP)     | 300.00                          | L.F.  |                         |     |                              |     |
| 008     | 4.13 AAS<br>4" CONCRETE SIDEWALK (UNPIGMENTED)             | 3,200.00                        | S.F.  |                         |     |                              |     |
| 009     | 4.13 BAS<br>7" CONCRETE SIDEWALK (UNPIGMENTED)             | 2,000.00                        | S.F.  |                         |     |                              |     |
| 010     | 4.13 DE<br>EMBEDDED PREFORMED DETECTABLE WARNING UNITS     | 160.00                          | S.F.  |                         |     |                              |     |
| 011     | 4.18 A<br>MAINTENANCE TREE PRUNING (UNDER 12" CAL.)        | 20.00                           | EACH  |                         |     |                              |     |
| 012     | 4.18 B<br>MAINTENANCE TREE PRUNING (12" TO UNDER 18" CAL.) | 2.00                            | EACH  |                         |     |                              |     |

### 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) |     | EXTENDED AMOUNT (IN FIGURES) |     |
|         |  |                                 |       | DOLLARS                 | CTS | DOLLARS                      | CTS |
| 013     | 4.18 C<br>MAINTENANCE TREE PRUNING (18" TO UNDER 24" CAL.)                                 | 3.00                            | EACH  |                         |     |                              |     |
| 014     | 4.21<br>TREE CONSULTANT  | 200.00                          | P/HR  |                         |     |                              |     |
| 015     | 50.11CS060040<br>6'-0"W X 4'-0"H SINGLE BARREL FLAT TOP REINFORCED CONCRETE COMBINED SEWER | 275.00                          | L.F.  |                         |     |                              |     |
| 016     | 50.11MS066040<br>6'-6"W X 4'-0"H SINGLE BARREL FLAT TOP REINFORCED CONCRETE STORM SEWER    | 225.00                          | L.F.  |                         |     |                              |     |
| 017     | 50.21C3C042D<br>42" R.C.P. CLASS III COMBINED SEWER, ON CONCRETE CRADLE                    | 100.00                          | L.F.  |                         |     |                              |     |
| 018     | 50.41C6C42<br>42" D.I.P. CLASS 56 COMBINED SEWER, ON CONCRETE CRADLE                       | 55.00                           | L.F.  |                         |     |                              |     |



2/11/2015 12:00 AM

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

PROJECT ID: SEN002169  
 CONTRACT PIN: 8502014SE0042C

### 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) |     | EXTENDED AMOUNT (IN FIGURES) |     |
|          |  |                                 |       | DOLLARS                 | CTS | DOLLARS                      | CTS |
| 019      | 51.11C001<br>CHAMBER NO. 1                                     | 1.00                            | EACH  |                         |     |                              |     |
| 020      | 51.11C002<br>CHAMBER NO. 2                                     | 1.00                            | EACH  |                         |     |                              |     |
| 021      | 51.11P006<br>STANDARD 6'-0" DIAMETER PRECAST MANHOLE           | 1.00                            | EACH  |                         |     |                              |     |
| 022      | 51.21A000000C<br>ACCESS MANHOLE                                | 3.00                            | EACH  |                         |     |                              |     |
| 023      | 51.21S0C1042R<br>STANDARD MANHOLE TYPE C-1 ON 42" R.C.P. SEWER | 1.00                            | EACH  |                         |     |                              |     |
| 024      | 51.41S001<br>STANDARD CATCH BASIN, TYPE 1                      | 9.00                            | EACH  |                         |     |                              |     |

**BID SCHEDULE FORM**

| COL 1   | COL 2  | COL 3                                 | COL 4 | COL 5                      |      | COL 6                           |      |
|---------|--|---------------------------------------|-------|----------------------------|------|---------------------------------|------|
| SEQ. NO | ITEM NUMBER and DESCRIPTION  | ENGINEER'S<br>ESTIMATE<br>OF QUANTITY | UNIT  | UNIT PRICE<br>(IN FIGURES) |      | EXTENDED AMOUNT<br>(IN FIGURES) |      |
|         |  |                                       |       | DOLLARS                    | CTS. | DOLLARS                         | CTS. |
| 025     | 51.42S1SO<br>INCREMENTAL COST OF STANDARD CATCH BASIN TYPE 3 WITH<br>CURB PIECE IN LIEU OF STANDARD CATCH BASIN TYPE 1 | 8.00                                  | EACH  |                            |      |                                 |      |
| 026     | 51.71C00000<br>MODIFICATION OF EXISTING CHAMBER  | 1.00                                  | EACH  |                            |      |                                 |      |
| 027     | 52.11D12<br>12" DUCTILE IRON PIPE BASIN CONNECTION   | 200.00                                | L.F.  |                            |      |                                 |      |
| 028     | 52.41C06R<br>6" C.I.S.P. HOUSE CONNECTION DRAIN ON CONCRETE CRADLE<br>(RECONNECTION)                                   | 20.00                                 | L.F.  |                            |      |                                 |      |
| 029     | 52.41C08R<br>8" C.I.S.P. HOUSE CONNECTION DRAIN ON CONCRETE CRADLE<br>(RECONNECTION)                                   | 20.00                                 | L.F.  |                            |      |                                 |      |
| 030     | 52.41D06R<br>6" D.I.P. HOUSE CONNECTION DRAIN ON CONCRETE CRADLE<br>(RECONNECTION)                                     | 20.00                                 | L.F.  |                            |      |                                 |      |

# BID SCHEDULE FORM

| COL 1    | COL 2   | COL 3                | COL 4 | COL 5                   |     | COL 6                        |     |
|----------|---|----------------------|-------|-------------------------|-----|------------------------------|-----|
| SEQ. NO. | ITEM NUMBER and DESCRIPTION   | ESTIMATE OF QUANTITY | UNIT  | UNIT PRICE (IN FIGURES) |     | EXTENDED AMOUNT (IN FIGURES) |     |
|          |   |                      |       | DOLLARS                 | CTS | DOLLARS                      | CTS |
| 031      | 52.41D08R<br>8" D.I.P. HOUSE CONNECTION DRAIN ON CONCRETE CRADLE (RECONNECTION)   | 40.00                | L.F.  |                         |     |                              |     |
| 032      | 52.41D10N<br>NEW 10" D.I.P. HOUSE CONNECTION DRAIN ON STONE BEDDING<br>Unit price bid shall not be greater than: \$ 95.00 | 20.00                | L.F.  |                         |     |                              |     |
| 033      | 52.41V06R<br>6" E.S.V.P. HOUSE CONNECTION DRAIN ON CONCRETE CRADLE (RECONNECTION)   | 20.00                | L.F.  |                         |     |                              |     |
| 034      | 52.41V08R<br>8" E.S.V.P. HOUSE CONNECTION DRAIN ON CONCRETE CRADLE (RECONNECTION)   | 20.00                | L.F.  |                         |     |                              |     |
| 035      | 52.41V10R<br>10" E.S.V.P. HOUSE CONNECTION DRAIN ON CONCRETE CRADLE (RECONNECTION)  | 20.00                | L.F.  |                         |     |                              |     |
| 036      | 53.11DR<br>TELEVISION INSPECTION AND DIGITAL AUDIO-VISUAL RECORDING OF SEWERS   | 660.00               | L.F.  |                         |     |                              |     |

**BID SCHEDULE FORM**

| COL 1    | COL 2  | COL 3                                | COL 4 | COL 5                      |     | COL 6                           |     |
|----------|--|--------------------------------------|-------|----------------------------|-----|---------------------------------|-----|
| SEQ. NO. | ITEM NUMBER and DESCRIPTION  | ENGINEERS<br>ESTIMATE<br>OF QUANTITY | UNIT  | UNIT PRICE<br>(IN FIGURES) |     | EXTENDED AMOUNT<br>(IN FIGURES) |     |
|          |  |                                      |       | DOLLARS                    | CTS | DOLLARS                         | CTS |
| 037      | 6.02 AAN<br>UNCLASSIFIED EXCAVATION  | 550.00                               | C.Y.  |                            |     |                                 |     |
| 038      | 6.02 XHEC<br>INCREMENTAL COST FOR MODIFYING WORK METHODS NEAR<br>(WITHIN 3 FEET OF) TRANSIT FACILITIES AND BUILDING VAULTS | 100.00                               | C.Y.  |                            |     |                                 |     |
| 039      | 6.02 XSCW<br>INCREMENTAL COST FOR USING SPECIAL CARE WORK METHODS<br>NEAR (FROM 3 FEET TO 50 FEET) TRANSIT FACILITIES      | 100.00                               | C.Y.  |                            |     |                                 |     |
| 040      | 6.25 RS<br>TEMPORARY SIGNS   | 575.00                               | S.F.  |                            |     |                                 |     |
| 041      | 6.26<br>TIMBER CURB  | 950.00                               | L.F.  |                            |     |                                 |     |
| 042      | 6.28 AA<br>LIGHTED TIMBER BARRICADES   | 300.00                               | L.F.  |                            |     |                                 |     |

### BID SCHEDULE FORM

| COL 1<br>SEQ. NO | COL 2<br>ITEM NUMBER and DESCRIPTION                            | COL 3<br>ENGINEER'S<br>ESTIMATE<br>OF QUANTITY | COL 4<br>UNIT | COL 5<br>UNIT PRICE<br>(IN FIGURES) |     | COL 6<br>EXTENDED AMOUNT<br>(IN FIGURES) |     |
|------------------|---|--|---------------|-------------------------------------|-----|--|-----|
|                  |   |  |               | DOLLARS                             | CTS | DOLLARS                                  | CTS |
| 043              | 6.40 C<br>ENGINEER'S FIELD OFFICE (TYPE C)                      | 24.00  | MONTH         |                                     |     |  |     |
| 044              | 6.44<br>THERMOPLASTIC REFLECTORIZED PAVEMENT MARKINGS (4" WIDE) | 9,000.00                                       | L.F.          |                                     |     |  |     |
| 045              | 6.49<br>TEMPORARY PAVEMENT MARKINGS (4" WIDE)                   | 1,500.00                                       | L.F.          |                                     |     |  |     |
| 046              | 6.52 CG<br>CROSSING GUARD                                       | 4,000.00                                       | P/HR          |                                     |     |  |     |
| 047              | 6.53<br>REMOVE EXISTING LANE MARKINGS (4" WIDE)                 | 1,000.00                                       | L.F.          |                                     |     |  |     |

**BID SCHEDULE FORM**

| COL 1   | COL 2  | COL 3                                 | COL 4 | COL 5                      |     | COL 6                           |     |
|---------|--|---------------------------------------|-------|----------------------------|-----|---------------------------------|-----|
| SEQ. NO | ITEM NUMBER and DESCRIPTION  | ENGINEER'S<br>ESTIMATE<br>OF QUANTITY | UNIT  | UNIT PRICE<br>(IN FIGURES) |     | EXTENDED AMOUNT<br>(IN FIGURES) |     |
|         |  |                                       |       | DOLLARS                    | CTS | DOLLARS                         | CTS |
| 048     | <b>6.84 B</b><br>LOLLIPOP TYPE BUS STOP SIGNS<br>PRICE BID SHALL BE FOR THE FIXED SUM OF \$ 3,000.00   | 1.00                                  | F.S.  | 3,000                      | 00  | 3,000                           | 00  |
| 049     | <b>6.85 A</b><br>TRAFFIC ENFORCEMENT AGENTS<br>PRICE BID SHALL BE FOR THE FIXED SUM OF \$ 1,784,165.90 | 1.00                                  | F.S.  | 1,784,166                  | 90  | 1,784,166                       | 90  |
| 050     | <b>6.87</b><br>PLASTIC BARRELS   | 300.00                                | EACH  |                            |     |                                 |     |
| 051     | <b>60.11R520</b><br>FURNISHING AND DELIVERING 20-INCH DUCTILE IRON RESTRAINED<br>JOINT PIPE (CLASS 55) | 790.00                                | L.F.  |                            |     |                                 |     |
| 052     | <b>60.11R606</b><br>FURNISHING AND DELIVERING 6-INCH DUCTILE IRON RESTRAINED<br>JOINT PIPE (CLASS 56)  | 200.00                                | L.F.  |                            |     |                                 |     |

**BID SCHEDULE FORM**

| COL 1   | COL 2   | COL 3    | COL 4 | COL 5                   |     | COL 6                        |     |
|---------|---|----------|-------|-------------------------|-----|------------------------------|-----|
| SEQ. NO | ITEM NUMBER and DESCRIPTION   | QUANTITY | UNIT  | UNIT PRICE (IN FIGURES) |     | EXTENDED AMOUNT (IN FIGURES) |     |
|         |   |          |       | DOLLARS                 | CTS | DOLLARS                      | CTS |
| 053     | 60.11R612<br>FURNISHING AND DELIVERING 12-INCH DUCTILE IRON RESTRAINED JOINT PIPE (CLASS 56)  | 825.00   | L.F.  |                         |     |                              |     |
| 054     | 60.12D06<br>LAYING 6-INCH DUCTILE IRON PIPE AND FITTINGS  | 225.00   | L.F.  |                         |     |                              |     |
| 055     | 60.12D12<br>LAYING 12-INCH DUCTILE IRON PIPE AND FITTINGS   | 1,000.00 | L.F.  |                         |     |                              |     |
| 056     | 60.12D20<br>LAYING 20-INCH DUCTILE IRON PIPE AND FITTINGS   | 885.00   | L.F.  |                         |     |                              |     |
| 057     | 60.13M0A24<br>FURNISHING AND DELIVERING DUCTILE IRON MECHANICAL JOINT 24-INCH DIAMETER AND SMALLER FITTINGS, INCLUDING WEDGE TYPE RETAINER GLANDS | 12.00    | TONS  |                         |     |                              |     |
| 058     | 60.18BJC20EL<br>FURNISHING, DELIVERING AND INSTALLING BELL JOINT CLAMPS, COMPLETE FOR 20-INCH PIPE AND LESS                                       | 10.00    | EACH  |                         |     |                              |     |

**BID SCHEDULE FORM**

| COL 1   | COL 2  | COL 3                                 | COL 4 | COL 5                      |     | COL 6                           |     |
|---------|--|---------------------------------------|-------|----------------------------|-----|---------------------------------|-----|
| SEQ. NO | ITEM NUMBER and DESCRIPTION  | ENGINEER'S<br>ESTIMATE<br>OF QUANTITY | UNIT  | UNIT PRICE<br>(IN FIGURES) |     | EXTENDED AMOUNT<br>(IN FIGURES) |     |
|         |  |                                       |       | DOLLARS                    | CTS | DOLLARS                         | CTS |
| 059     | <b>61.11DMM06</b><br>FURNISHING AND DELIVERING 6-INCH MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS  | 9.00                                  | EACH  |                            |     |                                 |     |
| 060     | <b>61.11DMM12</b><br>FURNISHING AND DELIVERING 12-INCH MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS | 13.00                                 | EACH  |                            |     |                                 |     |
| 061     | <b>61.11DMM20</b><br>FURNISHING AND DELIVERING 20-INCH MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS | 5.00                                  | EACH  |                            |     |                                 |     |
| 062     | <b>61.11TWC03</b><br>FURNISHING AND DELIVERING 3-INCH WET CONNECTION TAPPING VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS              | 1.00                                  | EACH  |                            |     |                                 |     |
| 063     | <b>61.11TWC04</b><br>FURNISHING AND DELIVERING 4-INCH WET CONNECTION TAPPING VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS              | 2.00                                  | EACH  |                            |     |                                 |     |



### BID SCHEDULE FORM

| COL 1<br>SEQ NO | COL 2<br>ITEM NUMBER and DESCRIPTION   | COL 3<br>ENGINEER<br>ESTIMATE<br>OF QUANTITY | COL 4<br>UNIT | COL 5<br>UNIT PRICE<br>(IN FIGURES) |     | COL 6<br>EXTENDED AMOUNT<br>(IN FIGURES) |     |
|-----------------|--|--|---------------|-------------------------------------|-----|--|-----|
|                 |  |  |               | DOLLARS                             | CTS | DOLLARS                                  | CTS |
| 064             | 61.11TWC06<br>FURNISHING AND DELIVERING 6-INCH WET CONNECTION TAPPING VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS   | 6.00   | EACH          |                                     |     |  |     |
| 065             | 61.11TWC08<br>FURNISHING AND DELIVERING 8-INCH WET CONNECTION TAPPING VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS   | 2.00   | EACH          |                                     |     |  |     |
| 066             | 61.11TWC12<br>FURNISHING AND DELIVERING 12-INCH WET CONNECTION TAPPING VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS  | 1.00   | EACH          |                                     |     |  |     |
| 067             | 61.12DFM06<br>SETTING 6-INCH FLANGED-MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLAND  | 9.00   | EACH          |                                     |     |  |     |
| 068             | 61.12DFM12<br>SETTING 12-INCH FLANGED-MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLAND | 13.00  | EACH          |                                     |     |  |     |
| 069             | 61.12DFM20<br>SETTING 20-INCH FLANGED-MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLAND | 5.00   | EACH          |                                     |     |  |     |

**BID SCHEDULE FORM**

| COL 1   | COL 2   | COL 3                                 | COL 4 | COL 5                      |     | COL 6                           |     |
|---------|---|---------------------------------------|-------|----------------------------|-----|---------------------------------|-----|
| SEQ. NO | ITEM NUMBER and DESCRIPTION   | ENGINEER'S<br>ESTIMATE<br>OF QUANTITY | UNIT  | UNIT PRICE<br>(IN FIGURES) |     | EXTENDED AMOUNT<br>(IN FIGURES) |     |
|         |   |                                       |       | DOLLARS                    | CTS | DOLLARS                         | CTS |
| 070     | <b>61.12TWC03</b><br>SETTING 3-INCH WET CONNECTION TAPPING VALVE COMPLETE<br>WITH WEDGE TYPE RETAINER GLANDS  | 1.00                                  | EACH  |                            |     |                                 |     |
| 071     | <b>61.12TWC04</b><br>SETTING 4-INCH WET CONNECTION TAPPING VALVE COMPLETE<br>WITH WEDGE TYPE RETAINER GLANDS  | 2.00                                  | EACH  |                            |     |                                 |     |
| 072     | <b>61.12TWC06</b><br>SETTING 6-INCH WET CONNECTION TAPPING VALVE COMPLETE<br>WITH WEDGE TYPE RETAINER GLANDS  | 6.00                                  | EACH  |                            |     |                                 |     |
| 073     | <b>61.12TWC08</b><br>SETTING 8-INCH WET CONNECTION TAPPING VALVE COMPLETE<br>WITH WEDGE TYPE RETAINER GLANDS  | 2.00                                  | EACH  |                            |     |                                 |     |
| 074     | <b>61.12TWC12</b><br>SETTING 12-INCH WET CONNECTION TAPPING VALVE COMPLETE<br>WITH WEDGE TYPE RETAINER GLANDS | 1.00                                  | EACH  |                            |     |                                 |     |
| 075     | <b>62.11SD</b><br>FURNISHING AND DELIVERING HYDRANTS  | 9.00                                  | EACH  |                            |     |                                 |     |

### 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) |     | EXTENDED AMOUNT (IN FIGURES) |     |
|          |  |                                 |       | DOLLARS                 | CTS | DOLLARS                      | CTS |
| 076      | 62.12SG<br>SETTING HYDRANTS COMPLETE WITH WEDGE TYPE RETAINER GLANDS                         | 9.00                            | EACH  |                         |     |                              |     |
| 077      | 62.13RH<br>REMOVING HYDRANTS   | 7.00                            | EACH  |                         |     |                              |     |
| 078      | 62.14FS<br>FURNISHING, DELIVERING AND INSTALLING HYDRANT FENDERS                             | 18.00                           | EACH  |                         |     |                              |     |
| 079      | 63.11VC<br>FURNISHING AND DELIVERING VARIOUS CASTINGS  | 11.00                           | TONS  |                         |     |                              |     |
| 080      | 64.11EL<br>WITHDRAWING AND REPLACING HOUSE SERVICES USING 1-1/2-INCH OR LARGER SCREW TAPS    | 7.00                            | EACH  |                         |     |                              |     |
| 081      | 64.11ST<br>WITHDRAWING AND REPLACING HOUSE SERVICES USING SMALLER THAN 1-1/2-INCH SCREW TAPS | 2.00                            | EACH  |                         |     |                              |     |

**BID SCHEDULE FORM**

| COL 1   | COL 2  | COL 3                                 | COL 4 | COL 5                      |     | COL 6                           |     |
|---------|--|---------------------------------------|-------|----------------------------|-----|---------------------------------|-----|
| SEQ. NO | ITEM NUMBER and DESCRIPTION  | ENGINEER'S<br>ESTIMATE<br>OF QUANTITY | UNIT  | UNIT PRICE<br>(IN FIGURES) |     | EXTENDED AMOUNT<br>(IN FIGURES) |     |
|         |  |                                       |       | DOLLARS                    | CTS | DOLLARS                         | CTS |
| 082     | <b>64.12COEG</b><br>CUTTING AND OFFSETTING HOUSE SERVICE WATER CONNECTIONS<br>(EQUAL TO OR GREATER THAN 3-INCH DIAMETER)           | 100.00                                | L.F.  |                            |     |                                 |     |
| 083     | <b>64.12COLT</b><br>CUTTING AND OFFSETTING HOUSE SERVICE WATER CONNECTIONS<br>(LESS THAN 3-INCH DIAMETER)                          | 50.00                                 | L.F.  |                            |     |                                 |     |
| 084     | <b>64.12ESEG</b><br>EXTENDING HOUSE SERVICE WATER CONNECTIONS (EQUAL TO OR<br>GREATER THAN 3-INCH DIAMETER)                        | 100.00                                | L.F.  |                            |     |                                 |     |
| 085     | <b>64.12ESLT</b><br>EXTENDING HOUSE SERVICE WATER CONNECTIONS (LESS THAN 3-<br>INCH DIAMETER)                                      | 50.00                                 | L.F.  |                            |     |                                 |     |
| 086     | <b>64.13WC12</b><br>FURNISHING, DELIVERING AND INSTALLING WET CONNECTION<br>SLEEVE ON 12-INCH WATER MAIN PIPE WITH VARIOUS OUTLETS | 5.00                                  | EACH  |                            |     |                                 |     |
| 087     | <b>64.13WC20</b><br>FURNISHING, DELIVERING AND INSTALLING WET CONNECTION<br>SLEEVE ON 20-INCH WATER MAIN PIPE WITH VARIOUS OUTLETS | 5.00                                  | EACH  |                            |     |                                 |     |

**BID SCHEDULE FORM**

| COL 1    | COL 2  | COL 3              | COL 4 | COL 5                     |      | COL 6                        |      |
|----------|--|--------------------|-------|---------------------------|------|------------------------------|------|
| SEQ. NO. | ITEM NUMBER AND DESCRIPTION  | ESTIMATED QUANTITY | UNIT  | UNIT PRICE (PER QUANTITY) |      | EXTENDED AMOUNT (IN FIGURES) |      |
|          |  |                    |       | DOLLARS                   | CTS. | DOLLARS                      | CTS. |
| 088      | <b>65.11BR</b><br>FURNISHING, DELIVERING AND INSTALLING BANDS, RODS, WASHERS, ETC., COMPLETE, FOR RESTRAINING JOINTS | 85.00              | LBS.  |                           |      |                              |      |
| 089      | <b>65.21PS</b><br>FURNISHING AND PLACING POLYETHYLENE SLEEVE<br>Unit price bid shall not be less than: \$ 0.50       | 845.00             | L.F.  |                           |      |                              |      |
| 090      | <b>65.31FF</b><br>FURNISHING, DELIVERING AND PLACING FILTER FABRIC<br>Unit price bid shall not be less than: \$ 0.10 | 17,000.00          | S.F.  |                           |      |                              |      |
| 091      | <b>65.71SG</b><br>FURNISHING, DELIVERING AND PLACING SCREENED GRAVEL OR SCREENED BROKEN STONE BEDDING                | 110.00             | C.Y.  |                           |      |                              |      |
| 092      | <b>7.13 B</b><br>MAINTENANCE OF SITE<br>Unit price bid shall not be less than: \$ 15,000.00                          | 18.00              | MONTH |                           |      |                              |      |
| 093      | <b>7.19</b><br>LOAD TRANSFER JOINT   | 2,500.00           | L.F.  |                           |      |                              |      |

**BID SCHEDULE FORM**

| COL 1   | COL 2   | COL 3                                | COL 4 | COL 5                      |     | COL 6                           |     |
|---------|---|--------------------------------------|-------|----------------------------|-----|---------------------------------|-----|
| SEQ. NO | ITEM NUMBER and DESCRIPTION   | ENGINEERS<br>ESTIMATE<br>OF QUANTITY | UNIT  | UNIT PRICE<br>(IN FIGURES) |     | EXTENDED AMOUNT<br>(IN FIGURES) |     |
|         |   |                                      |       | DOLLARS                    | CTS | DOLLARS                         | CTS |
| 094     | 7.36<br>PEDESTRIAN STEEL BARRICADES   | 1,200.00                             | L.F.  |                            |     |                                 |     |
| 095     | 7.88 AA<br>RODENT INFESTATION SURVEY AND MONITORING<br>Unit price bid shall not be less than: \$ 5,000.00 | 1.00                                 | L.S.  |                            |     |                                 |     |
| 096     | 7.88 AB<br>RODENT BAIT STATIONS<br>Unit price bid shall not be less than: \$ 60.00                        | 350.00                               | EACH  |                            |     |                                 |     |
| 097     | 7.88 AC<br>BAITING OF RODENT BAIT STATIONS<br>Unit price bid shall not be less than: \$ 9.25              | 350.00                               | EACH  |                            |     |                                 |     |
| 098     | 7.88 AD<br>WATERBUG BAIT APPLICATIONS<br>Unit price bid shall not be less than: \$ 65.00                  | 70.00                                | BLOCK |                            |     |                                 |     |
| 099     | 70.21DK<br>DECKING  | 1,200.00                             | S.Y.  |                            |     |                                 |     |

**BID SCHEDULE FORM**

| COL 1    | COL 2  | COL 3    | COL 4 | COL 5      | COL 6           |     |
|----------|--|----------|-------|------------|-----------------|-----|
| SEQ. NO. | ITEM NUMBER and DESCRIPTION  | QTY      | UNIT  | UNIT PRICE | EXTENDED AMOUNT |     |
|          |  |          |       | DOLLARS    | DOLLARS         | CTS |
| 100      | 70.31FN<br>FENCING<br>Unit price bid shall not be less than: \$ 2.00   | 6,000.00 | L.F.  |            |                 |     |
| 101      | 70.51EO<br>EXCAVATION OF BOULDERS IN OPEN CUT<br>Unit price bid shall not be less than: \$ 75.00                       | 35.00    | C.Y.  |            |                 |     |
| 102      | 70.61RE<br>ROCK EXCAVATION   | 25.00    | C.Y.  |            |                 |     |
| 103      | 70.71SB<br>STONE BALLAST<br>Unit price bid shall not be less than: \$ 15.00  | 120.00   | C.Y.  |            |                 |     |
| 104      | 70.81CB<br>CLEAN BACKFILL<br>Unit price bid shall not be less than: \$ 15.00   | 955.00   | C.Y.  |            |                 |     |
| 105      | 70.91SW12<br>FURNISHING AND PLACING SHEETING AND BRACING IN TRENCH<br>FOR WATER MAIN PIPE 12-INCH IN DIAMETER AND LESS | 985.00   | S.F.  |            |                 |     |

**BID SCHEDULE FORM**

| COL 1   | COL 2  | COL 3                                 | COL 4 | COL 5                      |     | COL 6                           |     |
|---------|--|---------------------------------------|-------|----------------------------|-----|---------------------------------|-----|
| SEQ. NO | ITEM NUMBER and DESCRIPTION  | ENGINEER'S<br>ESTIMATE<br>OF QUANTITY | UNIT  | UNIT PRICE<br>(IN FIGURES) |     | EXTENDED AMOUNT<br>(IN FIGURES) |     |
|         |  |                                       |       | DOLLARS                    | CTS | DOLLARS                         | CTS |
| 106     | <b>70.91SW20</b><br>FURNISHING AND PLACING SHEETING AND BRACING IN TRENCH FOR WATER MAIN PIPE 20-INCH IN DIAMETER                  | 9,796.00                              | S.F.  |                            |     |                                 |     |
| 107     | <b>72.11HF</b><br>HYDRAULIC FILL FOR ABANDONED SEWERS AND WATER MAINS  | 100.00                                | C.Y.  |                            |     |                                 |     |
| 108     | <b>73.11AB</b><br>ADDITIONAL BRICK MASONRY<br><br>Unit price bid shall not be less than: \$ 62.50                                  | 50.00                                 | C.Y.  |                            |     |                                 |     |
| 109     | <b>73.21AC</b><br>ADDITIONAL CONCRETE<br><br>Unit price bid shall not be less than: \$ 62.50                                       | 60.00                                 | C.Y.  |                            |     |                                 |     |
| 110     | <b>73.31AE0</b><br>ADDITIONAL EARTH EXCAVATION INCLUDING TEST PITS (ALL DEPTHS)<br>Unit price bid shall not be less than: \$ 20.00 | 120.00                                | C.Y.  |                            |     |                                 |     |
| 111     | <b>73.41AG</b><br>ADDITIONAL SELECT GRANULAR BACKFILL<br><br>Unit price bid shall not be less than: \$ 15.00                       | 130.00                                | C.Y.  |                            |     |                                 |     |



**BID SCHEDULE FORM**

| COL 1    | COL 2  | COL 3                                 | COL 4 | COL 5                      |     | COL 6                           |     |
|----------|--|---------------------------------------|-------|----------------------------|-----|---------------------------------|-----|
| SEQ. NO. | ITEM NUMBER and DESCRIPTION  | ENGINEER'S<br>ESTIMATE<br>OF QUANTITY | UNIT  | UNIT PRICE<br>(IN FIGURES) |     | EXTENDED AMOUNT<br>(IN FIGURES) |     |
|          |  |                                       |       | DOLLARS                    | CTS | DOLLARS                         | CTS |
| 112      | <b>73.51AS</b><br>ADDITIONAL STEEL REINFORCING BARS<br><br>Unit price bid shall not be less than: \$ 1.00  | 2,000.00                              | LBS.  |                            |     |                                 |     |
| 113      | <b>8.01 C1</b><br>HANDLING, TRANSPORTING AND DISPOSAL OF NON-HAZARDOUS<br>CONTAMINATED SOIL                | 2,500.00                              | TONS  |                            |     |                                 |     |
| 114      | <b>8.01 C2</b><br>SAMPLING AND TESTING OF CONTAMINATED/POTENTIALLY<br>HAZARDOUS SOIL FOR DISPOSAL PURPOSES | 5.00                                  | SETS  |                            |     |                                 |     |
| 115      | <b>8.01 H</b><br>HANDLING, TRANSPORTING AND DISPOSAL OF HAZARDOUS SOIL                                     | 100.00                                | TONS  |                            |     |                                 |     |
| 116      | <b>8.01 S</b><br>HEALTH AND SAFETY   | 1.00                                  | L.S.  |                            |     |                                 |     |
| 117      | <b>8.01 W1</b><br>REMOVAL, TREATMENT, AND DISCHARGE/DISPOSAL OF<br>CONTAMINATED WATER                      | 130.00                                | DAY   |                            |     |                                 |     |

**BID SCHEDULE FORM**

| COL 1   | COL 2   | COL 3                                 | COL 4 | COL 5                      |     | COL 6                           |     |
|---------|---|---------------------------------------|-------|----------------------------|-----|---------------------------------|-----|
| SEQ. NO | ITEM NUMBER and DESCRIPTION   | ENGINEER'S<br>ESTIMATE<br>OF QUANTITY | UNIT  | UNIT PRICE<br>(IN FIGURES) |     | EXTENDED AMOUNT<br>(IN FIGURES) |     |
|         |   |                                       |       | DOLLARS                    | CTS | DOLLARS                         | CTS |
| 118     | 8.01 W2<br>SAMPLING AND TESTING OF WATER  | 4.00                                  | SETS  |                            |     |                                 |     |
| 119     | 8.02 A<br>SPECIAL CARE EXCAVATION AND RESTORATION FOR SIDEWALK<br>WORK  | 1,000.00                              | S.F.  |                            |     |                                 |     |
| 120     | 8.02 B<br>SPECIAL CARE EXCAVATION AND RESTORATION FOR CURB WORK   | 500.00                                | L.F.  |                            |     |                                 |     |
| 121     | 8.08<br>VARIABLE MESSAGE BOARD  | 6.00                                  | EACH  |                            |     |                                 |     |
| 122     | 9.04 HW<br>ALLOWANCE FOR ANTI-FREEZE ADDITIVE IN CONCRETE<br><br>PRICE BID SHALL BE FOR THE FIXED SUM OF \$ 50,000.00 | 1.00                                  | F.S.  | 50,000                     | 00  | 50,000                          | 00  |

**BID SCHEDULE FORM**

| COL 1<br>SEQ. NO. | COL 2<br>ITEM NUMBER and DESCRIPTION   | COL 3<br>ENGINEER'S<br>ESTIMATE<br>OF QUANTITY | COL 4<br>UNIT | COL 5<br>UNIT PRICE |       | COL 6<br>EXTENDED AMOUNT<br>(IN FIGURES) |       |
|-------------------|--|--|---------------|---------------------|-------|--|-------|
|                   |  |  |               | DOLLARS             | CENTS | DOLLARS                                  | CENTS |
| 123               | 9.99<br>FLASHING ARROW BOARD   | 4.00   | EACH          |                     |       |  |       |
| 124               | SL-20.02.02<br>FURNISH AND INSTALL STANDARD TYPE ANCHOR BOLT<br>FOUNDATION, AS PER DRAWING E-3788  | 8.00   | EACH          |                     |       |  |       |
| 125               | SL-21.03.02<br>FURNISH AND INSTALL TYPE 2S, 4S, 6S, 8S OR 12S LAMPPOST WITH<br>TRANSFORMER BASE  | 8.00   | EACH          |                     |       |  |       |
| 126               | SL-21.09.05<br>REMOVE FABRICATED STEEL, ALUMINUM NO. 10, ETC. LAMPPOST,<br>WITH ARM(S), LUMINAIRE(S), ETC., WITH ALL ATTACHMENTS, IF ANY.                    | 8.00   | EACH          |                     |       |  |       |
| 127               | SL-22.03.18<br>FURNISH AND INSTALL TYPE COBRA HEAD LUMINAIRE WITH 150<br>WATT HPS WITH SOLID STATE BALLAST AND STRAY VOLTAGE<br>INDICATOR FOR 100 VOLT LAMP. | 8.00   | EACH          |                     |       |  |       |
| 128               | SL-26.01.01<br>FURNISH AND INSTALL, OR FURNISH AND REPLACE A PLUG-IN<br>SOLID STATE PHOTOELECTRIC CONTROL  | 8.00   | EACH          |                     |       |  |       |

**BID SCHEDULE FORM**

| COL 1<br>SEQ. NO | COL 2<br>ITEM NUMBER and DESCRIPTION   | COL 3<br>ENGINEER'S<br>ESTIMATE<br>OF QUANTITY | COL 4<br>UNIT | COL 5<br>UNIT PRICE<br>(IN FIGURES) |     | COL 6<br>EXTENDED AMOUNT<br>(IN FIGURES) |     |
|------------------|--|--|---------------|-------------------------------------|-----|--|-----|
|                  |  |  |               | DOLLARS                             | CTS | DOLLARS                                  | CTS |
| 129              | SL-26.06.02<br>FURNISH AND INSTALL LED FIRE ALARM LUMINAIRES.  | 2.00   | EACH          |                                     |     |  |     |
| 130              | SL-29.01.01<br>FURNISH, INSTALL, MAINTAIN AND REMOVE EQUIPMENT FOR<br>TEMPORARY LIGHTING (PYLON), AS PER DRAWINGS F-5005 AND F-<br>5005A | 8.00   | EACH          |                                     |     |  |     |
| 131              | SL-31.01.06<br>PAINT A STANDARD STREET LIGHT LAMPOST WITH INSULATED<br>"SUPERHthane" PAINT APR. 7' HIGH.                                 | 8.00   | EACH          |                                     |     |  |     |
| 132              | SL-33.02.02<br>FURNISH AND INSTALL NO. 6 AWG XLP COPPER CABLE OR EQUAL<br>FOR OVERHEAD INSTALLATION                                      | 1,500.00                                       | L.F.          |                                     |     |  |     |
| 133              | T-1.1<br>INSTALL TYPE "S" OR "T" FOUNDATION  | 1.00   | EACH          |                                     |     |  |     |
| 134              | T-1.18<br>REMOVE TYPE "A", "B", "S" OR "T" SERIES FOUNDATION   | 1.00   | EACH          |                                     |     |  |     |

# BID SCHEDULE FORM

| COL 1<br>SEQ. NO | COL 2<br>ITEM NUMBER and DESCRIPTION  | COL 3<br>ENGINEER'S<br>ESTIMATE<br>OF QUANTITY | COL 4<br>UNIT | COL 5<br>UNIT PRICE<br>(IN FIGURES) |     | COL 6<br>EXTENDED AMOUNT<br>(IN FIGURES) |     |
|------------------|---|--|---------------|-------------------------------------|-----|--|-----|
|                  |   |  |               | DOLLARS                             | CTS | DOLLARS                                  | CTS |
| 135              | T-1.20<br>REMOVE TYPE "M" SERIES FOUNDATION   | 1.00   | EACH          |                                     |     |  |     |
| 136              | T-1.29<br>RAISE OR LOWER FOUNDATION TO GRADE  | 1.00   | EACH          |                                     |     |  |     |
| 137              | T-1.3<br>INSTALL TYPE "M2-5S" FOUNDATION  | 1.00   | EACH          |                                     |     |  |     |
| 138              | T-2.1<br>INSTALL TYPE "S-1" OR "T-1" SERIES POST  | 1.00   | EACH          |                                     |     |  |     |
| 139              | T-2.16<br>FURNISH, INSTALL, MAINTAIN AND REMOVE TEMPORARY POST OR<br>PYLON WITH SIGNALS | 1.00   | EACH          |                                     |     |  |     |
| 140              | T-2.22<br>REMOVE TYPE "S-1" OR "T-1" SERIES POST  | 1.00   | EACH          |                                     |     |  |     |

**BID SCHEDULE FORM**

| COL 1   | COL 2   | COL 3                                 | COL 4 | COL 5                      |     | COL 6                           |     |
|---------|---|---------------------------------------|-------|----------------------------|-----|---------------------------------|-----|
| SEQ. NO | ITEM NUMBER and DESCRIPTION   | ENGINEER'S<br>ESTIMATE<br>OF QUANTITY | UNIT  | UNIT PRICE<br>(IN FIGURES) |     | EXTENDED AMOUNT<br>(IN FIGURES) |     |
|         |   |                                       |       | DOLLARS                    | CTS | DOLLARS                         | CTS |
| 141     | T-2.24<br>REMOVE TYPE "M" SERIES POST   | 1.00                                  | EACH  |                            |     |                                 |     |
| 142     | T-2.28<br>REMOVE MAST ARM FROM ANY POST   | 1.00                                  | EACH  |                            |     |                                 |     |
| 143     | T-2.4<br>INSTALL TYPE "M-2" POST  | 1.00                                  | EACH  |                            |     |                                 |     |
| 144     | T-20020<br>a) FURNISH 3/4" ANCHOR BOLT ASSEMBLIES FOR S-1 (EACH) (3<br>REQUIRED PER POST)   | 3.00                                  | EACH  |                            |     |                                 |     |
| 145     | T-20220<br>c) FURNISH 1-1/4" ANCHOR BOLT ASSEMBLIES FOR M-2 (EACH) (4<br>REQUIRED PER POST) | 4.00                                  | EACH  |                            |     |                                 |     |
| 146     | T-3.1<br>INSTALL "ONE-WAY" SIGNAL UNIT ON MAST ARM OR TOP OF<br>TRAFFIC POST                | 4.00                                  | EACH  |                            |     |                                 |     |

### 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) |     | EXTENDED AMOUNT (IN FIGURES) |     |
|         |  |                                 |       | DOLLARS                 | CTS | DOLLARS                      | CTS |
| 147     | T-3.18<br>REMOVE SIGNAL HEAD FROM ANY TYPE POST  | 2.00                            | EACH  |                         |     |                              |     |
| 148     | T-3.21<br>REMOVE PEDESTRIAN SIGNAL OR SIGN UNIT OR OTHER ILLUMINATED SIGNS FROM ANY POST | 5.00                            | EACH  |                         |     |                              |     |
| 149     | T-3.40<br>FURNISH AND INSTALL AUDIBLE PEDESTRIAN SIGNALS UNIT                            | 1.00                            | EACH  |                         |     |                              |     |
| 150     | T-3.6<br>INSTALL PEDESTRIAN SIGNAL ON ANY TYPE POST                                      | 4.00                            | EACH  |                         |     |                              |     |
| 151     | T-31210<br>h) "HUB" ASSEMBLY *ASSEMBLY IS EQUAL TO ONE PAIR                              | 2.00                            | EACH  |                         |     |                              |     |
| 152     | T-31225<br>c) "3MS"  | 1.00                            | EACH  |                         |     |                              |     |

**BID SCHEDULE FORM**

| COL 1<br>SEQ. NO | COL 2<br>ITEM NUMBER and DESCRIPTION   | COL 3<br>ENGINEER'S<br>ESTIMATE<br>OF QUANTITY | COL 4<br>UNIT | COL 5<br>UNIT PRICE<br>(IN FIGURES) |     | COL 6<br>EXTENDED AMOUNT<br>(IN FIGURES) |     |
|------------------|--|--|---------------|-------------------------------------|-----|--|-----|
|                  |  |  |               | DOLLARS                             | CTS | DOLLARS                                  | CTS |
| 153              | T-31340<br>f) "VB-P" ASSEMBLY *ASSEMBLY IS EQUAL TO ONE PAIR                 | 1.00   | EACH          |                                     |     |  |     |
| 154              | T-31351<br>g) "VB-2P" ASSEMBLY *ASSEMBLY IS EQUAL TO ONE PAIR                | 1.00   | EACH          |                                     |     |  |     |
| 155              | T-5.1<br>FURNISH AND INSTALL 2" RIGID UNDERGROUND CONDUIT IN UNPAVED ROADWAY | 100.00   | L.F.          |                                     |     |  |     |
| 156              | T-5.2<br>FURNISH AND INSTALL 2" RIGID UNDERGROUND CONDUIT IN PAVED ROADWAY   | 250.00   | L.F.          |                                     |     |  |     |
| 157              | T-5.32<br>RESTORING PERMANENT ROADWAY (INCLUDING SAWCUT)                     | 250.00   | L.F.          |                                     |     |  |     |
| 158              | T-6.1<br>INSTALL CABLE (INCLUDES OVERHEAD)                                   | 300.00   | L.F.          |                                     |     |  |     |



**BID SCHEDULE FORM**

| COL 1    | COL 2  | COL 3                   | COL 4 | COL 5                      |     | COL 6                           |     |
|----------|--|-------------------------|-------|----------------------------|-----|---------------------------------|-----|
| SEQ. NO. | ITEM NUMBER and DESCRIPTION  | ESTIMATE<br>or QUANTITY | UNIT  | UNIT PRICE<br>(IN FIGURES) |     | EXTENDED AMOUNT<br>(IN FIGURES) |     |
|          |  |                         |       | DOLLARS                    | CTS | DOLLARS                         | CTS |
| 159      | T-6.10<br>REMOVE CABLE (INCLUDES OVERHEAD)   | 1,300.00                | L.F.  |                            |     |                                 |     |
| 160      | T-6.2<br>INSTALL MULTIPLE CABLE (INCLUDES OVERHEAD)                                      | 1,300.00                | L.F.  |                            |     |                                 |     |
| 161      | T-60000B<br>FURNISH 2 c # 10B (SEE SPEC) (BREAKDOWN = 2#10 WITH 3RD WIRE FOR GROUNDING). | 1,300.00                | L.F.  |                            |     |                                 |     |
| 162      | T-60040<br>c) 7 CONDUCTOR, 14 A.W.G.   | 700.00                  | L.F.  |                            |     |                                 |     |
| 163      | T-60190<br>e) 13 CONDUCTOR, 14 A.W.G.  | 1,300.00                | L.F.  |                            |     |                                 |     |
| 164      | T-60200<br>FURNISH AND INSTALL AUDIBLE PEDESTRIAN SIGNALS CABLE                          | 100.00                  | L.F.  |                            |     |                                 |     |

**BID SCHEDULE FORM**

| COL 1   | COL 2  | COL 3                                 | COL 4 | COL 5                      |     | COL 6                           |     |
|---------|--|---------------------------------------|-------|----------------------------|-----|---------------------------------|-----|
| SEQ. NO | ITEM NUMBER and DESCRIPTION  | ENGINEER'S<br>ESTIMATE<br>OF QUANTITY | UNIT  | UNIT PRICE<br>(IN FIGURES) |     | EXTENDED AMOUNT<br>(IN FIGURES) |     |
|         |  |                                       |       | DOLLARS                    | CTS | DOLLARS                         | CTS |
| 165     | T-8.10<br>RELOCATE CONCRETE PYLON WITH POST  | 1.00                                  | EACH  |                            |     |                                 |     |
| 166     | T-8.8<br>INSTALL CONCRETE PYLON  | 1.00                                  | EACH  |                            |     |                                 |     |
| 167     | T-8.9<br>REMOVE CONCRETE PYLON   | 1.00                                  | EACH  |                            |     |                                 |     |
| 168     | T-81000<br>FURNISH CONCRETE PYLON  | 1.00                                  | EACH  |                            |     |                                 |     |
| 169     | T-93000<br>FURNISH AND INSTALL COMPLETE DOME CCTV CAMERA SYSTEM<br>ON CITY-OWNED UTILITY POLE.                                   | 2.00                                  | EACH  |                            |     |                                 |     |
| 170     | UTL-6.01.3<br>GAS MAIN CROSSING SEWER 36" THRU 42" IN DIAMETER (S6.01)<br><br>Unit price bid shall not be less than: \$ 2,040.00 | 4.00                                  | EACH  |                            |     |                                 |     |

**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) |     | EXTENDED AMOUNT (IN FIGURES) |     |
|          |  |                                 |       | DOLLARS                 | CTS | DOLLARS                      | CTS |
| 171      | <b>UTL-6.01.6H</b><br>GAS MAIN CROSSING 6'-0"W X 4'-0"H FLAT TOP REINFORCED CONCRETE COMBINED SEWER (S6.01)<br>Unit price bid shall not be less than: \$ 2,450.00            | 5.00                            | EACH  |                         |     |                              |     |
| 172      | <b>UTL-6.01.7N</b><br>GAS MAIN CROSSING 6'-6"W X 4'-0"H FLAT TOP REINFORCED CONCRETE STORM SEWER (S6.01)<br>Unit price bid shall not be less than: \$ 2,540.00               | 1.00                            | EACH  |                         |     |                              |     |
| 173      | <b>UTL-6.01.8</b><br>GAS SERVICES CROSSING TRENCHES AND/OR EXCAVATIONS (S6.01)<br>Unit price bid shall not be less than: \$ 465.00   | 2.00                            | EACH  |                         |     |                              |     |
| 174      | <b>UTL-6.01.9</b><br>GAS MAIN CROSSING WATER MAIN UP TO 20" IN DIAMETER (S6.01)<br>Unit price bid shall not be less than: \$ 485.00  | 24.00                           | EACH  |                         |     |                              |     |
| 175      | <b>UTL-6.02</b><br>EXTRA EXCAVATION FOR THE INSTALLATION OF CATCH BASIN SEWER DRAIN PIPES WITH GAS INTERFERENCES (S6.02)<br>Unit price bid shall not be less than: \$ 715.00 | 7.00                            | EACH  |                         |     |                              |     |
| 176      | <b>UTL-6.03</b><br>REMOVAL OF ABANDONED GAS FACILITIES. ALL SIZES. (S6.03)<br>Unit price bid shall not be less than: \$ 15.00  | 700.00                          | L.F.  |                         |     |                              |     |

**BID SCHEDULE FORM**

| COL 1    | COL 2  | COL 3                                 | COL 4 | COL 5                      |     | COL 6                           |     |
|----------|--|---------------------------------------|-------|----------------------------|-----|---------------------------------|-----|
| SEQ. NO. | ITEM NUMBER and DESCRIPTION  | ENGINEER'S<br>ESTIMATE<br>OF QUANTITY | UNIT  | UNIT PRICE<br>(IN FIGURES) |     | EXTENDED AMOUNT<br>(IN FIGURES) |     |
|          |  |                                       |       | DOLLARS                    | CTS | DOLLARS                         | CTS |
| 177      | <b>UTL-6.03.1A</b><br>REMOVAL OF ABANDONED GAS FACILITIES WITH POSSIBLE COAL TAR WRAP. ALL SIZES. (S6.03)<br>Unit price bid shall not be less than: \$ 25.00   | 300.00                                | L.F.  |                            |     |                                 |     |
| 178      | <b>UTL-6.04</b><br>ADJUST HARDWARE TO GRADE USING SPACER RINGS/ADAPTORS. (STREET REPAVING.) (S6.04)<br>Unit price bid shall not be less than: \$ 35.00   | 10.00                                 | EACH  |                            |     |                                 |     |
| 179      | <b>UTL-6.05</b><br>ADJUST HARDWARE TO GRADE BY RESETTING. (ROAD RECONSTRUCTION.) (S6.05)<br>Unit price bid shall not be less than: \$ 65.00  | 20.00                                 | EACH  |                            |     |                                 |     |
| 180      | <b>UTL-6.06</b><br>SPECIAL CARE EXCAVATION AND BACKFILLING (S6.06)<br>Unit price bid shall not be less than: \$ 180.00   | 240.00                                | C.Y.  |                            |     |                                 |     |
| 181      | <b>UTL-6.06A</b><br>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)<br>Unit price bid shall not be less than: \$ 230.00 | 320.00                                | C.Y.  |                            |     |                                 |     |
| 182      | <b>UTL-6.07</b><br>TEST PITS FOR GAS FACILITIES (S6.07)<br>Unit price bid shall not be less than: \$ 100.00  | 120.00                                | C.Y.  |                            |     |                                 |     |

# BID SCHEDULE FORM

| COL 1<br>SEQ. NO. | COL 2<br>ITEM NUMBER and DESCRIPTION  | COL 3<br>ENGINEER'S<br>ESTIMATE<br>OF QUANTITY | COL 4<br>UNIT | COL 5<br>UNIT PRICE<br>(IN FIGURES)<br>DOLLARS CTS |    | COL 6<br>EXTENDED AMOUNT<br>(IN FIGURES)<br>DOLLARS CTS |    |
|-------------------|---|--|---------------|--|----|---|----|
| 183               | UTL-6.08A<br>PIER AND/OR PLATE METHOD OF PROTECTION FOR DUCTILE IRON WATER MAIN WITH LESS THAN 24" COVER (S6.08A)<br>Unit price bid shall not be less than: \$ 5,800.00 | 2.00   | EACH          |  |    |   |    |
| 184               | UTL-6.09<br>TRENCH EXCAVATION AND BACKFILL FOR GAS MAINS AND SERVICES. GAS INSTALLED BY OTHERS.<br>Unit price bid shall not be less than: \$ 190.00                     | 1,420.00                                       | C.Y.          |  |    |   |    |
| 185               | UTL-GCS-2WS<br>GAS INTERFERENCES AND ACCOMMODATIONS<br>PRICE BID SHALL BE FOR THE FIXED SUM OF \$ 80,000.00   | 1.00   | F.S.          | 80,000   | 00 | 80,000  | 00 |

**SUB-TOTAL: \$** \_\_\_\_\_

|     |   |      |      |  |  |  |  |
|-----|---|------|------|--|--|--|--|
| 186 | 6.39 A<br>MOBILIZATION<br>BID PRICE OF MOBILIZATION SHALL NOT EXCEED 4% OF THE ABOVE SUB-TOTAL PRICE. | 1.00 | L.S. |  |  |  |  |
|-----|---|------|------|--|--|--|--|

# BID SCHEDULE FORM

| COL 1   | COL 2                       | COL 3                                 | COL 4 | COL 5                      |     | COL 6                           |     |
|---------|-----------------------------|---------------------------------------|-------|----------------------------|-----|---------------------------------|-----|
| SEQ. NO | ITEM NUMBER and DESCRIPTION | ENGINEER'S<br>ESTIMATE<br>OF QUANTITY | UNIT  | UNIT PRICE<br>(IN FIGURES) |     | EXTENDED AMOUNT<br>(IN FIGURES) |     |
|         |                             |                                       |       | DOLLARS                    | CTS | DOLLARS                         | CTS |

TOTAL BID PRICE: \$ \_\_\_\_\_

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



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**INFRASTRUCTURE DIVISION  
BUREAU OF DESIGN**

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**VOLUME 3 OF 3**

PROJECT ID: SEN002169.

FOR THE CONSTRUCTION OF COMBINED SEWERS AND APPURTENANCES IN: YORK  
AVENUE BETWEEN EAST 61ST STREET AND EAST 63RD STREET; AND EAST 62ND  
STREET BETWEEN YORK AVENUE AND 1ST AVENUE

INCLUDING SEWER, WATER MAIN, STREET LIGHTING AND TRAFFIC WORK

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

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*Contractor*

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

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